What is in-sync Speed Razor?

in-sync® Speed Razor™ Mach 4.5 is a powerful upgrade to the award winning Speed Razor 4.0. This new version of Speed Razor redefines digital video editing as the first video editing and compositing software for Windows NT/98 to provide software realtime capabilities, and it is the first networkable version of Speed Razor. Now you can edit in realtime online and offline, either as a single Speed Razor 4.5 user or over a high-speed network.

Designed to meet the demands of high-end post production, television broadcast, and video or film production environments, as well as the needs of event videographers, game designers and others working in a non-broadcast environment, Speed Razor 4.5 is available in several versions (RT, S, SE, and Client).

Speed Razor is professional video editing, realtime audio mixing, and video effects compositing software. Edit full screen D1 uncompressed quality video, fully field rendered NTSC or PAL. Mix up to twenty audio layers in realtime. Batch capture and print to tape with frame accuracy. Output CD or DAT quality audio, and more. All within an easy-to-use editing interface.

See the following related topics:
New Features in Speed Razor 4.5
Speed Razor 4.5 Versions
New Features in Speed Razor 4.0
Basic Digital Editing Features
System Requirements
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Speed Razor 4.5 Versions

Speed Razor 4.5 is available in several versions for realtime, single-stream broadcast, and single-stream non-broadcast video capture hardware. Each version is tailored to the capabilities of specific hardware.

- Speed Razor 4.5 RT is optimized for high-end realtime hardware, including the Matrox DigiSuite, Matrox DigiSuite LE and Truevision Targa 2000 RTX. It runs on Windows NT.
- Speed Razor 4.5 S is optimized for professional single stream hardware including the Truevision Targa 1000, Targa 2000, Targa 1000 PRO, Targa 2000 PRO, and DPS Perception. It runs on Windows NT.
- Speed Razor 4.5 Client is optimized for software realtime playback on a network without video capture hardware installed. It runs on Windows NT.
- Speed Razor 4.5 SE (Special Edition) is optimized for non-broadcast output, single stream hardware, specifically the Pinnacle Systems' miro DC 30 and miro DV 300. It provides capture and batch capture in software. (Available in spring 1999.)
- Speed Razor 4.5 SE Client is optimized for non-broadcast output, single stream hardware, specifically the Pinnacle Systems' miro DC 30 and miro DV 300. It provides file import and export, letting editors make use of capture and output utilities in video hardware. It runs on Windows 98.

System Requirements

Select the Speed Razor 4.5 version for detailed system requirements and recommendations. System requirements for Speed Razor 4.5 vary according to your version of the software.

> **Basic requirements for Speed Razor 4.5 are the same as for Speed Razor 4.0. If your system already meets the minimum hardware requirements for Speed Razor 4.0, you will have the same functionality plus many of the new features in Speed Razor 4.5.**

For realtime software playback, we have included several system recommendations to help you optimize your system. These requirements are software only. Please consult your hardware manual(s) for hardware system requirements.

Speed Razor 4.5 RT and S Requirements

Speed Razor 4.5 Client Requirements

Speed Razor 4.5 SE Requirements

See also:

System Requirements for Realtime Software Playback

Speed Razor 4.5 RT and S Requirements

- Pentium™ 200 MHz or higher. Dec Alpha for Speed Razor 4.5 S only. Recommended: Dual Pentium II 266 MHz or higher.
- 128 MB or more RAM.
- Windows NT (Workstation).
- Graphics display capable of 1024x768 at 24-bit quality. Dual display monitors are an option.
- AV hard disk for video with a minimum sustained data transfer rate of 4.0 MB per second or better and seek time under 10 msec. Recommended for Speed Razor RT: Three striped AV drives with a minimum sustained data transfer rate of 15 MB or better, average seek time under 10msec formatted using NTFS or a differential RAID system.
- AV hard disk for audio. (A separate audio drive from system drive is required). Recommended: SCSI.
- Windows NT compatible video capture card: (See the in-sync Website for latest information on compatible video capture hardware.)
- Windows NT compatible audio card.
- Motherboard with four useable PCI slots, three ISA slots, and 2.1 version of the PCI bus. ATX style for Intel based system .
- CD ROM drive.

An external NTSC or PAL video monitor and professional or industrial quality video deck are recommended. For batch capture, you will need a RS-422 controllable deck and a RS 422 to 232 converter.

Speed Razor 4.5 Client Requirements

Speed Razor 4.5 Client is designed specifically for offline realtime editing only, either over a network or as an individual workstation with importable files. No video capture hardware is required. Because no capture or batch capture options are available in Speed Razor 4.5 Client, editors in offline stations may import files already captured to the network.

- Processor: Pentium II 200 MHz minimum. Dual Pentium II 450 recommended.
- 64 MB RAM. Recommended: 128 MB.
- Windows NT (Workstation) or Windows 98.
- Graphics display capable of 1024x768 at 24-bit quality with Direct Draw and overlay support. Dual display monitors are an option.
- AV hard disk for video with a minimum sustained data transfer rate of 4.0 MB per second or better and seek time under 10 msec.
- AV hard disk for audio. (A separate audio drive from system drive is required). Recommended: SCSI.
- Windows NT compatible audio card.
- Motherboard with four useable PCI slots, three ISA slots, and 2.1 version of the PCI bus. ATX style for Intel based system .
- CD ROM drive.

See also:
Realtime Offline Editing: Software Play Back on Computer Screen

Speed Razor 4.5 SE Requirements

Minimum

- Pentium™ 100 with 64 MB RAM .
- Graphics display capable of 1024x768 at 8-bit (256 color).
- Separate video and audio A/V hard disks.
- Video capture card.
- Audio card.
- CD ROM drive.
- Motherboard with four useable PCI and three ISA slots, with the 2.1 version of the PCI bus.
- Windows 98.

Recommended

- Pentium™ 200 with 128 MB RAM.
- Graphics display capable of 1024x768 high color resolution, 24-bit graphics board with Direct Draw and overlay support (ATI AGP card recommended). Dual monitors recommended.
- Windows 98 or Windows NT (Workstation).
- AV hard disk for video with a minimum sustained data transfer rate of 4.0 MB per second or better and seek time under 10 msec.
- AV hard disk for audio. (A separate audio drive from system drive is required).
- Video capture card: miroVIDEO DC30 or miroVIDEO DV300.
- Windows 98 compatible audio card.
- Motherboard with four useable PCI and three ISA slots, with the 2.1 version of the PCI bus. ATX style for Intel based system recommended.
- External NTSC or PAL video monitor.
- Video deck or DV device.

See also:
System Requirements for Realtime Software Playback
Realtime Offline Editing: Software Play Back on Computer Screen

System Requirements for Realtime Software Playback

Use any version of Speed Razor 4.5 to play video effects overlays back to your computer screen in realtime. For realtime software playback, the number of video effects layers your system can maintain is based on the complexity of the effects, processor speed, RAM, and dedicated AV hard disk capabilities. To optimize your system for software playback, we recommend the following:

- Processor: Pentium II 200 MHz minimum, Dual Pentium II 450 recommended.
- RAM: 128 MB or more recommended.
- Graphics display capable of 1024x768 high color resolution, 24-bit graphics board with Direct Draw and overlay support (See the in-sync website for more information.)

See also:

Realtime Offline Editing: Software Play Back on Computer Screen

Help Notes

In this Help file you will find topic information and action steps for Speed Razor 4.5. Help is indexed, and you can print out topic pages from this file. (See the buttons at the top of the Help window) If you do not see needed information in this Help file or in print documentation, or find the information inaccurate, take the following steps.

1. See the in-sync Website <*http://www.in-sync.com*> for more updated versions of this Help file as they become available.
2. For up to date troubleshooting help, choose **Help>Online Assistant** or *http://www.in-sync.com/online-assistant*).
3. To let us correct any mistakes, contact *publications@in-sync.com* regarding the topic.
4. For technical support assistance, contact *support@in-sync.com* regarding the issue.

See: Support Options

Support Options

in-sync provides free to paid priority technical support options, beginning with resources available online at the in-sync Website.

Online Resources: www.in-sync.com

Speed Razor Knowledge Base: For up-to-date information on Speed Razor issues, tips, and solutions, choose **Help>Online Help** from inside Speed Razor or go to <*http://www.in-sync.com*> and select *Support* from the bottom frame.

Online Documents: Visit the Speed Razor page for links to online updates to the user's guide, information on specific video capture hardware, and the latest plug-in information.

Product Registration and Downloads: By registering your copy of Speed Razor product you can receive product updates, software drivers, and other files as they become available, such as program help files, new video effects, and effects presets. To register and download, from the in-sync main page, click *Downloads* from the bottom frame.

Authorized Resellers

Contact your in-sync-authorized reseller for product setup, software and hardware issues. As the person who configured your system, he or she has knowledge of your exact setup. Many authorized resellers also provide Speed Razor training.

Technical Support

Registered users of in-sync Speed Razor may receive technical support via e-mail and telephone from 10 AM to 5 PM EST Monday through Friday, excluding holidays. Support requests are responded to in the order received.

E-mail Support

- In the U.S., Latin America, and Eastern Asia: support@in-sync.com
- In Europe, Russia, Middle East, Africa, and Western Asia: support.europe@in-sync.com

Telephone Support

- In the U.S., Latin America, and Eastern Asia: Call our U.S. office on 1 (301) 656-1700.
- In Europe, Russia, Middle East, Africa, and Western Asia: Call our U.K. office on +44 171 287 6070

Log a Call Online: Log your call via computer and a technical support professional will respond in the order received.

Priority Support: Priority support is available for in-sync Speed Razor users at a cost of $75 per request. Log a priority support request from the in-sync website.

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New Features in 4.0

Select the topic for more information and related action steps.

User Interface

Multithreaded Interface
Customizable Tool Bar
Expanded Interface Preferences
New Preview Windows
Keyword Search in Library
Scrub and Preview Preferences
Expanded Timeline Zooming
Timeline Marking for Render
Simplified Editing Settings

Added File Support, Import and Export

Export File Directly to Library .
Film Editing
CIN and DPX File Support
JPG File Import and Export
Expanded EDL Support

Audio Features

User Calibrated VU Meter Window
Bezier Curves for Audio Graphs

Video Effects

Improved Render Speed
New Transitions and Video Effects
Added Features to Existing Effects
Adjust Effects in Item Info Window
Bezier Curves for Video Opacity Graphs
Bezier Curves for Effect Parameters
New Effects Preview Options

Trimming

Adjust Result Timecode in Item Info Window
Preview Trim In and Out Points
New Trim Scrubbing and Preview Preferences.

New Features in 4.5

In the Speed Razor 4.5 upgrade, new software realtime playback to the computer monitor gives editors immediate feedback on multiple layers of video effects, making Speed Razor a realtime compositing tool. In conjunction with this, Speed Razor 4.5 expands the base of available video effects to include a key-frameable "garbage" matte, image stabilization, and tracking tools, and provides new graphical tools for others. Speed Razor 4.5 also addresses stability issues and re-integrates AVI video file export, filmstrips on the timeline, and audio voice-over features.

When used over a network, Speed Razor 4.5 provides a flexible, cost-effective solution with realtime online and offline capabilities. Capture and access files simultaneously. Edit in without capture hardware installed on offline, "client" editing stations. Make use of low resolution capture and recapture at final output level. Speed Razor 4.5 cuts editing time and network system costs as it expands creative options.

Realtime Play Back on Computer Screen Play back multiple streams of video effects using Speed Razor's software decompression of video files—including complex effects such as key frameable Garbage Matte and up to three 3D DVE video clips at one time. Realtime playback for still image sequences: Import 32-bit TGA files from a 3D package and play back in software realtime.

Networkable: Combine Speed Razor 4.5 RT, S, and Client versions for online and offline editing over a network. Combine Speed Razor 4.5 SE and SE Client for editing over a network. Share files among supported video hardware formats when working over a network. (Exception: DPS Perception files require a computer with the Perception installed.)

Edit and transcode NTSC or PAL source video files. NTSC/PAL conversion in software.

New Video Effects and Effects Tools: Image Stabilization, Garbage Matte, Multi-Point Tracking, Motion Tracking and 2D DVE effects. New intuitive graphic tools for 3D DVE, Titles, Wipe and other video effects and transitions. Drop shadows for 3D DVE and 2D DVE effects.

Filmstrips and End Pictures on the timeline.

Video for Windows .avi support

MJPEG .avi video file support.

Audio master gain control

Audio voice over: Record an audio voice over narration track while playing video on the timeline.

Timeline selection: Set selection length in timecode or frame by right-clicking the Preview bar.

Expanded hardware support including freeze frame without render for DPS Perception.

Works on a Pentium II 200 MHz.

Basic Digital Editing Features

Whether you are editing long form video or film or creating short videos with multi-layered effects, Speed Razor provides a digital video editing and compositing solution for video projects of any length, complexity, and output level. Following is a brief overview of key Speed Razor features.

Capture, Input and Output

Use Speed Razor 4.5 RT, S, and SE to batch capture video and audio from analog sources for digital editing. With an RS-422 controllable deck and converter, video capture hardware, and Speed Razor you can batch capture with frame accuracy. Create a shot list that stays with the digital file of your project. Upon output, print to tape with frame accuracy.

Edit full screen 60 fields per second (NTSC) or 50 fields per second (PAL) broadcast quality video. Direct video capture hardware support. Read and write to a range of image files, including .bmp, .cin, .dib .jpg, .raw, .sgi, and .tga. Batch capture source video and maintain capture list for recapture. Import and export EDLs in major formats. See Capture Source Media.

Project Management

Video capture card settings are automatically read. Video, audio and workfile folders are established under your project name. Drives for storing audio and video are also controlled automatically. See Set Up the Video Project.

Video Compression

As video is digitized, you can set the compression levels according to your capture hardware and the space and speed of your dedicated hard drives. Speed Razor accepts any level from fully uncompressed to highly compressed video. You can then edit and play back at a level maintained by your hard drive. This means you can use Speed Razor both as a full "online" editor and "offline" depending one your drive space and needs. See Establish Editing Settings.

Professional, Non-Linear Video Editing

Preview and edit straight cut video in realtime regardless of compression rates and image resolution. Split, trim, cut, select, move and place clips using mouse or keyboard shortcuts. Make a storyboard for your video. Apply fast and slow motion to clips. Scrub and shuttle video and audio for accurate editing. Loop the playback of video and audio clips while editing. Make use of up to ten named levels of undo/redo.

In non-linear editing—also called "non-destructive" editing—a video project can begin at its beginning, middle, or end. You may even create a final project from separate segments, each created as an individual digital project workfile. You can organize video shots or groups of shots by moving, cutting, copying, and applying many actions common to word processing and other computer programs. Undo edits, create multiple versions of a video project, trim clips, play back video and apply digital effects to video and audio without the concern of ever losing or damaging original file information. See Basic Editing.

Realtime Digital Audio Mixing

Digital audio means that you maintain fully uncompressed audio files at CD or DAT quality with Speed Razor. As with video, you can place audio on an unlimited number of layers, and mix volume and speaker pan for up to twenty tracks in realtime on the Speed Razor timeline. Use audio sliders to adjust channel volume on stereo tracks as they play. in-sync Speed Razor supports full uncompressed 16-bit CD quality audio—in stereo or mono, up to 48 kHz sampling rate, providing you with professional quality sound. See Mix Audio in Realtime.

Unlimited Tracks for Compositing

Make multi-layered, composited images on unlimited tracks. Use chroma keying, matte, mask and other effects tools to composite complex images. Select specific overlay options for video effects.

In contrast to the A and B roll limitations common to linear (and even some non-linear) editing systems, you can place video shots (clips) and digital video effects on an unlimited set of layers (tracks) of the Speed Razor timeline. The lowest layer of video on the screen is the "top" or played layer, and you can change video to reveal clips "behind" this layer. You don't have to mix down video, thus there is no generation loss for straightcut video. For more information about video layering, see Timeline Tracks and Layers and Adjust Video Opacity ."

Full Range of Digital Video Effects

Because you can layer video on unlimited tracks in Speed Razor, and combine these with digital video effects and transitions, you can easily create any standard analog based video effect, and countless others not possible on a linear editing system. With Speed Razor, you can create complex images by combining multiple video sources, masks, mattes, and keyed images, digital effects, and overlay commands. Make titles and move video images with anti-aliased character and motion path generators. Choose among over 75 adjustable digital video effects and transitions, including Image Filters, 3D DVE, Blurs, Titles, Emboss, Lens Flare, Ripple, and Scale Image effects. Choose from a full range of transitions, including wipes, fades and dissolves. Adjust and combine effects to create new ones. See What are Transitions and Effects.

Online and Offline Editing for Video and Film

With non-linear editing in Speed Razor you can switch between a full broadcast, D1 standard and highly compressed, low quality video within the same video project, by using the Update Capture feature to first capture video at low resolution and then recapture at full capacity after editing the project. You can also use the "Finals" and "Thumbnails" modes in Speed Razor. And you have full access to all video effects, and other "online" features at any time throughout a project. For editing film in Speed Razor, you can import and export EDLs to supported tracking software that converts timecode between video and film, and you can import .cin and .dpx film files. See Edit Online and Offline.

Output

Create a video project once and output to different video and/or file sources. You can output at up to D1 uncompressed video depending upon your video capture hardware and hard drive capabilities. You can also output in a wide range of still image film and video file formats, and output video for the Web. See Output.

Hardware and Software Compatibility

Speed Razor is a true 32-bit program designed for Windows NT, the most stable operating system for video production. Established on the k:sync open architecture API, Speed Razor supports realtime hardware and software effects, video capture and audio cards. It is fully compatible with major animation and painting programs. See System Requirements

Multithreaded Interface

Speed Razor takes advantage of multi-processor speed, provides faster screen redraw, and dramatically reduces render time for software effects, resulting in up to 300 percent speed increase in average render time for Speed Razor effects and transitions.

To enhance the speed of rendering time you may set up your system for multiple processors and take advantage of Intel MMX technology, which provides added commands for multimedia. This support results in a significant improvement in previewing and scrubbing time over complex, unrendered, multi-layer composited. It also results in a fluid, multi-tasking user interface.

- Speed Razor S runs on both the Alpha and Intel based platforms.
- Speed Razor RT runs on the Intel based platform.

The speed of the processor, RAM cache size and the memory bus all have an impact on the render time of Speed Razor transitions and effects and other software effects. As the computer's processing speed is increased, render time decreases. Similarly, a larger cache memory also enhances render speed.

See:

System Requirements

Customize The Tool Bar

Set up the Composition window button bar with the commands you are most likely to use by choosing **Preferences>Tool Bar Preferences.** Buttons are sized according to font and button preferences chosen in the Interface Design dialog box.

1. Choose **Preferences>Tool Bar Preferences.**
2. From the All Commands section, select the button to add, and click **Add to Toolbar**.
3. Add and remove any other buttons, and then click **OK** to close.
4. To change the look and size of buttons, choose **Preferences>Interface Preferences.**

See also:

Set Fonts, Buttons and Color Scheme

Interface

Speed Razor has an easy-to-use interface with three main windows, multiple Previews, and a VU meter. Click the hyperlink to learn more about how to use tools in each window as you edit.

Library Use the Library to organize video, audio and other items you will use in your video project. You can also use the Library to edit video and audio items and to "storyboard" or arrange items in the sequence they will appear on the Composition window timeline.

Composition Use the Composition window to create versions—or workfiles—of the video project on a timeline. Edit video, mix audio, and add transitions, effects (including titles), and still images to your project. View the project as a whole, and select areas for playback.

Item Info Use the Item Info window to trim video and audio clips while they are either in the Library or on the Composition window timeline. Also use Item Info to mix audio tracks, apply special settings to video and effects, and view information about any item in your project. It has four tabs: Trim, Audio, Video, and Info.

Preview Use the Preview windows (Source, Result and Playback) to view video source and result images, and playback video on the computer screen while you make adjustments on the timeline or in the Item Info window.

VU Meter Use the VU meter to monitor the volume levels of audio as it plays during capture, editing, and output, to maintain sound within the safe boundaries of digital playback.

See also:

Customize Speed Razor

Library

The Speed Razor Library is your main tool for organizing all files in a project, and for storyboarding video and audio items before placing these on the Composition window timeline.

- Store all video, audio, effects, transitions, still images and image sequences, third party plug-ins, and other files imported or captured to your video project. Add items to the Library, delete, split, duplicate, and replace them at any time.
- Begin editing video and audio in the Library. Use the Library as a storyboard by ‘‘dragging and dropping’’ items in order, and play these sequences by using the playback options in the Item Info tool.

Note that the Library holds representations of files, not the files themselves. Deleting an item from the Library does not delete it from your hard drive.

Organize Items in the Project

Add items to the Library

Remove items from the Timeline and the Library

Filter the Library with Keywords

Modify the Show List

Sort items in a category

View items in Icon or List mode

Change icons

Edit item names

Use Item Notes

Add Files to the Library on Export

Storyboard Video and Audio

Select Items and Groups in the Library

"Drag and drop" storyboard items in the Library

Trim items in the Library

Play back items and groups in the Library

Attach audio and video in the Library

Group Items in the Library and Place Groups on the Timeline.

Adjust Effect and Transition Settings in the Library

Split items in the Library

Place Clips on the Timeline from the Library

Filter the Library

Organize the Library into "categories" quickly by entering item notes keywords in the Library Show List or by choosing **Library>Modify Show List**. Use the Show List in the upper center of the Library to quickly create new Library categories and view existing groups. You can also set up the list so that when you create a new project, your customized categories appear.

- Enter a keyword in the Show list for item notes and this creates a new category in the Library.
- Click the arrow to select a group from the drop down list.
- Press the SHIFT and the UP ARROW or DOWN ARROW keys to scroll through the list.
- Press TAB once a group is selected to quickly view each category in the Library. (Items in each group appear in the Library as you scroll.)

See:
Modify the Show List

Modify the Show List

Choose **Library>Modify Show List** to set up Library categories.

- To add a new file type (such as .tra), select it in the "File Type" box and click Add.
- To add a group with multiple file types (such as .tra and .vfx), select each (hold the SHIFT or CTRL keys while selecting) and click Add.
- To add files by date, timeline position, or length enter the appropriate information and click Add.
- To add a group of files by notes or "Substring," type the word (or words) in case specific text in the New Substrings box, and click Add.
- To remove a group select it in the right side of the dialog box and click Remove. You cannot remove the display types, which include all file types supported by Speed Razor.
- To create a default category that will appear every time you start a new project, select a group and click Make Default.

Sort Items in the Library

- Click the Sort By button in the upper left corner of the Library to arrange how items in a specific Library category will be viewed. Arrange items by name, date, time, theme, type, length, and by ‘‘Drag & Drop.’’
- Choose **Drag & Drop** from the **Sort By** menu to use the Library as a storyboard. In Drag & Drop you can move items in the Library. Create sequences of shots as they will appear in your final project. Then select them as a group and place the group on the Composition window timeline.

See:
"Drag and drop" storyboard items in the Library

View Library Items in List or Icon

Click the List/Icon button in the Library to change your view between Icon mode (table showing titles beneath the image icon) and List mode (icons with source timecode, drive location, notes and other item information).

- In **List**, you can type notes for an item, and then use these notes to create a keyword category in the Library Show List.
- In **Icon**, arrange items in the Library by "drag and drop," and add files using Windows NT Explorer.

Use Item Notes

Make Library categories from notes attached to clips. You can enter notes when capturing or batch capturing items, and when items are in the Library at any time throughout a project.

- To add notes to items in the Library, click the List button in the Library. Then click the Notes box next to the item's icon, and type the notes.
- To filter the Library with notes keywords, In the Library Show list, enter a keyword based on item notes and press ENTER. The clips appear in the Library in a new group.

See:

Filter the Library

Rename Items in the Library

You may up to 256 characters to name items in the Library. The Library name and file name may differ. Renaming an item in the Library doesn't affect its file name.

1. Choose **Library>Show Item Title As** and from the submenu select **Editable File Name**.
2. Select the name beneath the item's icon in the Library and type a new name.

Change Icons for Items in the Library

The first frame of video and still image sequence files is its Library icon. If this does not accurately indicate the clip's content, you may want to change the icon to a later frame in the clip.

1. Select the item in the Library.
2. Open Item Info (Trim) and drag the slider to select a frame for the new icon.
3. Click the **ICON** button in Item Info (Trim).

Clip instance, source and result information

View icons small or large size

Composition Window

The Composition window timeline is where you organize and edit your video project. Use the timeline to:

- Organize video and audio: Place video and audio clips on unlimited tracks. Trim and edit clips with mouse and keyboard shortcuts. Attach and separate audio and video. See Using the Composition Window Tools
- Edit audio: Set up audio layers and mix audio using sliders in the Item Info window. Select channels, clips, or groups to play alone or with video. Adjust audio channel graphs. See Mix Audio
- Apply effects and transitions to video and audio: Add video special effects from realtime hardware transitions or from over 45 digital video effects which ship with in-sync Speed Razor. See Video Effects and Transitions.
- Composite images: Create complex images with stills, video, and digital effects. Use image masking controls, the Matte and Color Difference Keying effects, and effects overlay options. See Video Opacity and Video Effects and Transitions.
- Overview the project: View the entire project in the Composition window, or selected areas using zoom options. See Zoom the Timeline.
- Preview and play back clips from the timeline. Play hardware effects and audio in realtime. Play back areas on the timeline while you trim. Preview effects areas as you scrub the timeline. See Preview .

See also:

Set Fonts, Buttons and Color Scheme

Using the Composition Window Tools

Among the tools in the Composition window you will see a timecode bar, menus, a customizable button bar with editing commands, a Shuttle bar, and navigational tools along the top and edges of the window. Click the item in the list below to find out more information about it.

Timeline Tracks
Video and Audio Clips
Toolbar
Shuttle Bar
Title Bar
Timecode Bar
Preview Bar
Status Bar
Splitscreen Bar
Zoom Buttons
Maximize and Track Resize Buttons

See also:
Customize the Tool Bar
Zoom the Timeline

Video and Audio Clips

Clips on the timeline are color coded according to your Interface Design Settings **(Preferences>Interface).** By default, video clips are red, transitions are yellow, effects are orange and audio clips are olive green. Effects clips are marked by an "E"; transitions are marked by a "T." You can view and adjust the opacity level of video clips. On audio clips you can view and adjust the volume and speaker channel graphs and view waveforms.

Toolbar

Customize the Composition window tool bar with buttons for any actions you commonly use by choosing **Preferences>Toolbar Preferences**. Set how buttons appear (text, icon or both) by choosing **Preference>Interface Preferences**.

See: Customize the Toolbar

Shuttle Bar

Open the Shuttle bar by choosing **Preferences>Toolbar Preferences** and adding it to your toolar.

Jog and shuttle video in "sticky" or "non-sticky" mode with the timeline Shuttle bar. The numbers above the Shuttle mark the pointer's timecode location in SMPTE or Frame. Preview a selection forward or backward by clicking the Shuttle bar arrows or the slider button, or using shortcut keys.

- Press the RIGHT ARROW key to jog the view forward one frame.
- Press LEFT ARROW to jog the view backward one frame.
- Press UP ARROW and DOWN ARROW to adjust shuttle speed from 8x to 1/8x speed.

See: Shuttle and Jog Video

Title Bar

View the active file name, the output screen pixel height and width, video compressor and the audio output setting.

Timecode Bar

Set the timecode in your project, either in SMPTE (hours:minutes:seconds:frames) or frame (drop frame, non-drop frame, or PAL). A new feature of the Timecode bar is that it also indicates areas in the project not yet rendered with a red line.

- To change the timecode mode, double-click the Timecode bar.
- To change additional timeline settings, choose **Preferences>Timeline Preferences**.

See: Set Timeline Preferences

Preview Bar

Play selections of video and audio on the timeline. It is located directly beneath the Timecode bar.

- To play an area, click the Preview bar anywhere above a clip and drag to select an area to play.
- To resize the preview area click either end of the selected area on the Preview bar and drag.
- To zoom to the selected area on the timeline, hold down the CTRL key and select an area in the Preview bar.

See: Preview

Status Bar

View short usage tips related to the tool or item selected. View video opacity graphs and volume levels as you adjust these on clips.

- To clear the Status bar from view, deselect **View>Show Status Bar.**
- To place the Status Bar at the top of the Composition window, choose **View>Status at Top.**

Splitscreen Bar

(between audio and video tracks) Click and drag to adjust view of the audio and video timeline sections.

See: Adjust Timeline Tracks

Zoom Buttons

(at the upper right of timeline) Click the down arrow button to zoom in. Click the up arrow button to zoom out. Click again to continue zooming at intervals found in **View>Zoom**.

See: Zoom the Timeline

Maximize and Track Resize Buttons

Click the Maximize button to enlarge the video or audio area to one track. Click the Track Resize buttons (up and down arrows) to change track sizes.

See: Adjust Timeline Tracks

Item Info Window

The Item Info window is your primary tool for trimming items, mixing audio, adjusting effects, building composite images, and gleaning information for any selected item in any project. It has four tabs:

- Trim Adjust the length of video and audio items in the Library or on the Composition window timeline. Trim visually while a clip plays, type timecode location or click frame increment buttons for Source or Result In and Out points and length.
- Audio Mix volume while audio plays. For stereo tracks, mix left and right channels and adjust left and right speaker pan.
- Video Apply settings to video clips, including scale on import, change of speed, and image area adjustment. Apply effect sources, adjust parameters and select compositing options for effects.
- Info View a clip's information, including its length, drive location, and notes.

Item Info Trim

Use the **Trim** tab of the **Item Info** window to adjust the length of items in the Library or on the Composition window timeline and preview items for trimming. You can also lengthen trimmed clips back to their original length.

For information on the various tools in Item Info Trim, see:

Ripple Trimming

Source Timecode

Result Timecode

Slide Trim and Slip Trim

Scrub to Mark Trim Points

Play and Preview as You Trim

Split Items

Move from Item to Item

Change Item Icons

For more information on trimming, see Trim Video and Audio

Item Info Audio

Use the **Audio** tab of the **Item Info** window to adjust volume (and speaker pan for stereo tracks) in realtime using sliders, or "faders." For stereo tracks, you can adjust the left and right channel volume separately or together. You can mix audio for items either in the Library or on the Composition window timeline, and you can mix up to twenty tracks of audio in realtime in Speed Razor.

You also have options for displaying or hiding audio channels, for locking or unlocking individual channels, and playing selected channels and multiple clips together. Stretch the window vertically for more subtle volume adjustment; and horizontally for pan adjustment.

For information on the various tools in Item Info Audio, see:

Play back Audio using Item Info (Audio)

Mix Volume

Mix Multiple Audio Tracks

Mute Volume

Pan Left and Right Speaker Sound

Lock and Unlock Audio Channels

Adjust Decibel Levels

See also:

Mix Audio in Realtime

Adjust Audio Channel Graphs

Audio Settings

Audio Layers

Audio Oversaturation

Trim Video and Audio

Select Clips and Groups

Turn Video and Audio Clips On or Off

Separate and Attach Audio and Video

Read Audio Beats with Waveforms

Item Info Video

Use the **Video** tab of the **Item Info** window to apply settings to video and effects. Activate or turn off a selected clip or group, adjust the scale parameters of a clip, and lock or unlock video opacity graphs.

- When a video clip is selected you can adjust its visible image area, its scale, and the speed at which it plays.
- When an effect is selected you can set its sources, enact compositing commands, and adjust its effect parameters.

An effect "source" is the video clip or clips to which an effect or transition is applied. A "composite" is an image combined from video, still images, and effects. You can select how images will be combined with the Enable Mask, Invert Mask, Self Background, and Skip Overlay boxes.

To rescale effect parameter graphs in the Item Info (Video), drag up or down on the scale bar at the top or bottom of every parameter graph. Widening and tightening Item Info (Video) rescales the parameters accordingly. Clear the Lock Video Opacity Graph box to adjust video opacity level over time.

See:

Item Info Video Options

Item Info Effect Options Turn video clip on or off.

Clear "Lock" box to adjust video opacity over time.

Apply to soften edges of video image.

Apply import scaling and change of speed to video

Item Info Video Options

Use the **Video** tab of the **Item Info** window to apply settings to video and effects. Activate or turn off a selected clip or group, adjust the scale parameters of a clip, and lock or unlock video opacity graphs.

- When a video clip is selected you can adjust its visible image area, its scale, and the speed at which it plays.

To rescale effect parameter graphs in the Item Info (Video), drag up or down on the scale bar at the top or bottom of every parameter graph. Widening and tightening Item Info (Video) rescales the parameters accordingly. Clear the Lock Video Opacity Graph box to adjust video opacity level over time.

See:

Scale Video on Import

Turn Video On or Off

Adjust Video Opacity

Adjust Image Area for Output

Change Video Speed

See also: Item Info Effect Options

Item Info Effect Options

Use the **Video** tab of the **Item Info** window to apply settings to video and effects. Activate or turn off a selected clip or group, adjust the scale parameters of a clip, and lock or unlock video opacity graphs.

- When an effect is selected you can set its sources, enact compositing commands, and adjust its effect parameters.

An effect "source" is the video clip or clips to which an effect or transition is applied. A "composite" is an image combined from video, still images, and effects. You can select how images will be combined with the Enable Mask, Invert Mask, Self Background, and Skip Overlay boxes.

To rescale effect parameter graphs in the Item Info (Video), drag up or down on the scale bar at the top or bottom of every parameter graph. Widening and tightening Item Info (Video) rescales the parameters accordingly. Clear the Lock Video Opacity Graph box to adjust video or effect opacity levels over time.

See:

What are Effects and Transitions

Adjust Effect and Transitions Parameters

Preview Effects and Transitions

Use Item Info (Video) to Source Effects and Transitions

Work with Masks

Use Self Background for Compositing

Using Skip Overlay for Compositing

See also: Item Info Video Options

Work with Masks

Like mattes, masks are useful for creating and combining video images. Both use transparency and opacity of grayscale values to shield or ‘‘mask’’ certain areas while allowing other areas to be revealed. However, the mask is contained as an alpha channel in a full 32-bit .tga image file. In this alpha channel, shades of gray become increasingly transparent as they get closer to black, and more opaque as they move to white.

- To turn on the 8-bit grayscale alpha channel of a 32-bit .tga image file, select the clip and in Item Info (Video) select the Enable Mask box. (The alpha channel stores opacity and transparency values in the image.)
- To invert the opacity and transparency values of a 32-bit image, select the clip and in Item Info (Video) select the Invert Mask box.

Use Self Background for Compositing

When compositing, to apply an effect over itself, select the effect clip and select the Self Background box. This is useful when creating multiple overlaid images with the Matte effect.

Use Skip Overlay for Compositing

To hold the overlay of an effect from the channel to which it is normally applied, select the effect clip and select the Skip Overlay box. This is useful for separating the foreground from background images, with 32-bit .tga image files while applying the Color Difference Keying or Matte effect. When an overlay is skipped, you can then apply different effects to each image in the composite.

Item Info Info

Use the **Info** tab of the **Item Info** window to attach or separate video and audio clips, and to view information about any selected clip in the project. Video and audio can be attached or separated at any time during the project. You can also use the Info tab to replace clips on the timeline or in the Library.

See:

View Instances of Clips

Separate and Attach Video and Audio

Replace Files

Get Clip Information

View clip information and notes

Replace the selected file with another

View Instances of Clips

1. Select Item Info (Info) to view what instance of the item in the workfile is selected.
2. In Item Info (Info) click the corresponding up and down arrow buttons to view information about each instance of the item.

View Item Information and Notes

Select Item Info (Info) to view clip information indicating: the trim length of the clip, its total file length, placement on the Composition window timeline, directory location, file type, whether it is attached to audio or video, whether it has parent effects or transitions, and any notes associated with the file. Video clips contain frame rate, size, and bit depth data. Audio clips contain quality, sample rate, bit depth, and stereo or mono information.

Preview

Use Speed Razor's four Preview windows to play back video effects in realtime on your computer screen, to view effect source and result images and video trim In and Out points. When trimming two adjoining clips at the same time (slip trimming), you can view the Out point of the first, and the In point of the second.

If you have an external video monitor (NTSC or PAL) connected to your system you can select whether to preview realtime, non-realtime and trimming areas on the external monitor or computer screen. Set Preview window image resolution and scrubbing preferences by choosing **Preferences>Scrub and Preview Preferences**.

There are four Preview windows: Trim or Source In and Out, Result and Playback. Playback lets you preview video as it plays in software or as you scrub. Result lets you see effects as they impact video images. Content in the Preview windows changes according to what you are doing.

When you are trimming a single clip the first preview displays Trim In, the second displays Trim Out, and Playback displays the slider's frame position.

When you begin Speed Razor, by default all four Preview windows open. You can position these with other windows, then set the interface by choosing **Preferences>Save Settings on Exit.**

- When trimming the shared Out/In point of two clips, the first preview displays Trim Out of the clip on the left, and the second preview displays Trim In of the clip on the right.
- When viewing a single sourced effect, the first preview displays the source and the third Preview displays Result of the effect.
- When viewing an effect with two sources, the first preview displays Source 1, the second Source 2.
- When viewing a transition, the first preview displays Source In, the second Source Out.

See:

Preview Window Options

Set Scrub and Preview Preferences

Preview and Play Back Video, Audio and Effects

Preview Video as You Trim

Preview Effects

Preview Options

Each Preview window shares the same menu options. To open the Preview menu right-click the upper left corner of the window.

Set Image Scale and Zoom Images: In the menu you can set image scale to match the window, and you have several zoom options with some associated shortcut keys:

- Right-click on an image to zoom at actual image size. Right-click and drag to move the image.
- To zoom into the image press ALT and right-click or drag the mouse up.
- To zoom out of the image press SHIFT and right-click or drag the mouse down.

The default aspect ratio of Source images in the Source Preview windows correspond to original image dimensions unless you have made scale changes to the image. The default aspect ratio of the Result window is the project's frame size. The default aspect ratio of the Playback window is set in Scrub and Preview Preferences dialog box **(Preferences>Scrub and Preview Settings).**

Adjust Window Size: Resize any Preview window based on image aspect ratio and images zoomed with a variety of shortcut keys:

- To expand and contract a window without changing the image view size, drag the window edges.
- To keep the window aspect ratio as you resize it, without changing the image view size, hold the SHIFT key and left click while dragging a corner.
- To pan when the image is larger than the window, right-click and drag the image.
- To view the window at 1:1 (according to your editing settings frame size), press the SHIFT key and right-click. Press SHIFT and right-click again to return to your previous view.
- To add a Preview window choose **View>Preview** and select from the submenu.
- To close a Preview window select it and press CTRL+W.

See: Set Scrub and Preview Preferences

Set Scrub and Preview Preferences

To set preferences for image resolution in the Preview windows and scrubbing and trim preview options, choose **Preferences>Scrub and Preview Preferences.**

In the Scrub and Preview Preferences dialog box, select "When Dragging Items Scrub the Background," to view frames of the video clip on the timeline as you are dragging to place a clip over it. For example, you may want to overwrite part of a long clip on V1 with a short clip, then cut back. As you drag the overwrite clip on V2 the background video is displayed. When selecting a clip to place:

- Selecting the left side of the clip you are placing will scrub the background frame at its In point.
- Selecting the right side of the clip will scrub the background frame at its Out point.

Note that when you play back video in software, your scrub options in the Scrub and Preview Preferences are dimmed. Scrubbing options are available when you set output to an external video monitor.

See also:

Preview

Preview Video as You Trim

Zoom the Timeline

View clips on the Composition window timeline at intervals ranging from single frame to the entire project, select an area and zoom to that area, and move in and out of the project vertically as well as horizontally.

- To view the entire project, click the Zoom to Fit button, press CTRL+HOME or choose **View>Zoom Level>Zoom to Fit.**
- To zoom a selected area vertically and horizontally, draw a bounding outline on the timeline. Press CTRL, right-click, and drag to draw the box.
- To zoom an area on the timeline, right-click, press SHIFT, and move the mouse:
  - ⇒ left to zoom in horizontally
  - ⇒ right to zoom out horizontally
  - ⇒ down to zoom in vertically (tracks enlarge)
  - ⇒ up to zoom out vertically (tracks grow small)
- To zoom at various time levels from single frame to 10 seconds, press CTRL and a number between 1 and 8 on the keyboard.
- To change zoom views at various levels, click the zoom (up and down) buttons at the upper right of the Composition window or press SHIFT+A and SHIFT+Z.

See also

Zoom Images in Preview Windows

Set Zoom Preferences

Move Through the Timeline

Set Zoom Preferences

To specify how the screen will redraw when changing zoom levels:

1. Choose **Preferences>Miscellaneous Preferences**.
2. In "Timeline Zoom In/Out Behavior" click either "Center on Cursor" to center the timeline view on the pointer's location when adjusting the zoom, or "Maintain Timeline Center" to use the timeline's center point as the reference when adjusting the zoom.

See: Zoom the Timeline

Move Through the Timeline

You can pan through the Composition window timeline, and move quickly from clip to clip.

- To pan through the Composition window timeline in any direction, right-click on an empty area on the timeline and drag.
- To move forward a clip, from a selected clip, press CTRL+RIGHT ARROW or in Item Info (Trim), click ITEM - >
- To move backward a clip, from a selected clip, press CTRL+LEFT ARROW or in Item Info (Trim), click < - ITEM.
- To move up a clip on the timeline (or in the Library) press CTRL+UP ARROW.
- To move down a clip on the timeline (or in the Library) press CTRL+DOWN ARROW.

With the Goto Options in the **Edit>Goto** submenu, you can move forward and back a frame at a time, from marker to marker, to the beginning and end of the project timeline, to a specific frame or time, and you can shuttle forward or backward. Each Goto option has a corresponding keyboard shortcut.

See also:

Zoom the Timeline

Video Project Overview

With Speed Razor you can capture video from tape and import files from a range of sources, edit the video and apply special effects, and then output to videotape at any quality level, from D1 uncompressed quality to VHS tape, or export to a digital video file format.

When you make a program of any length in Speed Razor, you will create a project to store and manage it. A project in Speed Razor is a video production that contains saved versions of your work, or workfiles, and all stored video, audio, and other files on your project timeline and in Library bins. A video project's main stages are.

- Project Setup
- Capture and Import
- Edit Video, Audio and Add Effects
- Output

Project Setup

To set up a video project follow these steps:

- Check system requirements and Windows NT setup.
- Name the project.
- Establish editing settings
- Set up project folders and drives
- Customize Speed Razor

Proceed to capture media and import files .

Capture and Import

To capture and import source video and files:

- Prepare Your System and Settings for Capture
- Log shots for automatic assembly edit or "virtual" editing
- Batch Capture or Manual Capture video and audio source material, or recapture batch captured material from a stored workfile. (**Media>Batch Capture**)
- Import files:
- Scale video on import:
- Import EDLs for online editing; import film files for "offline" editing as full field video.
-
- Preceed to Edit and Add Effects

Edit and Add Effects

To edit the project
:

- Organize Library Categories
- Rough cut edit and storyboard video in the Library and place these in groups on the Composition window timeline.
- Arrange and trim video and audio clips on the timeline.
- Mix audio and synchronize it with video.
- Add transitions, titles, and other video effects .
- Create composited images with video, still images, and effects.
- Play back video and audio and preview effects .
-
- Proceed to Output

Output

To output the project you have a range of options:

- Render areas with software effects for output.
- Set output preparations for the video project, outputting to videotape at any quality level. (**Project>Print to Tape**)
- Output to a secondary source without recreating the project.
- Export a workfile timeline to video file format .
- Export a File to the Library
- Convert video back to digital film file formats and exporting at full 64-bit color resolution.
- Export an EDL .

What is a Project?

A project in Speed Razor is a video production that contains:

- Saved versions, or workfiles, of your work. This includes pointers for the arrangement of items on the Composition window timeline and in the Library within specific workfiles.
- Video, audio, still images, effects, transitions, third party plug-ins or other files associated with your project.

You may have an unlimited number of projects or versions (workfiles) of any size within a project. Under the project name, folders are created for all associated files in drives. (You can modify the drive and directory structure by choosing **Preferences>Directories.**) For example, if you name a new project "Bigtime," a folder named "Bigtime" is created in C:\Razor40\Projects. This folder holds sequentially numbered, project workfiles. Folders for video and audio are also created on assigned drives.

The project and workfile name appear on the Title bar of any open workfile, along with the workfile's directory location. You may have only one project open at a time.

When you begin a video project with Speed Razor many aspects of the project are already managed. These include:

- Default directories for video, audio, and all other files associated with any video project you start.
- Capability for unlimited number of project versions, or workfiles, that are named sequentially as you create them and stored together under the project name in the Projects folder.
- Editing settings options with device defaults (such as file format, field rendering, and NTSC or PAL formatting) specific to your video and audio capture hardware.

This structure provides a solid environment for managing the complexities of multiple file types, drives, and large amounts of data, whether for long or short form video. In addition to these project management features in Speed Razor, you may set up the program interface as you want it, customize the look and feel of Speed Razor and establish preference settings for editing.

See:

Set Project Timecode

Create and Name a Project

Create Workfiles

Save Workfiles

Merge Workfiles

Create and Name a Project

When you open in-sync Speed Razor for the first time, the New Project dialog box appears. In subsequent editing sessions, choose **File>New Project** to start a new project. In the New Project dialog box you may type a new project name to create a project, or click Cancel to open the default Composition window timeline. In the default mode you can establish settings that will apply for all projects you begin.

> **When naming a Speed Razor project or workfile, do not use the symbols, &,#,*,$,%, and periods or spaces. When using two words, place an underscore between them. For example: King_Kong. You may use up to 256 characters in a name.**

To Create a New Project
To Set Defaults for new project

See also:
What is a Project?
Establish Editing Settings
Create Workfiles
Customize Speed Razor

Enter name or click cancel to open and change default settings

To create a new project

1. Start Speed Razor. The first time you start the program, the New Project dialog box opens. If you already have Speed Razor open, Choose **File>New Project**.
2. Give the new project a name, (i.e. my_project). The project folder and any workfiles you create will be saved in the C:\Razor40\Projects directory under the project name.
3. Click OK to close the dialog box and begin the project. The Speed Razor interface opens with the project name at the top of the Composition window.

Establish Editing Settings

Editing settings determine how video and audio are input (captured), output (played back) on the timeline, and the file format used for rendering areas with non-realtime effects. For more information and steps for establishing editing settings, select from the following topics.

See:

What are Editing Settings?

Work in Final or Thumbnail Mode

Video Settings

Audio Settings

Establish editing settings for your video capture hardware

What are Editing Settings?

Editing settings determine how video and audio are input (captured), output (played back) on the timeline, and the file format used for rendering areas with non-realtime effects. You can apply default editing settings for all projects you begin, or for the open project.

- To apply editing settings for the specific project, select **File>New Project**, name the project, then choose **Project>Editing Settings**.
- To apply default editing settings for all projects you begin, choose **File>New Project**, click Cancel, then choose **Project>Editing Settings**.

Standard file settings for your video capture hardware are automatically detected by default. Field render and output format (NTSC or PAL) are also auto-detected. However, you will need to choose compression levels and other settings for your project. Additional settings options include color bit depth, frame size, frame rate, and video compression and audio quality settings. You can also choose to apply the editing settings for the final video project, or a "thumbnails" offline version.

It is important to establish editing settings before you capture or import media in a project, and to establish settings based on your anticipated output mode and quality level. Then leave editing settings unchanged throughout the project.

Establish editing settings when you create the project, before capturing video.

Base the editing settings on your anticipated method of export.

Avoid changing editing settings once you have begun a project. Changing editing settings requires re-rendering for the entire project.Select Audio to activate audio in project

Select Video to activate video in project

Video setup

Audio setup

See:

Work in Final or Thumbnail Mode

Video Settings

Audio Settings

Establish editing settings for your video capture hardware

Work in Final or Thumbnail Mode

You can establish editing settings for a video project in Final and Thumbnail modes. When you choose **Project>Editing Settings**, in the Editing Devices and Settings dialog box:

- Select **Final** to edit in an "online" mode. Final is the default mode for editing settings and is used to establish video settings and edit video at final output quality. In most circumstances you will use this setting.
- Select **Thumbnail** to edit in an "offline" mode for film and other large still image file sequences, including .cin, .dpx, .raw, and .sgi files. Establish video device settings at a manageable frame size and compression rate. Once you have finished editing "offline" you can open the workfile in Final mode, and your final settings will be applied.

Final editing settings determine the settings for how media is captured into Speed Razor, how it is played back while you edit it on the timeline in finals mode, and how areas with non-realtime effects are rendered during the editing session. Finals is the default mode for editing.

Thumbnails settings are useful editing still image files (such as .cin, .dpx or .sgi files for film) in a video file format. Once you have finished editing "offline" you can open the workfile in Final mode, and your final settings will be applied. Note that for converting from low resolution to high resolution within video formats, it is easier to use the Update Capture feature.

Once you select Final or Thumbnail all settings you establish in the dialog box are for this mode. You can set up a video project first for its Final mode settings, then click Thumbnail to set its Thumbnail settings.

See:

Edit Film

What are Editing Settings?

Video Settings

Audio Settings

Establish editing settings for your video capture hardware

See also:

Realtime Offline Editing: Playback Video Effects in Software Realtime

Edit Offline and Online

Capture at Low Resolution and Update the Capture List

Video Settings

By default, editing settings match your video capture hardware's native video file format, output format (NTSC or PAL), and field render settings. For example, if you are using a Matrox DigiSuite, your video playback, recording, and file format default setting is MJPEG AVI, the hardware's native format. If you have a Truevision Targa card, the native format is DVM. You can select compression levels and other settings for your project by clicking the Setup buttons. Additional file setup options may include color bit depth, frame size, frame rate, and video compression and audio quality settings. The default is set for video playback to your external video monitor.

See:

Establish Video Settings for Output (Playback)
Establish Video Settings for Input (Recording)
Establish Video Settings for File Format

Video Settings: Output

Video Playback to External Video Monitor: For video editing with playback to your external video monitor, leave the default native video format for Output, Input, and File Format. Set the video quality for all phases of the project to match. Similarly, leave audio set to "Wave Audio Device" and set the quality for all phases of the project to match.

See: Establish Editing Settings for Your Video Capture Card

Video Playback to Your Computer Screen: In Speed Razor 4.5, you can play back video files with video effects overlays on your computer's monitor. These include playback for imported MJPEG and Multimedia .avi files, and still image sequences in .bmp, .dib, .jpg, .tga, .sgi, .cin, and .dpx formats. For computer screen playback Speed Razor takes advantage of Microsoft Direct Draw technology. No rendering is done on areas played back in software realtime.

See: Play Back Video on your Computer Screen.

Video Settings: Input

For video Input (Recording) settings, select the file format to which video will be recorded or captured. You can also open this same dialog box by choosing **Media>Capture** or **Media>Batch Capture**, then clicking the Video Setup (filmstrip) button in either dialog box.

See: Establish Editing Settings for Your Video Capture Card

Video Settings: File Format

Select the file format to which software effects areas on the timeline will be rendered (areas which can't be played back on the timeline in realtime). These are also called "render" settings.

> **When using the default video format for your system, set File Format to match Output and Input.**

Note that you also have render options when exporting a file. It is important to remember that these settings are for editing only, and export settings are for export only.

- When you apply video File Format Settings through Project>Editing Settings these apply for video while on the timeline, and not for exporting files.
- When you apply video File Format Settings through File>Export to a File these apply only for exporting files from the timeline.

In File Format, you also have the options of selecting a still image file format for scrubbing and preview. These formats include: .bmp, .tga, .sgi, .cin, .dpx, .jpg, and .raw. Select a file format if you have selected Computer Screen as Output (Playback) device.

See:

Establish Editing Settings for Your Video Capture Card

Export a File

Play Back Video on your Computer Screen.

Audio Settings

When you capture video and audio, these are separated into video files according to video file settings and audio .wav files. Audio in Speed Razor is set to the uncompressed .wav format, 16-bit, 44.1 kHz stereo for capture, playback, and rendering. In Speed Razor 4.5 there are no audio effects, so no audio rendering. In most cases, you will leave audio at its default settings. Select this unless your audio card has an audio format detected as a default in Speed Razor. Change the sample rate to 48kHz for output to DAT.

Because audio is maintained in uncompressed format, there are no separate settings for Final or Thumbnail. You cannot play compressed audio from Speed Razor, and interleaved audio and video files will be de-interleaved on import or not play at all. To be sure you are capturing uncompressed audio in Windows, you will need to set the Microsoft PCM Converter to priority 1. See "Configure Windows NT/98 ," in Chapter 1, "Getting Started."

To Establish Audio Settings

To Establish Audio Settings

1. Choose **Project>Editing Settings**, and then select the Audio box to activate audio options.
2. See that Audio WAV is selected for Input, Output, and File Format.
3. Click the Output Setup button and set CD quality: 16-bit, stereo, 44.1 kHz, or 48 kHz for DAT output.
4. Set Input and File Format Setup options to match. Then click **OK**.

Establish Editing Settings for Your Capture Hardware

Video file settings for your hardware are automatically detected. Based on this, field render and output format (NTSC or PAL) are also auto-detected. However, you will need to select compression levels and other settings for your project. Select a video capture card. If you don't find your video capture hardware listed, see the in-sync Website for updated information.

Matrox DigiSuite

Truevision Targa (includes 2000 RTX, DTX, and Pro cards)

DPS Perception

If your card is not listed here, see the "Using Speed Razor and …" documents on your program CD or on the in-sync website.

Editing Settings for Matrox DigiSuite

- In the Editing Devices and Settings dialog box (**Project>Editing Settings**) set Output, Input, and File Format to "Matrox DigiSuite."
- In File Format Setup, set Video compression either at uncompressed quality or at any compressed quality setting. This determines the quality setting for Input (recording), Output (playback on the timeline) and File Format (rendering for software effects).
- Do not mix uncompressed quality and compressed video in a project. All video in the project will be at the quality you set in File Format Setup.
- Set audio to WAV (default) and set the quality for all phases of the project to match.
- Do not run DigiSuite software at the same time as Speed Razor.
- It is also important to keep in mind the following general guidelines for editing settings:
    - ⇒ Establish editing settings when you create the project, before capturing video.
    - ⇒ Base the video quality settings on your anticipated level of final output.
    - ⇒ Avoid changing editing settings once you have begun a project. Changing editing settings requires re-rendering for the entire project.
    - ⇒ Use editing settings to establish the type of video project you want to create. For example, to create a video for output at uncompressed quality, you will establish your video File Format settings to "Uncompressed."

For more information, see "Using Speed Razor and Matrox DigiSuite," on your program CD or on the in-sync website.

Editing Settings for Truevision Targa

When using the Targa with Speed Razor it is important to keep in mind the following recommendations:

- Before establishing video compression settings, it is recommended you first determine your hard drive's data rate capacity and set video compression at less 500KB/sec lower than recorded rate.
- It is recommended you use Speed Razor to capture your video clips.
- In the Editing Devices and Settings dialog box (**Project>Editing Settings**) set Output, Input, and File Format to "Hardware .DVM Device."
- Set audio to WAV (default) and set the quality for all phases of the project to match.
- Do not run Targa software at the same time as Speed Razor.

For more information, see "Using Speed Razor and Truevision Targa 2000RTX," or "Using Speed Razor and Truevision Targa Series," on your program CD or on the in-sync website.

Editing Settings for DPS Perception

- In the Editing Devices and Settings dialog box (**Project>Editing Settings**) set Output, Input, and File Format to "Hardware .PVD Device."
- Set audio to WAV (default) and set the quality for all phases of the project to match.
- When using the Perception with Speed Razor it is recommended you use Speed Razor to capture your video clips.
- Do not run Perception software at the same time as Speed Razor.

For more information, see "Using Speed Razor and DPS Perception," on your program CD or on the in-sync website.

Manage Directories

A video project in Speed Razor has a drive and directory structure for all files associated under the project name. When you name a project this structure is automatically created. Modify drive locations by choosing **Preferences>Directories**. When you set multiple drives, a folder with the project name is created on each drive. You will need to add secondary drives for audio and video depending on the size of your project. To keep file access working smoothly, take the following actions:

- Store video and audio files in separate drives. This assures quick access to both drives, and is necessary for realtime playback.
- Do not change directories in the middle of a project. Since Speed Razor seeks the folder locations for associated files, moving one folder affects the entire project.
- When naming directories do not use the symbols &, #, $, %, period, comma, or a space in the name, even though Windows NT allows this convention. For example, "C:\SpeedRazor_40" is a valid name, but "C:\Speed Razor 4.0" is not.
- Keep third party plug-ins in their own directory. Do not move these to the Razor40 or Effects subdirectories.
- Keep drives no higher than 80 percent full so they function at maximum speed for realtime play.

By default, when a drive reaches 80 percent full, Speed Razor automatically applies the next available drive. Set percentage full for hard drives

Folders for all files associated with project

You can rearrange the order in which drives are accessed, and add, change, or delete drives from a project.

To modify drives

To modify drives

1. Choose **Preferences>Directories.**
2. In Show which Directories select the File group. Its current drive and directory (or directories) appear.
3. Click Add to add directories to the group
4. Select a directory and click Change to adjust the selected directory.
5. To move a directory up in the list, select it and click Up. To move a directory down, select it and click Down.
6. Select a directory and click Delete to remove the directory from the group.
7. Click OK to close the dialog box and apply the changes.

Create Workfiles

A workfile is a unique version of a Speed Razor project. In Speed Razor Mach 4.0 workfiles are saved in the .rzxfile format) file format. When working within a project, you always have a workfile open. The initial workfile of a project is labeled _v0.rzx. A project's workfiles are named sequentially and stored in the C:\Razor40\Projects folder. You can close and open workfiles from an open project, but you may only have one workfile open at a time.

The last saved workfile in a project has the highest number (such as name_1.rzx, name_2.rzx). You can have an unlimited number of workfiles in a project. Because these workfiles draw upon the pool of video, audio, and other files, each workfile in itself is relatively small.

Every workfile in a project has a unique Library and settings. However, the Library and settings used in name_1.rzx become the default for name_2.rzx. And changes made in name_2.rzx do not affect name_1.rzx.

When you close and re-open Speed Razor the last edited workfile appears by default. You can change this by choosing **Preferences>Miscellaneous Preferences**, so that you can re-open the program to any existing workfile. Workfiles can also be merged either within a project or from separate projects.

To open a workfile

See also:

Save Your Work

Merge Workfiles

To open a workfile

1. Choose **File>Open**.
2. In the dialog box, select the workfile from the specific project folder, or select a new project from the Projects folder.

Save Your Work

You may save an open workfile over itself or as a new workfile in the project.

- To save changes within the named workfile, choose **File>Save.**
- To save changes to a new workfile in the project, choose **File>Save Version**.

The first time you save a project and choose **File>Save** or **File>Save Version**, the Save Version dialog box appears, prompting you to create a _V0.rzx file under the project name.

Project versions or workfiles created

See also:

Set Auto Save Times

Set Project Timecode

Set the point at which you want the project timeline to begin, in addition to setting the type of timecode in the project (drop frame time, non-drop frame time, or frame). It is recommended that you set the project timeline starting point at the beginning of a project.

Set the project start time and other timeline preferences by choosing **Preferences>Timeline Preferences** or right-clicking the Timecode bar at the top of the Composition window timeline.

- Timeline timecode indicator. Right-click to open Timeline settings dialog box

A typical purpose of setting the project start time is to begin at the 10 hour mark (10:00:00:00 NTSC) to match timecode settings on your videotape. The timeline extends from left to right, for up to eleven hours from the beginning point of the project. For example, if you start a project at 10:00:00:00 the timeline extends to 21:00:00:00. If you have projects longer than eleven hours it is recommended that you create these as separate projects.

A benefit of starting the project at a point in time after 00:00:00:00 is that you can easily insert footage (or other elements such as color bars) at the start of the project without moving clips on the timeline. Similarly, when you output a selected area back to tape using Print to Tape (**Media>Print to Tape**) the timeline timecode is registered in the Print to Tape window.

In the Timeline Settings dialog box, you can set the rate by which time is measured on the timeline. Select "Frames" to view frame number from 1 to X. Select "Time" to set the project in SMPTE timecode (hours: minutes: seconds: frames) and then select "Drop Frame" or clear this for Nondrop Frame. You may also set the number of pixels which appear between labeled ticks to prevent blurring of the numbers on the Timecode bar at certain zoom levels.

When you have the timeline set to NTSC dropframe the timeline displays 30 frames per second, but to compensate for the dropframe, the Timecode bar drops two frames every minute on the minute, except on minutes evenly divisible by 10. So the Timecode bar goes from 1:59,29 to 2:00,02.

When you import an EDL the project timeline is automatically adjusted to the timecode of the EDL.

Tip: To move to and select the first item on the timeline press the HOME key.

Customize Speed Razor

You can organize Speed Razor to suit your working needs by customizing the interface, setting user preferences, and changing default settings.

Organize Speed Razor Windows for Workflow

Set Fonts, Buttons and Color Scheme

Customize the Tool Bar

Create User Preferences for Startup

Set Preferences

Save User Settings

Change Default Settings

Set Preferences

When editing you will want to organize the timeline and other preference settings to fit your working needs.

Set Miscellaneous Preferences	
Set Auto Save Times	
Set Auto Search for Attached Items	
Set User Preferences for Start Up	
Set Timeline Timecode Preferences	How timecode is viewed on the timeline
Set Drag and Drop Preferences	How transitions connect source video clips
Set Snap To Preferences	How clips snap to each other on the timeline
Set Trimming Preferences	How areas around trim are previewed
Set Scrub and Preview Preferences	How video is previewed for trimming and compositing
Set Background Colors	How background color appears
Set Zoom Preferences	How zoom commands are oriented in the project
Set Levels of Undo	
Set Fonts, Buttons and Color Scheme	
Customize the Tool Bar	
Create User Preferences for Startup	

Organize Speed Razor Windows for Workflow

When working in Speed Razor, you may organize windows in any arrangement over one or two display monitors (with graphics card capability). When placed closely, windows snap together. You can resize any window up to full screen.

- To hide the Library, press CTRL+L or choose **View>Hide Library**.
- To hide the Item Info window, press ctrl+o or choose **View>Hide Item Info**.
- To hide the VU meter choose **View>Hide VU meter.**
- To hide Preview windows choose **View>Preview>Hide All** or close a window individually.

Set Fonts, Buttons and Color Scheme

Customize the look and feel of the interface, including how buttons, clips, fonts, and the background appear, by choosing **Preferences>Interface.** (Background textures are stored in the "Tiles" directory.) In the Interface Design dialog box you can select interface and note fonts independently. Font changes affect interface button text and notes accompanying each Library item. You can also opt whether buttons will appear in icon, text, or icon and text view.

The default font is “bigger sync,” specifically designed for Speed Razor. You may choose another True Type font, but test its appearance on the interface. Certain fonts may not fit properly.

To change interface fonts and colors

Set buttons size and mode

Font options

Set background color or textiure

Set up preset color schemes

To change interface fonts and colors

1. Choose **Preferences>Interface Preferences.**
2. Click the Change buttons at the bottom of the dialog box for Interface or Notes. Each opens the Font dialog box.
3. Select a font type, style and size. (such as Time Roman, bold, 12) Preview the font in the Sample box.
4. Select a background image and button view option.
5. Click OK. The interface fonts for buttons, clip titles, and window information all change to the selected font.

Set Miscellaneous Preferences

You can set up how Speed Razor will open the next time you start the program—whether to your last saved workfile, a choice of workfiles, or the default interface. These and other options are found in the Miscellaneous Preferences dialog box.

To set miscellaneous preferences:

1. Choose **Preferences>Miscellaneous Preferences**.
2. To open Speed Razor to your last project version, select Last Saved Workfile to open program to most recently saved workfile.
3. In Timeline Zoom In/Out Behavior, select Center on Cursor to keep zoom centered on pointer position.
4. Select "Stop Playing When Audio VU Meter Peaks" to *not* receive a message indicating audio has exceeded limits of safe playback, and to allow audio to play through. Clear to keep the message and stop audio playback.
5. Select "Auto Search…" to search for attached files when you are importing.
6. Set the amount of time between auto saves.
7. In the last box, select "Add File(s) to Library After Export" to have files loaded to the Library on export.

Save User Settings

To save your settings on exit, choose **Preferences>Save Settings on Exit**. This keeps certain settings made for the current workfile (such as final editing settings and window positions) active for the next workfile and the next time you open Speed Razor. Once you have established preference settings you can save these by saving a project version.

1. Choose **Preferences>Save Settings on Exit** so it is checkmarked.
2. Choose **File>Save Version** to store the settings.

Change Default Settings

By opening to the Speed Razor default interface you can change settings for how new projects open. When you begin a new project the changes you have set will apply. The following table displays preferences for which you can adjust default settings.

Miscellaneous Preferences	Preferences>Misc. Preferences
Item and Interface Fonts	Preferences>Interface
Timeline Settings	Preferences>Timeline Settings
Drives and Directories	Preferences>Directories
Tool Bar	Preferences>Tool Bar Preferences
Editing Devices and Settings	Project>Editing Settings
Set Background Color	Project>Set Background Color

To Set Defaults

To Set Default Settings for New Projects

1. Choose **File>New Project.**
2. Click Cancel. The default interface is displayed.
3. Apply changes to any of the above dialog boxes.
4. Choose **Preferences>Save Settings on Exit**.
5. Open a new project. The new default settings will apply.

Capture Source Media

Capture—or digitize—video and audio for digital editing. With video capture hardware, an RS-422 controllable deck, a converter, and the Batch Capture command in Speed Razor you can digitize source video from within Speed Razor in any shot order you want.

When preparing for capture, you can establish source and quality settings for video, including data and key frame rates. Create a shot list containing tape, timecode, and notes information, which is then stored with your project. You may preview video from Speed Razor and check audio levels before or during capture. There are no length limitations for audio or video capture.

You can also capture at low resolution, then update the capture list and recapture at final output quality.

Video and audio can be captured together or independently. You may also single capture directly from a video tape recorder without a list, capture audio from a CD (with appropriate hardware), and create voice over tracks while editing in Speed Razor. Audio is digitized in the uncompressed .wav file format for the highest quality while editing.

Capture and Batch Capture features are not included in Speed Razor Client versions.

See:

Batch Capture Hardware Setup
Prepare Deck and Settings for Capture
Batch Capture
Use Batch Capture Tools

Batch Capture a Low Resolution and Update the Capture List
Recapture from a Capture List or EDL
Manual Capture
Capture Audio
Record a Voice Over Track

Batch Capture Hardware Setup

Use a Compatible Video Deck:

The following video decks have been tested and are compatible with Speed Razor for Batch Capture and Print to Tape: Sony UVW 1800, PVW2600, PVW 2650/2800, BVW 35 (portable), BVW 40, the BVW studio series: 60, 65, 70; Panasonic AG 7750, DVCPRO AJ-D650 and AJ-D750, and the Sanyo GVR-S955. The following video decks are NOT compatible for printing to tape with frame accuracy: Sony UVW 1400, 1600, BVW 50.

Use Proper Cables and RS-422 Converter:

For deck control with Speed Razor you need an RS-422 to RS-232 converter (which plugs into your computer's COM port). You can purchase the in-sync Widget™ or Widget™2 converter with its included serial cable, or purchase one from a hardware vendor. To purchase the Widget converter contact your Speed Razor reseller. The Widget2 converter is recommended for Pentium II motherboards.

When installing cables, keep cable length as short as possible. Set the converter closer to the computer than to the deck for optimum quality transmission of the signal. (The RS-422 side of the converter is more noise-resistant.) It is acceptable to use an extra adapter to convert a 9 pin adapter cable for use on a 25 pin Serial port. If your deck has component outputs and your video capture hardware supports component, then you will achieve a higher quality capture if you use component, rather than composite, connectors.

To connect cables:

1. Once you have the correct cable and converter, plug the RS 232 side of the converter into the serial port of your computer. The RS-422 side faces away from the computer. Plug the adapter directly in to your computer so there are no extra cables between the computer and the adapter.
2. When plugging in the adapter note whether you've connected it to COM1 or COM2. (You will later match this setting in the Batch Capture Options dialog box in Speed Razor.)
3. Connect the other end of the cable to your deck.

Prepare Deck and Settings for Capture

To batch capture video and audio with Speed Razor you must have an RS-422 compatible deck, proper cables and adapters, and the correct system settings. You must also apply settings within Speed Razor to match your video deck, and then test that Batch Capture is working properly. If you are outputting to broadcast video you may want to establish color bars before capturing, based on source video and your capture hardware settings. You will need also need to set Input (Recording) settings for audio and video.

See:

Check the COM Port

Set Batch Capture Options

See also:

Batch Capture Hardware Setup

Check the Com Port in Windows NT

Start Windows NT/98 and check the COM port set up in the Control Panel window to be sure you have FIFO turned on. If FIFO is unavailable, it is likely that you have an older serial port and must replace it.

To turn on FIFO:

1. From the Windows NT/98 taskbar, click the Start button and choose **Settings>Control Panel**. In the Control Panel, double-click Ports.
2. Select the port that has your deck control cable connected to it. If it is not already listed, add it and then restart the computer.
3. Click Settings and then click Advanced. Then select the FIFO box.
4. Restart the computer.

Note: If the port doesn't appear in the Batch Capture Options dialog box when you restart the computer this indicates a hardware issue.

Set Batch Capture Options

Once you have connected the cables and set the ports in Windows NT/98, you can establish hardware and software communication settings according to your video deck model, and to set lead time for Batch Capture,

To establish settings for your deck, choose **Media>Batch Capture** and click the Batch Capture Options button in the upper left of the Batch Capture window. Some settings are auto-detected and will match your deck hardware specifications.

To set batch capture options:

1. Choose **Media>Batch Capture** and in the upper left of the Batch Capture window, click the button.
2. In the Batch Capture Options dialog box, next to Model, select your deck from the drop down list. If your deck isn't listed, check the deck's user manual for the appropriate Edit Delay settings.
3. Select the Com port to which you have connected the cables. Then, in Timecode, if you are capturing from video with encoded timecode, select the type used.
4. Leave "Allow Negative Time" clear unless you have a deck that allows timecode between -12 and +12 hours.
5. Select "Notify on dropped frames" to have each clip automatically checked after it is captured for dropped frames during capture.
6. Select "Notify on Audio Clipping" to display a message indicating when audio is exceeding the limits for safe digital playback.
7. Set "Maximum Frames per Clip" to avoid capturing more source material than you wanted due to a typographical error in the batch capture list.
8. In the Lead In and Lead Out boxes type the number frames you want to record before and after the captured video clip's source In and Out timecode points. If you need frame accurate capture, set the delay options at the bottom of the dialog box. Then Click **OK** to return to the Batch Capture window.

Make a Shot Log for Batch Capture

The most efficient way you can organize source video for batch capture is to prepare a shot log, or "paper edit," with specific In and Out points and notes for each shot on the source tape.

1. Create a VHS dub of the Betacam source tapes, with the source timecode burnt-in.
2. Review the dubbed tapes and write down shot In and Out points to develop a sequence that will become the rough storyboard.
3. Open Speed Razor, and choose **Media>Batch Capture**. Then type in the clip timecode and related notes, to maintain the order of clips in the Library as you set them in your shot list.

For more information on maintaining shot order, see "Maintain Video Shot Order in Capture: Assembly Edit."

Check Audio Levels Before and During Capture

It is recommended that you check audio volume levels before and during capture so that audio does not "peak" or "oversaturate

- You can check audio levels by previewing audio in the Batch Capture and monitoring the VU meter levels.
- You can use Windows NT or audio card volume control tools to adjust levels before capture.
- To to be notified after capture when audio exceeds limits of safe playback, you can click the Batch Capture Options button in the Batch Capture window and select the "audio oversaturation" message preference in the Batch Capture Options dialog box.

See:

Preview Audio and Monitor Levels with VU Meter in Batch Capture

Use Volume Control Tools to Adjust Audio Levels Before Capture

Be Notified of Audio Oversaturation on Batch Capture

Batch Capture

Frame Accurate Batch Capture

See also:

Read Audio Levels Using the VU Meter

Mix Audio Before Playback

Monitor Audio Levels with VU Meter Before Capture

To check audio volume levels in Batch Capture, preview the audio and monitor the VU meter before capture. As you preview the audio, the VU (volume unit) meter levels will move within the green and yellow range. The VU meter in Speed Razor indicates at what decibel level audio is being recorded, edited, or output, and aids in preventing audio oversaturation—volume that exceeds the limits of digital playback.

- Green and yellow areas indicate a safe audio range.
- Red indicates your audio is close to oversaturating. The right edge marks the oversaturation point.

To check audio levels in Batch Capture:

1. In the Batch Capture window, select the row number button (number 1). When selected, the row turns white.
2. In the upper right of the Batch Capture window, click the **Preview** (eyes) button
3. A message prompts you for the tape since this is the first time preview has been used. Make sure the tape is in the deck and click **OK**.
4. As the shot is previewed, watch the VU meter in the Batch Capture window to see that it remains within an acceptable range.

Use Volume Control to Adjust Audio Levels

Depending upon your audio card, you can either use the Windows NT volume control, or a similar tool in your audio card.

*Choose **Options>Properties** to change volume level for recording*

To check audio levels with the Windows NT 4.0 volume control:

1. Right-click the speaker icon on the Windows NT task bar (lower right) and then select Adjust Audio Properties. In the Audio Properties dialog box select "Recording" and then click OK.
   (Note: if you don't see the speaker icon, click the Start button on the Windows NT task bar and select **Programs>Accessories**, choose **Multimedia**, and then **Volume Control**. When the Volume Control tool opens, select **Properties>Options**.)
2. Select an audio file to play, play the audio, and in the Recording section adjust the recording volume to a low level by moving the slider.

Be Notified of Audio Oversaturation on Batch Capture

When the VU meter indicates audio oversaturation a message appears directing you to lower the master gain or source track levels. In Capture, Batch Capture, or Print to Tape, when the VU meter indicates audio oversaturation, play stops after the current clip is captured. You can then close the Batch Capture window and adjust the sound of the clip, or opt to continue capturing. To lower audio levels first stop capture, then use the Windows NT Volume Control or other audio tool to make adjustments.

- To turn off this message for capture, click the Capture Options button in the Batch Capture window, and in the dialog box clear "Notify on audio clipping."

Batch Capture

When you are recording video from a high quality source for professional broadcast output, you will use Batch Capture in Speed Razor to digitize video sources. This is the most efficient, accurate, and secure method for capturing video in Speed Razor. Batch Capture provides a timecode specific shot list and retain an ordered list of captured items in the video project.

When you use Batch Capture to digitize video in Speed Razor, the capture list is stored with the workfile. This records video source information (including timecode, tape order, and names) so that when you reopen a stored workfile without the source video files, you can use the existing batch capture list to recapture the source video.

Similarly, when you import an EDL, for each numbered virtual icon that appears on the timeline, its source timecode appears in the capture list. You can then use the capture list to capture the source video from tape.

When using Batch Capture keep in mind the following important points:

- You can keep your shot list intact so that shots enter the Library in the order you specified, or you can have shots ordered according to reel and tape name. See "Maintain Video Shot Order on Capture: Assembly Edit."
- After closing and reopening the Batch Capture window non-captured line items with timecode sources become unavailable for change. You cannot change In and Out points or names. You can, however, add notes, and select capture status.
- Before batch capturing video, make sure deck and other settings are correct. See Prepare for Capture

To Batch Capture

See:

Batch Capture Hardware Setup

Prepare Deck and Settings for Capture

Use Batch Capture Tools

Use Shortcut Keys to Batch Capture

Edit with Virtual Files

Batch Capture a Low Resolution and Update the Capture List

Recapture from a Capture List or EDL Set In and Out timecode

To Batch Capture:

1. Turn on the video deck, set it to Remote mode, and insert the videotape to capture. In Speed Razor, choose **Media>Batch Capture.** The Batch Capture window appears.
2. Click the Batch Capture Options button and in the Batch Capture Options dialog box set deck, timecode, lead time and other capture related options.
3. If you are working from a shot log, type the source video In and Out points in SMPTE timecode. If you are logging shots from within Batch Capture, as you preview a tape, mark source In and Out points by clicking the Timecode button.
4. Preview clips and adjust trim before capture by clicking the Preview button. (Optional.)
5. Type file names or leave the names clear to have files named sequentially with a project name indicator.
6. Select audio and/or video for capture by selecting their respective A or V boxes on the capture list. Select A and V to capture video with audio. Turn off a clip from capture by clearing its C box. Type notes for files to organize the Library by keywords.
7. At this point you have two options: To store clips in the order they were logged, close and then reopen the Batch Capture window before continuing to the next step. To have clips ordered according to tape and reel name, simply leave the Batch Capture window and continue to step 7.
8. Click the **Capture** button. The deck begins rolling. As a clip is captured its information line in the Batch Capture window is highlighted red. After capture the line is green. Capture continues until the end of each tape is reached. When a tape ends, simply switch it to continue capture. (To stop capture, click the Capture button again.) Once capture is complete, the captured files' icons appear in the Library.

Maintain Video Shot Order on Capture: Assembly Edit

When you have created a shot list you may want to keep the order of shots intact so that when you batch capture the source footage, items appear in the Library in the order you listed them.

- To save source clip order as the shot list, once you have entered shots into the Batch Capture list, close the Batch Capture window and reopen it before capturing any video. If you batch capture before saving the shot list, the source clips are saved by tape sequence.
- Once clips are ordered in the Library, you can then select the entire sequence and move them to the Composition window timeline in one step. To set up the Library, click **List/Icon** in the Library so that icons appear. Then click **Sort by** and select Drag & Drop from the submenu.

See:
Batch Capture

Use Batch Capture Window Tools

When you choose **Media>Batch Capture**, the Batch Capture window opens with a number of button and selection options, including those for playing video on your deck from Speed Razor, and those for creating the capture list.

Set Video, Audio, and Batch Capture Options

Power To close Batch Capture, click the Power button in the upper left corner of the window. Any timecode entries which have not yet been captured appear as virtual icons in the Library. Entries with no In or Out timecode listed will be discarded automatically. Closing the window makes listed items' source In and Out points unavailable for future change when you reopen the Batch Capture window.

Batch Capture Options To adjust hardware and software communication settings according to your video deck model, click the Batch Capture Options button in the upper left corner of the window.

Video Setup To change video compression and other settings for capture, click the Video Setup (filmstrip) button in the upper left corner of the window. See: Video Settings: Input

Audio Setup To change audio settings for capture, click the Audio Setup (sound wave) button in the upper left corner of the window. See: Audio Settings

Get Help in Batch Capture

To open Help without closing the Batch Capture window, click the Help (question mark) button in the upper right corner of the window. Closing the Batch Capture window makes previously entered timecode unavailable for editing.

Control a Video Deck with Batch Capture

Tape controls in the Batch Capture window provide standard rewind and fast forward, single frame forward and back, play, stop and pause commands. To shuttle and jog video, you can work in "sticky" or "non-sticky" mode.

- Click the slider and drag; the slider returns to the center.
- Click the arrows and the slider moves toward the arrow and remains in position.
- Click and drag the slider forward and backward. You can adjust shuttle speed from one tenth to ten times the original clip speed at the following intervals: 1/10, 1/3, 1x, 3x, 10x. The Pause button (below the Stop button) indicates the current tape speed.
- Click the Stop button once to pause the deck; click it twice to come to a full stop.
- Click the Eject (arrow pointing up) button to eject the tape.

Seek to a Point on the Tape

To go to a specific position on your tape, type a timecode number in the box beside it, then click the Seek To button. The deck will seek to that position.

Click to eject tape

Enter timecode to seek to

Set In and Out Points for Shots in the Capture List

In Batch Capture, you can enter clip In and Out points from a shot log, or you can use the Batch Capture window to find the timecode.

- **Enter Timecode from a Shot Log:** When typing a clip's In and Out points you have the following options:
  - ⇒ Change timecode. Select a timecode cell and press SPACEBAR. Use the ARROW keys to move in the cell. When finished, press ENTER or TAB.
  - ⇒ Enter the last number of the timecode. For example, type 304 for 00:00:03.04.
  - ⇒ Edit the +0 and -0 frame Lead In and Lead Out points by selecting the timecode and typing a frame number.
  - ⇒ Type a relative time. If your In point is 00:00:03.04 and you want the Out point to be 10 frames later, type +10 in the Out point cell.
  - ⇒ Add a new line by click the Timecode button or pressing ENTER.
  - ⇒ Remove a selected line or lines by pressing DELETE.
  - ⇒ Modify a number of lines at once by first selecting them.
- **Click Timecode Button as Video Plays:** When you use Batch Capture to find the In points and Out points of shots, click the Timecode button as the video plays and the timecode is copied to the next In or Out point. The Timecode button displays the recorded timecode.
  - ⇒ Non-dropframe timecode is indicated by a period before the frame number.
  - ⇒ PAL is indicated by a colon.
  - ⇒ NTSC dropframe is indicated by a comma.
  - ⇒ For example "00:02:31,05" indicates NTSC Non-drop frame.

Enter Lead In and Out Time for Shots in the Capture List

When you first capture source video with Lead In and Lead Out, the number of lead frames you set is applied to the clip timecode in the capture list. When you recapture, lead frames are not reapplied.

- Set Lead In and Lead Out for individual clips in the capture list by selecting the timecode entry.
- Another way of entering Lead time is to click the Batch Capture Options button in the upper left of the window and select the Lead In and Lead Out time in the dialog box.

Make a Capture List

As you enter timecode for shots, the capture list builds. Each line in the capture list indicates tape, timecode, and other capture information about the source clip.

Line Number Buttons To select the source clip for preview, deletion, or other change, click the line number button. You can modify a group of clips selected, using typical Windows selection:

- To choose multiple source clips, press the CTRL key and click.
- To select a sequence, press the SHIFT key and click.

Note: Once you have finished adjusting a clip, deselect it to avoid unwanted changes to the clip.

C Box To capture the selected clip, select the C box. Clear this to keep the clip on the list without capturing it.

Tape Name View (or change) the tape name for later reference in recapture or EDL export. Enter a tape name or leave this option clear to have these named sequentially. You will be prompted to insert the proper tape during capture. You can change tape names as a group. If you change a selected line's tape name, tape names in all other selected lines will also change.

In and Out points

Lead In, Lead Out

File Enter a file name or have these named sequentially with the project name as a prefix to the numeric sequence, for example "my_project00001". As new lines are added, numbers in your file name will automatically be increased.

When you enter a file name simply enter its name. Typing the file format, path and directory are not necessary, because you have already determined the input file format in the Editing Devices and Settings dialog box (**Project>Editing Settings)**, and the drive and directory location in the Directories dialog box (**Preferences>Directories)**.

A and V Boxes Select **A** to capture the audio aspects of source material. Select **V** to capture video in the source. Select both to include audio with video.

Notes: Type notes for files so that you can create special Library categories for keywords. Notes are stored with other file information. See Use Notes.

Sort Tapes

To sort tapes by alphabetic and then In point, order, click the Sort button in the upper right corner of the window. Note: type notes before sorting tapes.

Preview Shots in Batch Capture

To play a selected clip as it will be captured, before capturing it, click the Preview button. You can adjust a shot's In and Out points and Lead time after Preview.

Start Batch Capture

To start capturing, click the Capture button. As a clip is captured its information line is red; after capture the line is green. After all clips are captured, the original background color returns. If you have a large number of clips, a few moments will pass before the capture sequence begins. If it doesn't start, click the Stop button, then try it again.

As you capture, all buttons except the Stop button (the Capture button turns to Stop mode) are unavailable.

Use Shortcut Keys to Batch Capture

You can almost exclusively use the keyboard to operate the Batch Capture window. This means that you can quickly mark In and Out points as you view the video monitor, and edit your list while viewing it —without using the mouse. Move through the capture list as through cells in a spreadsheet, edit individual cells, and operate the shuttle bar all with keyboard shortcuts.

- Select a cell in the capture list and move through the cells using common spreadsheet shortcut keys when the keyboard is in normal (non-caps lock) mode.
- Select a cell and press the SPACEBAR key to edit the cell's contents. To switch to normal mode, press ENTER or TAB.
- Press CAPS LOCK to operate the Batch Capture window shuttle bar from the keyboard.

Note: The Capture button has no shortcut key.

Frame Accurate Batch Capture

By tweaking the relationship among your video deck, capture hardware, and Speed Razor you can achieve frame accurate batch capture.

This procedure uses timecode burn-in. If you do not have a video deck that generates timecode burn-in, you may use the Speed Razor Titles effect to do so. Once you have created a burn-in timecode sequence with the Titles effect, render this, then print to tape and use that as a guide in the same way as described in the following sections.

Note: When setting timecode, you can use VITC or LTC, but be consistent throughout. Note also that this procedure used a PVW 2800 - certain settings may vary.

If the captured frame is occasionally over a frame more than the timecode displayed in Item Info (Trim) you will need to increase the Subframe Record Delay. Subframe Record Delay is how far ahead of time the deck is reporting its timecode. Many decks report the timecode slightly ahead of the actual timecode on the tape. Usually starting at zero and increasing the number by 10 for each trial will yield a number that is always frame accurate. For NTSC video, this varies between 0 and 33, for PAL the number will vary between 0 and 40.

To set up for frame accurate batch capture:

1. Connect a BNC cable from the super output of your video deck to the input of your capture card.
2. Switch on the deck's character generator by setting the character switch.
3. Set the deck's timecode to LTC or VITC. Stripe a blank tape with timecode, so the tape's "burned in" timecode on the video screen now matches the timecode.
4. Connect the Reference Out from the capture card to the Reference In on the deck. Turn on the 75 Ohm swtich if you are using one reference cable and you want to terminate the reference signal at the deck.
5. Start Speed Razor, choose **Media>Batch Capture** and click the video button (filmstrip icon) to set the video source. (This only works with the PVR and the Targa cards, for the Digisuite close Speed Razor and set the video source in the control panel. Then restart Speed Razor).
6. In the upper left of the Batch Capture window click the Batch Capture Options (checkmark) button to set the deck preferences. In the Batch Capture Options dialog box, set the COM port to the correct port (If the timecode on the deck's display matches the timecode on the Batch Capture window it is the correct port.
7. Select the tape deck from the list. Choose the matching timecode, and under "Jog Mode," choose Software seek.
8. Note the Capture Card Queue Delay and the Subframe Record Delay values. The default Capture Card Queue Delay is zero, and the default Subframe Record Delay is 10. Then click **OK**.
9. Insert a video tape into your deck. In the Batch Capture window, use the deck controls to set an in point and an out point on the first line of the capture list.
10. Press the Capture button to begin capture. When capture is finished the item's icon appears in the Library. Then close the Batch Capture window by pressing the Power button on the top left hand corner.
11. Add the captured item to the timeline and move the pointer to the first frame of the captured clip.
    If the timecode on the first captured frame (viewed in the Preview Playback window or external monitor) is greater than its Source In timecode (displayed in Item info Trim), add the difference to the Capture Card Queue Delay setting in the Batch Capture Options dialog box.
    If the timecode on the first captured frame is less than the timecode displayed in Item Info Trim, then decrease the Capture Card Queue Delay setting in the Batch Capture Options dialog box by that difference.
12. Repeat steps 9 through 11 until the captured frame is never less or more than one frame from the Source In timecode displayed in Item Info (Trim). Normally a zero value in Capture Card Queue Delay is correct.

Capture at Low Resolution and Update Capture List

If you are working with limited hard drive space—or want to keep low and high quality versions of a project—you may first batch capture at low resolution for editing, then update the capture list and later recapture video at high resolution for final output. To update a capture list, choose **Media>Update Capture List.** Keep in mind the following when updating capture:

> **You may only update source video originally batch captured or imported from EDL. Update capture doesn't affect manually captured clips. Capture these at the resolution that you want to finish the project.**
>
> **If you stop the batch capture/recapture process before capturing is complete, a 1 K video and audio file is created. When you restart the batch capture process, delete this file. A dialog box prompts you to delete the file which has the next filename in the list. Click "Yes" to delete the file.**

In the Update Capture List dialog box, you have options for deleting or keeping original files (including edits done in the Library), and setting new Lead In and Lead Out times for trimmed clips in your video project. Type the number of frames you want to keep before the In point and after the Out point of each clip to be recaptured. Note the following when setting Lead In and Lead Out times:

- Lead time is only added on recapture for trimmed clips.
- Lead time added on recapture will never be greater than the trim length of a clip.

When you recapture video, timecode that was not on the original capture cannot be added. By default, only video used in the project is recaptured at higher resolution, and original source files are deleted. This means that unused clips will not be recaptured. When you are ready, click **Update** to start updating the capture list. When the capture listed is updated, affected files appear in the Library and on the timeline with the virtual icon. When you recapture video, the source files will replace the icons.

To update a Capture List

See also:

Batch Capture

Recapture from a Capture List or EDL

To Update a Capture List

1. You have already batch captured material at low resolution and have edited the project.
2. Save the project version by choosing **File>Save Version.** Tip: Add the words 'beforeupdate' to the project name so that you know that this version of the project is the last version before you performed the update.
3. Choose **Media>Update Capture List**. In the dialog box, select 'Delete Original files' if you do not want to keep the low resolution project version. (If you want to keep the low resolution version, leave this box clear.)
4. If you won't be editing the project after recapture, then set the New Lead in and New Lead out to zero. If you will be editing after recapture, set the New Lead In and New Lead Out values to the amoun you need. Then click the Update button.
5. Choose **Media>Batch Capture** again, Click the Video Settings button and re-establish the record settings at full resolution.
6. If the Lead in or Lead out value is *not* set to zero, then click the Batch Capture Options (check mark) button in the Batch capture window and set the Lead in and Lead Out to zero. In the Batch Capture window, lead time is displayed above the in and out point columns, immediately to the right of the + and - marks.
7. Click the Batch capture button to begin capture. When capture is complete, close the Batch capture window. The project has been recaptured at high quality and now you can print to tape !

Recapture from a Capture List or EDL

In addition to updating a capture list (see the previous section), you can recapture source media from any Speed Razor workfile with a batch capture list. This means that you can store workfiles without keeping the associated media files. You may also use recapture to convert workfiles from Speed Razor 3.5 or later to Speed Razor 4.5.

Using the capture list as a reference, you can reconstruct the full, online project with all source material. It is important to keep in mind the following when recapturing:

You can only recapture source video that has been batch captured.

When using recapture, effects and transitions areas will be re-rendered.

When you first batch capture source video with Lead In and Lead Out, the number of lead frames you set is applied to the clip timecode in the capture list. When you recapture, these lead frames are not reapplied. When you open a saved workfile with files not currently in their directory locations, you receive the message, "Unable to open file." You then have the option of searching for the file, leaving it unopened, or canceling—leaving all unfound files unopened.

To recapture video:

See also:

Batch Capture

Capture at Low Resolution and Update a Capture List

Replace Files

To Recapture Video

1. Choose **File>Open**. Select the workfile you wish to recapture or convert. The workfile name will appear in the dialog box under its project name.
2. Click OK. The file's capture list is recaptured and the virtual clips appear on the Composition window timeline and Library.
3. Choose **Media>Batch Capture**. The source video timecode appears in the shot list. Follow the steps for batch capture. See "Batch Capture," earlier in this chapter.
4. Once you have finished recapture in the Batch Capture window, if media files (such as .bmp or .tga files) appear as virtual placeholders, you may need to replace these.

Manual Capture

When you want to record source material without making a shot list of In and Out points, record a single long sequence, or capture audio .wav files from CD, choose **Media>Capture** to capture video and audio. By manually capturing video you are recording from your video deck using video deck controls. However, Batch Capture is recommended for most capture.

> **When you record source video and audio using Capture no capture list is created. To recapture or update capture lists while editing you must batch capture video.**

In the Capture dialog box you have options for naming clips or having them automatically named, previewing video on capture, monitoring audio volume with a VU meter, and capturing video or audio or both. In addition, you may set video and audio directories, and establish video compression settings upon capture. When using the Capture dialog box, you can locate video for capture by playing it through your deck and manually stopping the deck, or entering in the number of frames you want to capture.

To manually capture video and audio:

See also:

Preview Audio before Capture

Read Audio Levels Using the VU Meter

Manage Directories

Video Settings: Input

Audio Settings

Use Item Notes

To Manually Capture Video and Audio

1. Turn on the video deck, set it to Local mode, and put in the videotape to capture. In Speed Razor, choose **Media>Capture.** The Capture Video dialog box opens.
2. Select Automatic Clip Naming to have files named in numeric sequence. Clear this if you want to name the files yourself, and type the file name in the Clip Name box.
3. Add notes to files that you can use to make categories in the Library.
4. Enter clip length in SMPTE or frames (or capture as you view video to mark length)..
5. Set the compressor options by clicking the Video or Audio setup buttons and choose the settings which correspond to your capture card. Then click ‘OK’.
6. To view directory path where video and audio is being captured to click the **>** buttons. To change directories click the Directories button, which opens its dialog box.
7. Click the Ready button. A message prompts you to click OK to record, or cancel. When you have the deck cued, click OK and start the deck running. To stop recording at any time click again on the Ready button (it turns to ‘Stop’ while recording.)
8. When capture is finished icons for each clip captured appear in the Library.

Capture Audio

In Speed Razor, you may capture audio independently or with video. Audio is recorded in the uncompressed .wav file format. Audio files are maintained as separate files from video while you edit in Speed Razor. Before capturing audio, it is important to keep in mind the following:

When capturing audio, first test the audio volume levels for safe playback before capture, and set capture settings for audio.

Keep audio and video in separate directories.

To capture audio only for a given clip in the Batch Capture window or Capture dialog boxes, select the **A** box and clear **V**. There is no recording time limitation for audio.

To capture audio:

See also:

Capture an Audio File from CD

Record a Voice Over Track

Manual Capture

Batch Capture

Preview Audio before Capture

Audio Settings

Manage Directories

To Capture Audio

1. Choose **Media>Capture.** The Capture dialog box opens.
2. Next to “Tracks” select Audio and clear Video. Then type the audio file name to capture, or browse to find its location.
3. Click Audio Setup to review audio settings if applicable. If you are capturing to .wav uncompressed audio, this is not an option.
4. Click Directory to review or set the directory to which the audio will be captured. The default is C:\ Razor40\Audio.
5. If you want to record for a fixed amount of time, next to Length, type a time or frame amount.
6. Click **Ready** to capture. A dialog box prompts you to click **OK** when you are ready to record. Click **OK** to record. Click Stop when finished recording. The file will be captured and added to the Library.
7. If you chose Automatic Clip Naming and want to capture another file, click Ready again. The sequentially named file is created. Then a message appears when it is complete. Click OK to start recording.
8. Once you have finished recording audio click **Close**. The items appear in the Library.

Capture an Audio File from CD

You may capture audio from a CD without any length limitation in Speed Razor, with a ‘‘play-through’’ cable from your CD-ROM drive to your sound card. It is also possible to copy audio directly from CD-ROM for import into Speed Razor, with appropriate recording software. To do this you will convert the original audio file to audio in the .wav file format.

1. Choose **Media>Capture** and follow steps for capture as you would video (except leave video turned off).
2. Click **Ready**, and click again to start capture.
3. Start the source playing, such as an audio CD in the internal CD-ROM drive. If you need to stop recording a segment, click **Stop**.
4. Click **Close** when finished.

Record a Voice Over Track

Establish a narrative voice over or background sound as video plays in Speed Razor by recording into a microphone connected to your compute. The audio file is saved as an uncompressed .wav file on the project's audio drive and the audio clip is added to the timeline.

The Voice Over dialog box provides options for recording audio, and is similar to the Capture dialog box except that it is for audio only.

To record a voice over:

1. Select an area of the timeline to voice over by clicking the gray Preview bar at the top of the timeline and dragging.
2. Choose **Media>Voice Over**. Its dialog box opens. Your options are similar to those in the Capture dialog box, except for audio only.
3. Click the **Ready** button. A message prompts you to click **OK** to record, or cancel. When you have the deck cued, click OK and start the deck running. To stop recording at any time click again on the Ready button (it turns to ‘Stop’ while recording.)

When the video finishes playing the dialog box automatically closes and the recorded audio appears as a audio clip on the timeline beneath the selected area.

File Format Support

You can import digital files into Speed Razor from a range of file formats and sizes. These include:

- Video files in the format native to your capture hardware.
- MJPEG Active Movie .avi and Video for Windows .avi files
- .vfx video effect files and .tra transition files. These include third party plug-in effects.
- Still image files individually or in a series, such as those in the .bmp, .cin, .dib, .dpx, .jpg, .sgi, .raw and .tga file formats.
- Image files with any frame size up to 4000 x 4000 pixels.
- Audio files in the uncompressed .wav file format

On a project workfile level, you can import:

- Speed Razor 4.5 workfiles in the .rzx format.
- Speed Razor 3.5 (or later) workfiles in the .rzr file format.
- EDL files in CMX 3400 and 3600, Grass Valley GVG 4.0 and 7.1, and Sony BVE 9000 and 9100 formats. (See Chapter 6, "Edit Online and Offline.")

See:
Import Files

Import Files

You have three options for importing files to Speed Razor:

- Click an empty cell in the Library and select from the menu.
- Choose **File>Add** and then select the file type you want. Then click Open or "drag and drop" to the Library.
- "Drag and drop" from Windows NT Explorer when the Library is in Icon mode.

When importing files, in the Add dialog box, you can select multiple files by pressing the SHIFT or CTRL keys, or by dragging the mouse once you have selected one file. When import still image sequences, select the first file in the sequence and all are imported. Once imported (or captured), media, transition and effect files are stored in the Library.

When importing files the original files settings are read and remain unaltered by Speed Razor. The single exception is .raw files. Because .raw files provide no header or footer information you have options for setting these for import (as well as export).

Import Media Files
Import Transitions
Import Effects
Import Files from a CD
Import Single Frame Files and Series
Import Files Using Windows NT Explorer
Scale Video and Images on Import
Merge Workfiles
Replace Source Files
Work with Virtual Files

Import Media Files

Media files include video, audio, and still image files. These are indicated in the File menu.

1. Choose **File>Import Media**, or click on an empty cell in the Library when the Library is in Icon (table) mode. The Add dialog box opens.
2. Select the file type at the lower left of the dialog box. Then locate its drive and directory.
3. Select a video or audio file. For multiple files, drag the cursor over the list.
4. Double-click the file name, click Open, or drag the item to the Library. A titled icon of the clip appears in the Library.

Import Transitions

Speed Razor transitions have a .tra file extension and are stored by default in C:\Razor40\Transitions.

1. Choose **File>Add Transitions**, or click an empty Library cell, and choose "Transition" from the menu. The Add Transitions dialog box opens.
2. Select the Transitions directory (C:\Razor40\Transitions).
3. Choose a .tra file from the list. For multiple transitions, drag the cursor over the list.
4. Click Open, or drag the item to the Library. The icons appear in the Library.

Import Effects

Speed Razor video effects (.vfx) files are stored by default in C:\Razor40\Effects. Some effects are "nested" within a single .vfx file. For example, both the Freeze and Reverse effect are loaded into the Library when you import the freeze.vfx effect. In addition, the coloradjustment.vfx file houses the Color Correction, Brightness and Contrast, and Tint effects.

Third party plug-in effect .vfx files must be stored in their own directory, which is created when you install the software effects. When installing third party effect plug-ins follow installation instructions with your software.

1. Choose **File>Add Effect**, or click an empty Library cell, and choose Effects from the submenu. The “Add Effects” dialog box opens.
2. Select the Effects directory C:\Razor40\Effects. For third party plug-ins, browse to find their directory.
3. Choose an effect file from the list. For multiple effects, drag the cursor over the list.
4. Click Open, or drag the item to the Library. The effect icon appears in the Library.

Import Files from CD

When importing files from a CD you will first need to copy these from the CD to a system drive and project directory.

1. Place the CD in the CD-ROM drive.
2. Open Windows NT Explorer and copy the files from the CD to an appropriate project directory.
3. In Speed Razor, choose the appropriate command from the File menu for the device type you are importing or click an empty Library cell to add the files to the Library.

Import Single Frame Files in a Series

To import a single frame or series of single frame files (including those in the .bmp, .cin, .dib, .jpg, .tga, .sgi, .raw file formats) the series filename must be named numerically, (such as myfile0001.bmp.) The first file in the series may be any number. A sequence is generated starting from the number you chose when you exported the file, either from Speed Razor or another program. To import a series, select the first file in the sequence to import all files in that sequence.

To import a series of single frames:

1. Choose File>Import Software Device (file type).
2. Select the file type at the lower left of the dialog box.
3. Select the first (such as myfile0001.bmp) filename in the dialog box and click OK.

See also: Export Single Frame Files in a Series

Import Files Using Windows NT Explorer

When the Library is in Icon mode you may load media, transitions, and effects files into Speed Razor using the cross-window drag and drop method with Windows NT Explorer.

1. Open Windows NT Explorer and resize it so both Speed Razor and Explorer windows appear on the screen.
2. Select the file (or files) that you want to add. To select multiple files, press SHIFT and click the last file in the sequence. For non-sequential items press CTRL and click items to add.
3. Drag the file from the Windows NT Explorer into the Library. The item (or items) is added to the first position in the Library.

Scale Video on Import

When importing files, you have the option of having the file automatically resized according to your project video frame size, or to retain the file's original dimensions. All video files display scale dimensions in Item Info (Video) when selected. You can adjust the scale of video clips at any time throughout a project.

Match Project Frame Size: To match an imported image's frame size and dimensions with those in your project, place the clip on the Composition window timeline. When you are editing video for the default hardware video device set in the Editing Devices and Settings dialog box, the project video frame size is automatically determined by your video capture hardware setup with Speed Razor (in NTSC or PAL). When Output is set to Computer Screen, the project frame size is determined by the size of the still image format selected in File Format setup.

Adjust Scale: To set an image's frame size at variance from your project's frame size, adjust its scale parameters in the Video tab of the Item Info window. You can maintain the size of small and oversized images, work with any size image up to 4000 x 4000 pixels, and select whether the video source is fielded or non-fielded. Video or still image files which differ from the project frame size must be rendered before playback.

See:

Apply Scale Changes to Video

Adjust Video Scale

Merge Workfiles

In Speed Razor, you can merge a previously created workfile timeline and library into an open workfile. By choosing **File>Merge** you have two options for combining work in separate Speed Razor workfiles.

- To merge both the libraries and timelines, move the insertion line into position anywhere on the open timeline.
- To merge libraries but not timeline sequences press the ESCAPE key when the insertion line appears on the timeline.

When you merge a timeline sequence into the open workfile, a diagonally striped vertical line appears on the timeline indicating the insertion point. If you merge video from a workfile with different editing settings from the currently open workfile, the merged area must be rendered before playback or export.

Merging is useful for incorporating repeated sequences, such as an opening or closing credit line, into an ongoing program. You can create this sequence as its own workfile and later merge it. Or, you may want to simply add a series of files from another workfile. In another scenario, if sharing work on a project with others, you may work in segments and combine these later into a single project workfile. In this way, the open workfile can serve as a type of master template for various merged segments.

To merge two workfiles

To Merge Two Workfiles

1. Open the workfile that will receive the merge. Before merging, Choose **File>Save Version** and name the version.
2. Click on the Timecode bar at the point on the timeline, where you want to merge to begin. Choose **File>Merge.**
3. In the "Select Workfile to Merge In" dialog box, select the file to be merged and then click Open. The diagonally striped merge marker appears on the specified point on the timeline.
4. If you want to reposition the merge point, click and drag the merge marker.
5. Press ENTER. The merged file will appear at the point marked and the clips are added to the Library.

Virtual Files

The virtual file icon (a file folder with a question mark on it) appears as a placemarker for any item in the Library and Composition window timeline that is missing or not yet captured. As a placeholder, the virtual file maintains the correct timeline length and positioning of either the missing file or the timecode source of an item in the capture list but not yet batch captured.

- Virtual files appear in the following situations:
- An .rzx file was opened with missing files or converted without source files.
- An EDL was imported but the clips were not captured yet.
- A capture list was created but Batch Capture was closed before capturing.
- **Preferences>Open Final Files** is not selected and no corresponding thumbnail images are stored in the Video thumbnails drive.

When you open a saved workfile with files not in their directory locations an "Unable to find file," message appears. You have the option of searching for the file or files, leaving these unopened, or canceling—leaving all unfound files unopened. If you have a series of files you know are not in the directory, click Cancel.

See: Edit With Virtual Files.

Replace Files

Select an item on the Composition window timeline or in the Library and replace all instances of it with another source file. This can be used when you want to replace a specific file with another file, and when the virtual file icon appears as a placemarker for missing items.

1. Select an item in the Library or on the timeline.
2. Choose **Media>Change Source File** or click the **New File** button in Info tab of the Item Info window.
3. In the "Change Media File(s)" dialog box, select the file to replace, and click **Open**.

Move Projects to Speed Razor 4.5

Speed Razor 4.5 accepts project workfiles created in Speed Razor 4.0 or 3.51. Files saved in Speed Razor 4.5 may be opened in Speed Razor 4.0, but new video effects and other video effects modified after the release of version 4.0 will not be supported. Files saved in Speed Razor 4.5 cannot be opened in Speed Razor 3.51 or earlier versions of Speed Razor.

Move a Project from Speed Razor 4.0: To open an .rzx file created in Speed Razor 4.0, choose **File>Open,** select Files of Type Razor 4.0 Workfile, and locate the file to open.

Move a Project from Speed Razor 3.5x: To open an .rzr file created in Speed Razor 3.51, you must first open a new file and merge earlier .rzr file into open file.

To merge a project from Speed Razor 3.5:

1. Choose **File>New Project**, and name the project.
2. Choose **Project>Editing Settings** and match the editing settings to those in the original project.
3. Merge in the older project by choosing **File>Merge.** In the Select Workfile to Merge In dialog box, next to "Files of Type," select Razor 3.5 Workfile, and locate the file. Then click **Open**.
4. Set the position to merge on the Composition window timeline.

Timeline Tracks

Video and audio clips are organized on tracks in the Composition window timeline. Unlike a linear editing setup, Speed Razor has unlimited tracks for video and audio. Tracks for video and other image files appear on the upper part of the Composition window timeline; audio tracks appear on the lower. While video and audio clips remain in separate sections of the timeline they can be attached and synchronized by using markers. Tracks are numbered with buttons on the left side of the timeline.

See
Adjust Timeline Tracks
Maximize Tracks
Add and Delete Tracks
Select Clips on the Timeline
Video Layers

Adjust Timeline Tracks

You may adjust how the audio and video track areas are viewed by clicking, holding, and dragging the Splitscreen bar between them.

- Drag the Splitscreen bar up to show Audio only.
- Drag the Splitscreen bar down to show Video only.
- Choose **View>Split Screen** to view both video and audio.

Resize video and audio tracks by clicking the up and down arrow buttons on the right side of the Composition window.

- Click the Up arrow button to move the bottom of the window up, making the window smaller.
- Click the Down arrow button to move the bottom of the window down, making the window larger.

You may also increase or decrease your view of tracks by vertical zooming.

Maximize Tracks

You may want to maximize video tracks to accurately adjust video opacity levels and audio graphs. Maximize audio for viewing waveforms and volume and channel levels when making adjustments in non-real time. For example, if the audio has oversaturated you may want to reduce the volume levels in specific areas.

- Maximize a track area by choosing **View>Maximize Video** (SHIFT+V) or **View>Maximize>Audio.**
- Maximize a video or audio track by clicking the small rectangular button between the Up and Down arrows on the right side of the Composition window.

Add and Delete Tracks

- Insert a blank track above the currently selected clip by choosing **Edit>Add Row** (or by pressing the plus key on the numeric keyboard). This is useful when you've built a composite image and want to add a new background layer without moving the entire group.
- Remove a track (and all items on it) below a selected clip by choosing **Edit>Compact row** (or pressing the MINUS key on the numeric keyboard). This is useful if need to close a gap created from deleting clips on a track.

Video Layers

You may “layer” video, still image and effects clips on as many Composition window timeline tracks as you want. Video layering has numerous uses, including:

- Overwrite inserting: Overlay video clip without cutting or moving clip on the track "behind" it.
- Compositing complex images that combine various effects and image files
- Adjusting video opacity to partially reveal a background clip.
- Setting up multiple versions of a video section on the timeline for testing within a single workfile.

In Speed Razor video track layers stack down. The bottom most clip in a stack of clips on the timeline appears “on top” meaning that if its opacity is set at 100 percent, it appears on the video screen. So a video clip on track 1 becomes a background, while video on subsequent tracks (track 2, track 3, etc.) are overlaid and “stack” toward the foreground.

If a video clip on track 3 is fully opaque, no image from video on track 2 or track 1 will be seen. If you lower the video opacity of the clip on track 3 (by choosing **View>Video Opacity Graphs** and then right-clicking the graph, and dragging down), the video on track 2 will be revealed to the extent you lowered the graphline.

When you composite complex images using chroma keying, mattes, or masks with in-sync Speed Razor's compositing tools (such as Skip Overlay or Invert Key in the Video tab of the Item Info window) you can shield or reveal aspects of video layers in a stack.

See:

Video Opacity and Layers

Audio Layers

You may also apply an unlimited number of audio layers. However, when layering audio, the combined volume of clips must be kept within an acceptable range for safe play back.

See:

Mix Multiple Audio Tracks

Timeline Timecode

The Timecode bar at the top of the Composition window timeline indicates the timecode you have chosen for viewing the project. You can set how time is measured on the timeline, either in SMPTE timecode (hours: minutes: seconds: frames) or Frame (non-dropframe, or PAL). The timeline starts at 0 and extends from left to right. There is no project time limitation.

- To change timecode views, right-click anywhere on the Timecode bar or choose **Preferences>Timeline Preferences**.

See:

Set Timeline Timecode Preferences

Source Timecode

Result Timecode

Source Timecode

Source timecode is an item's individual timecode length (and original tape position if batch captured). Every media clip in a project, whether in the Library or on the timeline, has source timecode. Source timecode is affected when you trim the clip. Moving the clip on the Composition window timeline doesn't affect its source timecode. For example, an untrimmed 10 second clip may have a Source In time of 00:00:00:00 and a Source Out time of 00:00:10:00 no matter where it is in the project.

Source timecode for untrimmed clips may start at zero if the clip was not batch captured and ends at the clip's length. When you batch capture video, the clip timecode from the capture list, is its Source timecode. When you straight capture video, the Source timecode for a clip begins at 00:00:00:00

See:

Result Timecode

Set Project Timecode

Result Timecode

Result timecode is the timecode position of the clip on the workfile timeline. Items in the Library have no result timecode. Moving a clip on the timeline affects its result timecode. For example, trim two seconds off the beginning and end of a 10 second clip on the timeline even without moving it, and its Result In point changes to 00:00:02:00 and its Result Out point to 00:00:08:00.

See:

Source Timecode

Set Project Timecode

Basic Editing

This section explains how to perform basic editing actions in Speed Razor. Most commands are found in the Edit menu. All actions are done with the timeline in standard mode, unless otherwise noted.

Splice Insert

Overwrite Insert

Replace Edit

Lift: Cut or Delete a Selection

Extract: Cut and Collapse

Copy to Clipboard

Paste and Paste Insert

Duplicate: One Step Copy and Paste

Clear the Timeline

Undo Edits

See also:

Trim Audio and Video

Lift: Cut or Delete a Selection

- To remove the currently selected clip or clips from the timeline (leaving a gap), and store it on the Windows clipboard, press CTRL+X or choose **Edit>Cut**.
- To remove a selected clip or clips from the timeline without storing this on the clipboard (leaving a gap on the timeline), press the DELETE, or choose **Edit>Delete.**

Extract: Cut and Collapse

- To close the space left by a clip when it is cut, press CTRL+SHIFT+C or choose **Edit>Cut and Collapse.**
- To delete a clip on the timeline and remove any gap caused by the deletion, choose **Edit>Delete and Collapse,** or select the clip and press CTRL+DELETE.

Copy to Clipboard

To copy the currently selected clip (or clips) to the clipboard, choose **Edit>Copy** (CTRL+C) Shortcut: Press SHIFT and drag an item on the timeline to automatically copy it to the mouse release position.

See: Paste and Paste Insert

Paste and Paste Insert

When you choose either Paste option, a diagonally striped, vertical bar appears in the paste position on the timeline. You can reposition the bar where the items will be pasted by clicking and dragging it. To paste you must first copy or cut a clip.

- To paste an item while not moving clips forward in time, choose **Edit>Paste** (CTRL+B). (Items shift down a track to accommodate the pasted clips)
- To paste an item and move clips forward in time, choose Paste (Insert) (CTRL+V). Items shift to the right to accommodate the inserted clip.

Duplicate: One Step Copy and Paste

To duplicate a selected clip (copy and paste in one step) in the Library or on the timeline, press the SHIFT key and drag, or choose **Edit>Duplicate**. Note: When you use the menu feature, a copy of the clip appears on the line directly below the original. When you use the keyboard shortcut, the duplicate will appear where you release the pointer.

Clear the Timeline

To clear the Composition window timeline of all clips while keeping the Library intact, choose **Edit>Clear Composition Window.** Clearing the Composition window is useful when editing another Speed Razor workfile with the same, or similar, source material.

Note: Deleting items from the timeline does not delete them from the Library. Deleting items from the Library does, remove them from your open workfile, but does not remove the file from the hard drive.

Undo Edits

Undo You may undo up to 10 levels of editing changes. To undo an edit or edit sequence choose **Edit>Undo** (CTRL+Z) and select the edit, all steps leading to that level will be undone. You cannot undo choices made in dialog boxes or Item Info window, or in items deleted from the Library. When undoing timeline operations, (for example, removing a transition) aspects affected by a change are not undone at once. They can be undone with separate steps.

- To redo an edit, press CTRL+A.
- To set the undo level, choose **Preferences>Levels of Undo.**

Set Timeline Timecode Preferences

You can set how time is measured on the timeline, either in SMPTE timecode (hours: minutes: seconds: frames) or Frame. The timeline starts at 0 and extends from left to right, without length limitation.

- To change timecode views, right-click anywhere on the Timecode bar or choose **Preferences>Timeline Preferences.**

In the Timeline Settings dialog box, you may also set the number of pixels which appear between labeled ticks to prevent blurring of the numbers on the Timecode bar at certain zoom levels. Timecode is generally set to one of the following:

- drop frame (29.97 frames per second)
- non-drop frame (30/fps)
- PAL (25/fps)
- film (24/fps)

See: Set Project Timecode

Set Background Color

You can set a specific background color for a workfile other than the default black. This color may appear, for example, when you have titles set over a colored background, or when using the Crop Image, 3D DVE, or Scale Image effects without a background clip. Also, when no video plays on the timeline, the selected background color is applied. Background color is not rendered.

When you layer video effects and making masks with 32-bit .tga files, the background color is automatically set to black. because its RGB values are zero, meaning it is transparent.

- To change background color, choose **Project>Set Background Color.** Select a color in the dialog box and click OK.

Set Drag and Drop Preferences

To quickly place transitions on the timeline in Speed Razor, you can right-click a transition in the Library to place it between two video source clips on the timeline. By choosing **Preferences>Drag and Drop Preferences,** you can determine whether a transition will link at the start or end of a selected clip. You can also determine the default length of transitions, and how the transition will affect the position of clips on the timeline.

You can set the default transition length and whether the transition will be placed before or after a selected video clip. You can also set how the placed transition will affect other clips on the timeline in the "Film Style" or "Video Style" options.

Default Transition Length Select to set the default length of a right-clicked transition. This also sets the length of an unsourced transition on the timeline.

Add to Beginning Select to place a right-click transition at the beginning of a selected (output) video clip. This moves the previous (input) video clip into position for the transition.

Add to End Select to right-click place a transition at the end of a selected source clip (input) video clip. This moves following (output) video clip it down a track to accommodate the transition.

Video Style Select to move the output clip (and all clips following it) on the timeline, when you right-click place a transition between straight cuts on one track. No automatic trimming occurs.

Film Style Select to keep the output clip (and all clips following it) in place on the timeline when you right-click a transition between straight cuts on one track. The edges of the input and output video clips are trimmed to accommodate the transition. If the clip cannot be automatically trimmed Speed Razor reverts to "Video Style".

In other dialog box options you can set how clips will move when adding a new clip, and default length for effect and single frame repeats.

See:

Place Transitions

Place Single Frame Items on the Timeline

Place Effects

Set Snap to Preferences

For ease in moving and placing clips on the Composition window timeline, adjust how items will "snap to" each other as they draw within a set range. Use this to avoid leaving gaps on the timeline, and to quickly arrange video and audio clips. You can set Snap To for video, audio, and markers on the timeline, along with the snap "strength," or range. To set Snap To, choose **Preferences>Snap To Preferences.**

By default Snap To is active when you edit. As with other preferences you can turn it off. To suspend Snap To, press the S key while positioning a clip. You have the option, however, of reversing this so pressing the S key activates Snap To. With Snap To active, when you drag a clip on the timeline its snaps to edges of other clips. How a clip "snaps" depends on *where* on the clip you click to select it.

- Click and drag a clip by its first (left) half to snap it to the first frame of the clip.
- Click and drag it by the back (right) half to snap it to the last frame of the clip.

You can also set Snap To preferences for markers so that audio and video clips will synchronize precisely.

See also: Markers

Set Trimming Preferences

You can quickly preview the area around a transition or trim using View buttons in the Trim tab of the Item Info window. You can also change the preview times easily by choosing **Preferences>Trim Preferences.** In the Trim Preferences dialog box you have options for changing the time for view around an edit from 1 second (½ second before and after) to 4 seconds (2 seconds before and after).

When you select a source video clip on the timeline, then open the Trim tab of the Item Info window and click the VIEW IN or VIEW OUT button, this plays the segment.

For another trim preference, choose **Preferences>Scrub and Preview Preferences** to select where to view areas as you trim.

See:

Set Scrub and Preview Preferences.

Trim Videoand Audio

Set Auto Save Times

You may set the amount of times between auto saves by choosing **Preferences>Miscellaneous Preferences**. Auto save is a preventive feature that automatically saves a backup copy of the open workfile in the event of a system failure. However, it is not a substitute for the standard Save or Save Version options. Work is always autosaved when you choose **Media>Capture**, **Media>Batch Capture**, **Project>Editing Settings**, and **File>Export to a File Settings**.

To set auto save time, choose **Preferences>Miscellaneous Preferences**. In the Auto save box, type the number of minute between saves.

See: Save Your Work

Set Levels of Undo

You may set up to ten levels of undo by choosing **Preferences>Undo Preferences**.

See: Undo Edits

Select Items and Groups in the Library

You may select single items or groups in the Library.

- To select a single item in the Library, click its icon. You can now trim it using the Trim tab of the Item Info window, move it in the Library, drag it to the Composition window timeline, or double-click it to play it.
- To select a group of items in the Library, first set the Library to Icon mode, then click the left-or right most item in the Library sequence. Press the SHIFT key, hold it down, and click the opposite end item in the sequence. The end items and all the clips between are selected. To select sequential items across rows use the same process.
- To select a group of items non-sequentially in the Library, press the CTRL key, hold it down, and click items for selection. A non-sequential group will be ordered not by order of selection, but by left to right position of items in the Library.

The last item selected in a group is highlighted. This means you may trim or play it individually.

Trim Items in the Library

You may trim video or audio in the Library using the Trim tab of the Item Info window as you would clips on the Composition window timeline.

- When you select a video or audio item in the Library its Source In and Out points appear in Item Info (Trim). You can adjust these directly by typing in timecode. Use Item Info (Trim) also to play and scrub through video or audio items for trimming.
- When you trim an item in the Library, its default length when placed on the timeline will be the trimmed length. However, the original clip information remains, and you can resize it to its original length (or trim it further) on the timeline.

Move Items in the Library by Drag and Drop

You can select and drag items in the Library to arrange them when the Library is in "Drag and Drop" mode. Simply click an item and drag.

To move items in the Library:

1. Set the Library to Icon mode by clicking the **Icon/List** button.
2. Click **Sort By** in the upper left of the Library and choose Drag & Drop from the menu.
3. Arrange items in the order you want them on the timeline.

Group Items in the Library and Place on Timeline

Once you have ordered items, you can select these as a group, and drag the group in one step to the Composition window timeline. The group appears as a sequence of straight cuts on the timeline.

1. Set the Library to Icon mode by clicking the Icon/List button.
2. Click Sort By in the upper left of the Library and choose Drag & Drop from the menu.
3. Arrange items in the order you want them on the timeline.
4. Select the group in the Library (either by pressing and holding the SHIFT or CTRL keys as you click items.)
5. To place the group on the timeline, click any item in the group, hold, and drag to the timeline.

Play Back Selections in the Library

Play individual video or audio items in the Library, either in full or trimmed versions, using the Trim or Audio tabs of the Item Info window. Play a selection of video or audio clips in straight cut sequence in the Library by first arranging them, and then selecting the group.

- When one item is selected in the Library, select Item Info (Trim) and:
  - ⇒ Click PLAY in Item Info (Trim) to play the item from its MARK IN point (if it has been trimmed).
  - ⇒ Double-click the item to play it back in its entirety.
  - ⇒ Click Preview to play the item from MARK IN to MARK OUT.
- When a sequence is selected, select Item Info (Trim) and:
  - ⇒ Click PLAY in Item Info (Trim) to play the sequence as trimmed straight cuts. Playback is determined by the item's position in the Library (from left to right), not the order of selection.

See: Play and Preview Video, Audio, and Effects

Adjust Effect and Transition Settings in the Library

If you have specific, repeated transitions or effects that you will use for a video project, you can apply these without adjusting the effect parameters each time you place the transition or effect on the timeline.

- To create new default settings for a transition or effect, open it from the Library by double-clicking it and then adjust its parameters.

Place Clips on the Timeline

There are two basic methods for placing video and audio items on the timeline.

- **Drag and Drop** Click an item or group in the Library to select it and drag it to the timeline. This is useful for:
  - ⇒ Overlaying video clips on the timeline.
  - ⇒ Fitting a clip to fill a gap on the timeline.
  - ⇒ Placing groups selected in the Library, to the timeline.
  - ⇒ Placing clips with ALT key selected.
- **Right-click** Right-click an item in the Library. Right-clicking the first Library item to be placed on the timeline positions it at 00:00:00:00 on track 1. With a single layer of clips, right-clicking on subsequent clips, places them consecutively after the first on track 1. With multiple layers, if you select a clip on track 2 and then right-click, the Library item is placed after the selected clip. This is useful for:
  - ⇒ Quickly placing video, audio, and default length still image clips.
  - ⇒ Inserting a video clip between two clips on the timeline.
  - ⇒ Placing clips on the next open space on the selected timeline track.

See:

Place a Group on the Timeline
Place Transitions Drag and Drop
Place Transition Right Click
Place Effects
Place Single Frames and Frame Sequences
Replace Edit: Place a Clip to Fit a Gap
Unfreeze the Timeline as You Place or Move a Clip
Splice Insert Clips
Overwrite Insert Clips

Place Single Frames and Frame Sequences

Single frame image files can be stretched to any length on the Composition window timeline (if they are not part of a sequence.)

- To set the default length of any single frame file you place on the timeline by choosing **Preferences>Drag and Drop Preferences.** In the dialog box, set the Default Single Frame Length to the new value in frames.

When you name a single frame image file numerically, it is treated as part of a sequence in Speed Razor, and its length is fixed. To stretch its length rename the clip without a number at the end.

See:

Set Drag and Drop Preferences

Replace Edit: Place a Clip to Fit a Gap

You can place a clip between two clips on the timeline so it automatically trims to fit a gap (if the inserted clip is longer than the gap). The Lock settings in the Trim tab of the Item Info window determine how the clip is trimmed.

- Click VIEW IN Lock in Item Info (Trim) to lock the inserted clip's In point: The selected area will begin at the clip's start.
- Click VIEW OUT Lock in Item Info (Trim) to lock the inserted clip's Out point: The selected area will end at the clip's end.

Fit to gap placement is particularly useful when you know certain time frames need to be filled. Select a group of clips in the Library to fit a gap by shift clicking the group and dragging them into the space allotted.

To Place a Clip to Fit a Gap on the Timeline:

See also:

Slip Trim

Slide Trim

Change Video Speed

To Place a Clip to Fit a Gap on the Timeline:

1. Choose **Preferences>Drag and Drop Preferences.** Make sure the Alt Key box is selected. (This is the default setting). This freezes existing clips on the timeline.
2. Select the item in the Library that you want to fit in the gap.
3. Activate Item Info (Trim) and click Lock beside Source In or Out.
4. Drag the clip and place it between the existing clips on the timeline. It is automatically trimmed.

"Unfreeze" the Timeline as You Place or Move a Clip

By default, when you place clips on the Composition window timeline, other clips remain in place. You can determine whether clips on the timeline shift down a track to accommodate the new clip as you drag a clip into position.

- To allow clips to move while you place a clip, press the ALT key as you place a clip.
- To reverse this setting, choose **Preferences>Drag and Drop Preferences** and select the "Displace Items While Dragging" box.
- To see how pressing the ALT key changes the behavior of the existing clips, try the process again, but instead hold down the ALT key while placing the clip. For related information, see "Move Clips on the Timeline," later in this chapter.

Splice Insert Clips

When you have two video or audio clips next to each other on the Composition window timeline you can insert a clip from the Library between them.

When the timeline is in "Ripple" mode, the clip and all clips to the right of the inserted clip move to the right. This lengthens the project time. When the timeline is in "Non-Ripple" mode, the clip to the right of the insert moves down a track to accommodate the clip. This keeps project length the same.

1. Select the clip on the timeline in front of the insert point.
2. Press and hold the R key.
3. Right-click an item in the Library. The item will be inserted after the clip and before the following clip. Then release the R key.

You can also add a clip at the start of the timeline. This will move all clips in the program the length of the inserted clip. To create a space in the project to insert a clip or clips move clips on the timeline in Ripple mode which you activate by pressing the R key as you edit or choosing **Edit>Ripple.**

Overwrite Insert Video Clips

You may overwrite video clips without removing the video clips "behind" the overlaid track. Since video opacity by default is 100 percent, video on tracks below the overlaid clip will not appear when played back. Similarly if you have two clips whose placement on the timeline you do not want to change, but wish to place a clip between them, you may overlay the third clip.

1. Select the overlay item in the Library and place it on the timeline track below the existing clips.
2. Play the video area. Because clips on lower tracks take priority, this clip plays over the others.

Select Clips on the Timeline

You have a number of options for selecting clips on the Composition window timeline. You can also select items on the timeline using keyboard shortcuts so that you can quickly trim and move through a project. To select clips with the shortcut keys, once you have selected a clip, press CTRL and an arrow key.

See:

Select Clips and Groups on the Timeline

Select Individual Items or Clips in a Group

Select Clips on a Track

Turn Video and Audio Clips On or Off

Select Clips and Groups on the Timeline

- To select a single clip, click it. Double-click to play it.
- To select multiple clips, do any of the following:
    - ⇒ Draw a bounding outline around the clips: Click an empty area of the timeline, hold and drag over an area to select its clips.
    - ⇒ Press SHIFT, hold it down, and select clips in a sequence. To select sequential items across rows use the same process.
    - ⇒ Press CTRL, hold it down, and select clips at random.
    - ⇒ Click a Track button to select clips on that timeline track.

Note: when you select two clips on the timeline you can trim their shared Out/In point.

Select Individual Items or Clips in a Group

When a group is selected, the last item or clip selected is highlighted—which means you can trim it individually. However, you cannot trim the group as a whole. For audio, this also means you can adjust the last selected item's volume or pan independently of the group. To adjust the volume or pan of the whole group press SHIFT.

Note: You may also use these same methods for selecting groups in the Library.

Select Clips on a Track

Video and audio tracks are numbered on the left side of the Composition window.

- To select all clips on a track, click the track button.
- To select multiple tracks, hold SHIFT or CTRL down while clicking the track button.

Turn Video and Audio Clips On or Off

Video and audio clips on the timeline may be active or inactive. Active clips can be played. Inactive clips appear dimmed and can't be played. You can turn off individual video or audio clips, a group of clips, or all clips on a track. For audio, you can mute individual channels.

- To turn off a video clip, group, or track, make your selection, and in Item Info (Video), clear the VIDEO ON box.
- To mute an audio channel, clip, group, or track, make your selection, and in Item Info (Audio) select the Mute box.

Clear "Video On" to turn off video on timeline

When video and audio are attached, selecting one clip selects them both. When some clips in a group are active and others are not, this is indicated by a dark gray fill in the VIDEO ON or LEFT MUTE, RIGHT MUTE boxes in the Item Info window.

Note that inactive video clips are not registered in composite images. You cannot turn off transitions or effects on the timeline.

Move Clips on the Timeline

When moving clips on the timeline, you can move a clip individually, without affecting other clips on the timeline, or you can move a clip and have it "drag" or "push" clips on the timeline as you move it. You can also copy or cut and paste a group of clips on the timeline.

Move Individual Clips

By default, clips on the timeline remain in their timeline and track place while you move a clip. This is called "Non-Ripple" (or standard) mode. Speed Razor has a second timeline mode which allows other clips on the timeline to move with the selected clip. This is called "Ripple" mode.

Stay in the default (Non-Ripple) mode to prevent unwanted clip movement on the timeline, and unless you are specifically moving other clips on the timeline.

Note: You may need to hold the S key to temporarily turn off Snap to while moving a clip.

Move Clips with Snap To

As you move clips with Snap To active, where on the clip you select determines whether its In point or Out point will snap to the closest mark:

- To move a clip by its In point, select its left side.
- To move a clips by its Out point, select its right side.

Remember, press the s key to turn off snap to as you move a clip, also note that when trimming items you can set a specific clip in Ripple or Non-Ripple mode.

See:

Trim Video and Audio

Set Snap To Preferences

Move Multiple Clips: Cut and Paste

To move a selected group of clips on the timeline use basic editing commands, such as Cut, Copy, Paste, and Paste Insert in the Edit menu. You can have clips on the timeline remain in place, or "collapse" to close the gap of the selected group.

See: Basic Editing .

Move Multiple Clips: Ripple Mode

To move a clip and have all clips either before or after that clip to move with it, use the Ripple editing mode by pressing the R key as you work or choosing **Edit>Ripple**. In Ripple, as you drag a clip, other clips on the timeline are either "pulled" or "pushed" with it. This is useful in trimming and joining clips, for moving a group of clips together on the timeline, and for making a space between clips.

- Ripple is a powerful mode for quickly organizing your project, however, keep in mind the following important considerations:
- In Ripple mode, attached video and audio clips move together. You may need to separate attached audio and video before moving clips in Ripple mode.
- Use Ripple mode carefully for specific actions, and consider whether Copy, Cut and Paste, or other editing commands will first serve your purpose.
- When using Ripple mode, the part of the clip you select (left or right side), as well as the direction you drag, determines how other items on the timeline will move:
    - ⇒ Click the right side of a clip and drag to the right. All clips to the left will move along (or "drag") with the clip you've selected.
    - ⇒ Click the left side of a clip and drag to the left. All clips to the right "drag" with it.
    - ⇒ Click the right side of a clip and drag to the left. The selected clip and clips on the left will are "pushed".
    - ⇒ Click the left side of a clip and drag to the right. The selected clip and clips to the right are "pushed."

Move Clips Vertically

You can move a clip (or group of clips) vertically on the Composition window timeline while restraining its horizontal movement, thus keeping its timeline location intact.

- To move a clip or group vertically only, press the R key or choose **Edit>Ripple**. Then press CTRL, hold it down, and select the lowest clip in the stack to move the group down, or select the uppermost clip in the stack to move it up.

Trim Video and Audio

You can trim video and audio items in the Library or on the Composition window timeline in a variety of ways without any loss of the original file information. Trimming options include:

- Using keyboard and mouse shortcuts to trim and cut clips.
- Using Item Info (Trim) options for trim during playback, scrub, or entering timecode.
- Trim two adjoining clips on the timeline at the same time.
- Clicking the end point of a clip on the timeline and dragging either left or right.
- Using the Razor Tool and SPLIT features to cut clips.

When trimming you can cut and resize media clips down to one frame and then back to their original length at any time. Effects, transitions, and non-sequential single frame image files can be stretched to any length. When you adjust the edge of a clip on the timeline, the pointer's location is marked at the top of the Composition window. Similarly, when you drag the slider in Item Info (Trim) the timeline pointer moves with it.

When a group is selected you can trim the last selected item in the group. Note also that when you trim a clip, any Video Opacity and Audio graphs do not adjust with the length of the clip. Effect and transition parameters, however, adjust with the length of the effect.

See:

Item Info Trim
Trim Items in the Library
Set Trimming Preferences
Set Scrub and Preview Preferences for Trimming
Trim Using Shortcuts
Ripple Trimming
Play and Preview as You Trim
Scrub to Mark Trim Points
Trim By Entering Timecode
Slip Trim: Locking Length as You Adjust Source In and Out
Slide Trim: Locking Length as You Adjust Result In and Out
Trim by Dragging Clip End Points on Timeline
Trim Transitions and Effects
Adjust the Length of Single Frame Clips
Cut Clips

Trim Using Shortcut Keys

Quickly trim clips using keyboard shortcuts that correspond to Item Info (Trim) options. Most menu commands for these are found in the **Edit>Trim** submenu.

Select Timecode in Item Info Trim

When you select a clip on the Composition window timeline, you can highlight and change its Source or Result timecode, thus trimming it with keyboard shortcuts.

- Select a clip and press SHIFT+COMMA to highlight its source In point timecode in Item Info (Trim)
- Select a clip and press SHIFT+PERIOD to highlight its source Out point timecode in Item Info (Trim).
- Press tab to move through the timecode boxes in Item Info (Trim).

See: Trim by Entering Timecode

Move Frame By Frame

Once you have selected a clip, you can move the trim point incrementally. You can also move the entire clip (result timecode) frame by frame:

- To move the In point a frame earlier, press SHIFT+LEFT ARROW.
- To move the In point a frame later press SHIFT+RIGHT ARROW.
- To move the Out point a frame later press ALT+LEFT ARROW .
- To move the Out point a frame earlier, press ALT+RIGHT ARROW.

Mark or Split at Pointer Position

- To mark the In point at the pointer position on the timeline or slider position in Item Info (Trim), press the letter I key.
- To mark the Out point at the pointer position on the timeline or slider position in Item Info (Trim), press the letter O key.
- To split a clip at the insertion point, press INSERT. See Cut Clips

Select the Next Clip or Item for Trimming

You can move through the timeline (or Library) trimming clips, using keyboard shortcuts.

- To select the previous clip on the timeline, press CTRL+LEFT ARROW.
- To select the next clip on the timeline, press CTRL+RIGHT ARROW.
- To select the clip above on the timeline, press CTRL+UP ARROW.
- To select the clip below on the timeline, press CTRL+DOWN ARROW.

See also: Move Through the Timeline.

Ripple Trimming

Use the Ripple Trim option in Item Info (Trim) to set a clip in Ripple or Non-Ripple mode so that as you trim, other clips on the timeline move or do not move with the trimmed clip. This mode applies only for the selected clip.

- To move other clips with the selected item, select Ripple Trim in Item Info (Trim).
- To keep other clips on the timeline in place as you trim a clip, clear Ripple Trim in Item Info (Trim).

See also: Moving Clips in Ripple Mode

Play and Preview as You Trim

While trimming clips, use Item Info (Trim) to play clips, areas around clips, end points, and groups of audio or video on the timeline or in the Library. When a video clip or item is selected, you can preview its Trim In and Out points on the computer monitor Preview windows, as well as the pointer's position (Playback window).

To determine where you want to preview trims, on your external monitor, computer screen, or both (if your video capture hardware allows it) choose **Preferences>Scrub and Preview Preferences**, and under "When Trimming Preview To" make your selection.

While the video plays, you can mark its In point by clicking the MARK IN button in Item Info (Trim), and then mark its Out point by clicking MARK OUT. The blue area on the Item Info (Trim) slider indicates the active area of a clip or group. White indicates a trimmed area which is still available for preview and playback, and can be restored.

- White indicates areas on original clip that have been trimmed.

Mark In point

To play the trimmed selection of a clip, click VIEW LEN in Item Info (Trim).

- To play a clip in its entirety, click Preview in Item Info (Trim).
- To play a clip from its mark In point, click PLAY in Item Info (Trim).
- To play a group, click PLAY in Item Info (Trim).

You can preview a number of frames around trim In and Out points for a selected clip. Set the frame number by choosing **Preferences>Trimming Preferences.**

To preview trim areas, select a clip, and in Item Info (Trim) click VIEW IN and Out points, or use keyboard shortcuts:

- Select the clip and press COMMA to view the In point area.
- Select the clip and press PERIOD to view the Out point area.

See:

Set Trimming Preferences

Set Scrub and Preview Preferences for Trimming

Scrub to Mark Trim Points

Scrub through a selected video or audio clip on the timeline or in the Library and trim its In and Out points using the slider in Item Info (Trim) or on the Composition window timeline.

- When you find the exact frame for trimming, click MARK IN or MARK OUT in Item Info (Trim). As you scrub using the Item Info (Trim) slider, the timeline scrub also moves over the clip, and the Playback Preview window shows your pointer position. Drag the slider in Item Info (Trim) or on the timeline to scrub for specific frames.
- Press the LEFT ARROW and RIGHT ARROW keys to scrub frames before trimming.

See also: Mark or Split at Pointer Position

Trim by Entering Timecode

To trim a clip by entering timecode, select a video or audio clip, and in the Trim tab of the Item Info window enter a new timecode Result In or Out point, or Source In point, Out point or Length. You can also click the up and down scroll arrows next to each field. The arrows move the edge at one frame intervals. The values appear in the timecode (SMPTE or Frame) set in **Preferences>Timeline Preferences.**

Click arrows to trim frame by frame

Once its timecode is highlighted in the boxes in Item Info (Trim), you can type new timecode using the keyboard. If you are working in SMPTE dropframe, for example, enter +29 to reset the clip to 29 frames and enter 29+ to add that frame amount to the clip. Enter +1329 to reset to 13 seconds 29 frames. In Non-dropframe, enter the frame number.

- Type the plus sign key and a number to reset the clip by this number. (+29)
- Type the frame number and the plus sign key to add frames. (29+)
- Type the frame number and the minus sign key to shorten the clip by this number. (29-)

When trimming you can lock any one of a clip's three aspects (In, Out, or Length) indicated in Item Info (Trim) so that the other two are adjusted in relation to the locked aspect. For example, if you select Lock for VIEW IN, this holds the Source In point of the clip when you place it to fit a gap.

Slip Trim: Lock Length as You Adjust Source In and Out

By locking the length of a clip on the timeline as you adjust its Source In and Out points, you can keep a clip in position as you change what sequence of frames from that clip will appear. To do this select a clip and in Item Info (Trim) click the VIEW LEN Lock button on the right side. For example, you may have a sequence of clips in a project whose overall timing you don't want to change as you adjust the Source In and Out points of a clip on the timeline.

To trim while keeping clip length constant:

1. Select the clip on the timeline.
2. In Item Info (Trim) select the VIEW LEN Lock button.
3. Click the up/down arrows to nudge the In or Out point frame by frame, while the clip length remains the same.
4. Preview the new In frame or Out frame by clicking VIEW IN or VIEW OUT in Item Info (Trim).

Slide Trim: Lock Length as You Adjust Result In and Out

You may need to keep the Source length of a clip constant while adjusting its position—or result In and Out points—on the timeline. To do this, you can adjust the Result In and Result Out timecode boxes in Item Info (Trim) or you can select the clip and move it on the timeline to a new position. In effect, you are not trimming the selected clip but the clips before and after it on the timeline.

To adjust a clip's position:

1. Select the clip and click VIEW LEN Lock button in Item Info (Trim)
2. Either adjust its Result In and Out points in Item Info (Trim) or drag it down a track on the timeline and move it to its new timeline position by dragging the clip.

Trim by Dragging Clip End Points

You can trim a clip on the Composition window timeline by clicking and dragging its endpoints. This is useful for rough edit trimming.

To trim by adjusting s clip's end points:

1. Select a clip on the timeline.
2. Click the left or right edge (In or Out point) of the clip and drag. The cursor turns to a horizontal double arrow and timecode position is indicated at the top of the Composition window.
3. Extend the length of the clip to its original length or trim it to one frame.

Trim Transitions and Effects

You may trim transitions and effects on the timeline as you do video and audio clips. Trim a transition or effect by playing it and marking its In and Out points in Item Info (Trim), by scrubbing through it frame by frame, or by entering timecode locations for the trim. You can also adjust its ends on the timeline. Transitions automatically snap to the overlap length between the Source In and Out clip, and effects automatically size to their source video.

Using shortcut keys, select the transition and press the PLUS key and a number (to indicate frames) to lengthen the clip, or press the MINUS key and a number to shorten it. In addition, you can change the default length of the transition by choosing **Preferences>Drag & Drop Preferences** so that when you select a clip on the timeline and then right-click a transition from the Library it automatically sizes to this length.

Note that when you adjust the length of a sourced transition its video source clips will be affected. Therefore, it is useful when trimming transitions to select Ripple Mode box in Item Info (Trim) to adjust clips on the timeline with the transition. However, note that with attached audio and video, inserting and trimming transitions in Ripple mode can cause audio overlaps and oversaturation.

See:

Set Drag and Drop Preferences

Adjust the Length of Single Frame Clips

In Speed Razor, you can stretch and play single frame clips that match the Output device set in the Editing Devices and Settings dialog box (**Project>Editing Settings**).

You may stretch any single frame image file on the timeline that is not numbered. When you have a sequence of still image files placed on the timeline as a single clip, you may trim it as you do any other video or audio clip.

Cut Clips

You may cut a clip on the Composition window timeline using keyboard shortcuts, the Razor tool, or SPLIT in the Trim tab of the Item Info window.

Cut one side of a clip on the timeline using a combination mouse and keyboard shortcut. Though the clip is cut, you can still resize it to its original length.

- To cut the left part of the clip, click the edit point, press SHIFT+CTRL, drag to the left and release.
- To cut the right part of the clip, click the edit point, press SHIFT+CTRL, drag to the right and release.

See:

Cut Clips with the Razor Tool

Split an Item

Cut Clips with the Razor Tool

Visually cut a clip on the timeline by selecting the Razor tool on the Composition window button bar or by choosing **Edit>Razor Tool**. As with other options, though the clip is cut, you can still resize it to its original length. To place the Razor tool button on your tool bar, choose **Preferences>Toolbar Preferences** and select the Razor tool.

To slice a clip with the Razor tool:

1. Select a clip and click the Razor tool. The pointer turns to a Razor icon.
2. Drag the Razor icon over the clip and click down and hold to preview your clip before cutting it.
3. Click anywhere on the clip to sever it. Once the clip is severed the Razor tool turns off.

Split an Item

Use the SPLIT button in the Trim tab of the Item Info window (or the INSERT key) to precisely and quickly cut a clip in two. When you split an item in the Library a new icon appears for the second clip. On the timeline, two clips appear in the position of the original one clip.

To split a clip:

1. Select a clip
2. Mark its edit point on the Item Info (Trim) slider, and preview the frame
3. Click **SPLIT** in Item Info (Trim) or press the INSERT key.

Set Markers

Marker tabs

You may set markers on the Composition window timeline to mark video shot, scene, and other significant changes. You can add, move, edit, and add notes to markers, and use them to synchronize audio and video.

Markers are numbered from left to right, and alter according to their timeline position rather than the chronological order of positioning. For example, the leftmost marker on the timeline will always be numbered 1.

- To add a marker at the cursor location on the Composition window timeline, press the TAB key.
- To add periodic markers at specific intervals, choose **Edit>Add Periodic Markers,** and set the interval according to your project timecode.
- To edit a marker, double-click the marker or choose **Edit>Markers.**
- To move a marker, click, hold and drag the marker on the timeline, or adjust its timecode position in the Modify Markers dialog box. To open this, choose **Edit>Markers** and click the Modify button.
- To move from one marker to the next, press ALT+M. (**Edit>Goto**).
- To move to a previous marker, press SHIFT+M. (**Edit>Goto**).
- To delete a marker, select the marker and press the DELETE key or drag the marker upward away from the timeline.

Set Snap To preferences for markers so that audio and video clips will sync precisely to a specific point on the timeline.

See:

Set Snap To Preferences.

Change Video Opacity

All video and image related clips on the Composition window timeline have an opacity level that you can alter over time. Adjust video opacity to create interesting image overlays, such as ghosting effects and modulated fades. Video Opacity graphs and Audio graphs have the same keyboard and mouse operations.

- To view the opacity level of a clip, choose **View>Show Video Opacity**. The graph appears at the top of the clips.
- To move a locked graph (no change in transparency over time), select the clip and in Item Info (Video), select the Lock box. Then right-click on the graph line and drag.
- To adjust the graph over time, select the clip and in Item Info (Video), clear the Lock box. Then create a node.
- To create a node, press CTRL and right-click the graph line.
- To delete nodes, press SHIFT and click the node.
- To move nodes vertically or horizontally on the clip, right-click on the nodes and drag.
- To create Bezier curved graphs press ALT as you drag a node. As with effect parameter Bezier curves,

To change video opacity over time:

See: Fade Video Using Shortcuts

Fade Video Using Shortcuts

You can quickly apply fades to video by using a combination mouse and keyboard shortcut.

- To use the fade shortcuts, you will first need to unlock the clip's opacity graph. Select the clip (or clip) and in Item Info (Video) clear the "Lock Video Opacity Graph" box.
- To fade up from the left edge of a selected clip to a point on the clip, press CTRL+SHIFT and right-click at a point on clip, then drag left.
- To fade down to the right edge of a selected clip from a point on the clip, press CTRL+SHIFT and right-click at a point on clip, then drag right.

These shortcuts apply a fade in the video opacity graph. You can then modify the graph by using the methods listed in the next section. Note that you can also use these shortcuts for fading audio. When you are working with attached audio and video clips audio channel or video opacity graph adjustment is maintained separately.

To Change Video Opacity Over Time

1. Choose View>Show Video Opacity.
2. In Item Info (Video), clear the Lock box to adjust the graph over time.
3. Lower a video opacity level by first holding down the CTRL key and right-clicking a point on the clip. Then move the node down. Its numeric value on the status bar lowers'.
4. Click on the Timecode bar and press the ALT+SPACEBAR keys to preview a frame. The clip's transparency alters according to opacity percentage.

Video Opacity and Layers

The opacity level of a video clip is 100 percent by default. When you choose **View>Show Video Opacity**, the graph appears as a horizontal white line across the top of each clip. Accompanying graph information appears on the Composition window status bar. The number values range from 0 (complete transparency - graph line at the bottom of clip) to 100 (full opacity - graph line at top).

Video track layers stack down. The bottom clip in a stack of clips on the timeline appears “on top,” meaning that if its opacity is set at 100 percent, it appears on the video screen. So a video clip on track 1 becomes a background, while video on subsequent tracks (track 2, track 3, etc.) overwrite and “stack” toward the foreground. If a video clip on track 3 is fully opaque, no image from video on track 2 or track 1 will show through. If you lower the video opacity of the clip on track 3, the video on track 2 will be revealed to the extent you lowered the graph.

You can fade clips from black or any background color or dissolve from one clip to another. Or combine opacity graph changes with effects and transitions.

Since video opacity and audio graphs are fixed in their location on the timeline, it is important to remember that as you trim or lengthen a clip, the graph remains constant. For example, if you set a fade to black, then trim the end of the clip, the graph must be adjusted to end with the trimmed clip.

Tip: For quick fades that adjust as you trim or lengthen a clip, use the Transparency effect and create fade up and fade down presets.

See:

Fade Video Using Shortcuts

Change Video Opacity

To Change Video Opacity Over Time

Transparency Effect

Change Video Speed

You may change the speed of video clips on the Composition window timeline if they are not attached to audio. Adjust a clip's frame rate, its length, or make it fit a gap in the timeline.

- To change video speed, select a clip and in the Video tab of the Item Info window, click CHANGE SPEED, or choose **Media>Change Speed**.

In the Change Video Speed dialog box, you can choose new frame rate values, select the standard settings, or enter a value in the field. While the standard settings are ½ and ¼ speed, you may speed or slow a clip to any rate with smooth playback. Adjusting the new frame rate changes the clip length automatically. A faster speed plays the clip shorter, a slower speeds stretches it. Similarly, adjusting Speed Length (typed in SMPTE timecode or Frame) automatically changes the clip's speed.

- To create slow motion, enter a number lower than the original speed
- To create fast motion, enter a number higher than the original speed.

Since a slow motion clip will run longer you can stretch its length on the timeline. Conversely, a quickened clip runs faster and appears shorter on the timeline. You may also have the selected clip adjust its speed to fit in a gap on the timeline. For example, if you have two clips with a timeline gap between them and you need to stretch an out-take shot between them, in-sync Speed Razor adjusts the frame rate to match the length, without affecting the other clips' position. This is useful when the out-take is a still image file or the speed change is not noticeable. Note: To use Change Speed, video must be separated from audio.

To set up video for change of speed:

To Set Up Video For Change of Speed

1. Select the item you want to change speed. In Item Info (Video) in its parameters, select Source is Fielded.
2. With the item still selected, click CHANGE SPEED in Item Info (Video) and set the change of speed in the dialog. When you are finished, click OK.
3. Select the area you want to preview and press the ALT+SPACEBAR keys.

Separate and Attach Audio and Video

In Speed Razor, you may work with video and audio clips separately or by attaching these and editing them together. Attach audio and video to synchronize In and Out points, trim, move and play the clips together. Separate them to edit them independently on the timeline, or apply change of speed to video.

- To attach video and audio files: Select the files and choose **Media>Attach**, or in Item Info (Info) click the **Attach** button. Both will match the length of the shorter clip.
- To separate video and audio files: Select either file and choose **Media>Separate**, or in Item Info (Info) click the **Separate** button.

You can attach or separate video and audio items in the Library or on the Composition window timeline. Once on the timeline items can be separated. For example, you might attach an audio and video clip in the Library, move them together to the timeline and trim them. Then separate them and move the audio so it starts before the video clip. You cannot change speed on a video clip that is attached to audio.

When you capture video and audio, these are digitized as separate files. Even files with attached digital audio and video are separated and maintained separately in Speed Razor.

View the Timeline

You may choose among three options for viewing video clips on the Composition window timeline. To change among these modes, from the **View** menu, choose the **Titles Only**, **Filmstrips**, or **End Pictures** commands, or use their keyboard shortcuts.

From top to bottom: Titles, Filmstrip, and End Pictures modes

Titles Only : Titles Only displays the clip name and file extension. This mode allows for quick resizing of tracks and fast moving around the timeline, which is helpful when working with long projects and complex effects. The Titles Only shortcut key is CTRL+T.

Filmstrips: Filmstrips displays the actual frame images of your clip on the window timeline, depending on the zoom level set. A zoom level of 1:1 shows every frame. This mode gives the most visual feedback, but also demands the most RAM. Because the screen refresh rate for Filmstrip is significantly longer than for other modes, this mode is recommended only when you need to see details of cuts in your work. The Filmstrip shortcut key is CTRL+F.

End Pictures: End Pictures displays the first and last frame of a clip, leaving the body of the clip in titles mode. This provides the benefits of quick resizing with visual cues about the clips In and Out points. The End Pictures shortcut key is CTRL+E

Edit Online and Offline

Use Speed Razor 4.5 over a local or high-speed network, and combine realtime offline and online editing capabilities for video and film post-production:

- Combine Speed Razor 4.5 RT, S, and Client versions for online and offline editing over a network. Combine Speed Razor 4.5 SE and SE Client for editing over a network. Share files among supported video hardware formats when working over a network. (Exception: DPS Perception files require a computer with the Perception installed.) See: Edit Video Over a Network
- Batch capture video at low resolution, then update the capture list and recapture at the final data rate and high resolution. This is the recommended offline method when editing completely in the video format. See: Capture Source Media .
- Use Speed Razor to import and export an EDL for online editing or conversion from or to film code. See Import and Export EDLs
- Edit Film : Set Thumbnail settings to edit digitized film in Speed Razor as video files based on your capture hardware format.
- Edit Video in Thumbnails
- Edit with "Virtual" files from a full capture list before actually batch capturing source material.

Import and Export EDLs

Speed Razor has full EDL—edit decision list—importing and exporting capabilities for standard formats. You may use it for off-line editing of video or film: for EDL and rough cut output to analog on-line video equipment, or for creating film cutlists.

See also:
Edit Film

EDL Support

The basic features of Speed Razor's EDL support include:

- CMX 3400 and 3600, Grass Valley 4.0 and 7.1, and Sony BVE 9000 and 9100 EDL import and export.
- Auto detect EDL type on import.
- Import in dropframe or non-dropframe mode.
- Option to set Lead In and Lead Out times on import.
- EDL cleaning.
- Auto generate B-roll: second video roll when source video is duplicated.
- Option to set B-roll start time different from A-roll.
- Auto fill gaps in timeline with black on export.
- Option to set deck time for export.
- Preview any part of video project, including transitions or keying effect, before exporting EDL.
- While Speed Razor has powerful EDL management capabilities, there are certain functions it does not provide:
- No audio crossfades or other audio effects.
- No split edit (audio and video offset) support for EDL export. Video and audio are separated at their timecode positions.
- Comments or notes in the EDL fields are not exported or imported.

Import EDLs

You can import EDLs from other non-linear editing software or from analog off-line editing equipment into Speed Razor by choosing **File>Import EDL**. The EDL format is detected automatically upon import.

When you import an EDL to Speed Razor, virtual icons of the clips appear on the Composition window timeline and in the Library. The clips are numbered (clip 0, clip 1, and so on).

The source timecode in an imported EDL becomes the Batch Capture list. By selecting **Media>Batch Capture** you can view the shot list. Once an EDL is imported you can:

- Batch capture the source material. See Batch Capture.
- Edit the project "virtually." See Edit with Virtual Files

You can import EDLs in both dropframe or non-dropframe timecode. To determine which mode is appropriate, refer to the EDL. If the EDL list is in drop frame, select "Record is Drop Frame" in the Import EDL dialog box. If it is non-drop frame, leave this clear. You can also set a Lead in and Lead out time in frames for import. Lead time, also called "pre-roll," provides extra frames at the start and end of clips.

When importing an EDL with split or "L" edits of offset attached audio and video clips, these timeline relationships are maintained, but the audio and video files are separated. Since Speed Razor supports only separated audio and video file import, to keep the offset, these files must be re-attached in Speed Razor or edited separately.

Third and fourth audio channels for CMX 3600, Sony 9000 and 9100, and Grass Valley 7.1 EDLs are supported. CMX 3400 provides two channel audio only. In the Sony EDL formats the third and fourth channel show up at the end of the line.

To Import an EDL

To Import an EDL

1. Choose **File>Import EDL.** The Import EDL dialog box opens.
2. If your EDL is in drop frame, select the Record is Drop Frame box.
3. Click **Input.edl** to select the EDL file. The Select EDL dialog box appears. Select the file type, name, directory and drive location and click **OK**.
4. Type Lead In and/or Lead Out in frames.
5. Click **OK** to import the EDL. Shots appear as virtual icons on the timeline and Library.
6. Choose **Media>Batch Capture** to view the shot list. You can now batch capture the source material.

EDL Cleaning in Speed Razor

An innovative, logical method for reordering material for the EDL is used in Speed Razor, saving recording time. When cleaning EDLs, timecode information is organized for EDL export so that events in the edit list represent the material recorded on the edit master precisely and are ordered clearly.

Reasons for EDL cleaning include removing unneeded source material from the edit list, and determining when video clips are overlapped on tracks 1 and 2, (a B Roll is created) or when audio and video files share the same timecode information. In this second case audio and video files are consolidated as a single file on the EDL

When you place a transition between two different regions of a source video clip, a second video clip (or B roll of the source) must be generated for the analog system to perform the transition. Efficiently, only the area needed as a B-roll is recorded in Speed Razor, saving recording time and drive space.

When clips are overlapped on the timeline these are organized with no information loss and the correct order preserved.

Export an EDL

This section contains steps for exporting an EDL. In the Export EDL dialog box, opened by choosing **File>Export EDL**, you have a number of options. When preparing a video project for EDL export, it is recommended that you set up clips on the timeline to conform with general EDL standards. EDLs, when output to online analog equipment, read only an A/B roll scheme for video, with straight cuts or acceptable transitions. This means the EDL will read the two "lowest" tracks on the timeline. To set up video for effective EDL export:

- Use no more than two video tracks
- Use no more than two audio tracks.
- When making transitions, use the Crossfade transition. Or, if you have other transitions in place, note that these will be read as crossfades.
- Use the Color Difference Keying effect for Chroma Keying. No other video effects will be read in the EDL.

In addition to this, when outputting an EDL, it is recommended that you work with your post production house to determine the specific limitations of the given EDL format.

Since EDL export is generally to final edit using on-line equipment, where final effects and transitions will be applied, for simplicity all Speed Razor transitions are interpreted as a Crossfade. When exporting an EDL all timeline and file settings are maintained. However, offset video and audio files are stored in the EDL separately. When the EDL is exported and opened in the online suite, the audio and video files will appear on the timeline in their appropriate positions.

You have the option when exporting the EDL to fill gaps in the timeline with black, or to leave these gaps unfilled. Placing black in gaps allows the online editor to read the exact timeline settings and is the default setting. When you have created a black source for a transition or a chroma key this will always be included in the EDL.

To Export an EDL

To Export an EDL

1. Choose **File>Export EDL.** The Export EDL dialog box opens.
2. Click the **Output.edl** button to determine the name, drive, and directory for output.
3. Select the Generate B Roll EDL box if you have source material that overlaps itself on the timeline.
4. Select Record Drop Frame if your record deck is set to dropframe. If it is not, leave this blank.
5. Set Tape name. This is the EDL format.
6. Set Start Record Time (typically 1 hour). Set the B Roll Start Time if necessary.
7. Click **Write** to export the EDL.

Edit Film

You can use Speed Razor to edit film in two ways:

- Import and export an EDL, and then using Telecine converting, tracking, and sound tracing software. You will find third party software available among Speed Razor plug-ins. EDL import and export is explained in the previous section of this chapter.
- Edit digital film with full color bit depth import and export support for Kodak® Cineon™ .cin, SMPTE .dpx, Silicon Graphics® .sgi, and uncompressed .raw file formats.

Use Thumbnails editing settings to temporarily convert large still file sequence (such as digital film .cin, .dpx, .raw, and .sgi files) to an editable video format based on your video capture hardware. Then on completion of the project, reapply the final settings for output. "Thumbnails" can actually be full, online video at up to uncompressed quality. Before using Thumbnails, it is important to keep in mind the following:

- You will need enough drive space to store both the digital film files, and the created thumbnail images.
- When you have created a project in thumbnails it must be rendered when converted to final mode.
- Establish Final mode editing settings to the full image quality you want to export to and when exporting, set the image export settings to match this.
- When converting from low resolution to high resolution video, it is easier to use the Update Capture feature than Finals or Thumbnails.

To edit digital film in Speed Razor on one computer:

1. Choose **File>New Project** and name the project. Then set up your directories and dedicated drives for video finals and thumbnail images by choosing **Preferences>Directories.**
2. Choose **Project>Editing Settings.** At the top of the Editing Devices and Settings dialog box, select Final, and establish final settings for the project based on the image file and output quality you want.
3. When you have finished the Final settings, at the top of the dialog box, select Thumbnail.
4. Establish video Thumbnail settings based on your capture hardware video format. This may be at any compression level the hardware is capable of handling. For audio, select Wave Audio Device at 16-bit, stereo, 44.1kHz. Then click **OK** to close the dialog box. Choose **File>Save Version.**
5. Import digital film files for the project to the Library. Choose **File>Save Version.**
6. Choose **Project>Make All Thumbnails Now**, then when the thumbnails have completed, choose **File>Save Version.**
7. Choose **Project>Use Thumbnails** and clear **Project>Use Finals**.
8. Edit the project as video, using any effects you want. When you have completed editing, choose **Project>Use Finals**, and clear **Project>Use Thumbnail Settings**.
9. When the project is completed building you are ready to export it to your selected film file format. Set your export settings to match the final editing settings. Then click OK to export the file.

Tip: Choosing **File>Save Version** periodically throughout this process is recommended.

See: Edit Video with Thumbnails

Edit Video With Thumbnails

You can establish editing settings for a video project in Final or Thumbnail modes. When you choose **Project>Editing Settings**, in the Editing Devices and Settings dialog box:

- Select **Final** to edit in an "online" mode. Finals settings are the standard, default working mode for a video project. Set these based on final output quality.
- Select **Thumbnail** to edit in an "offline" mode. Establish video device settings at a manageable frame size and compression rate. Thumbnails settings are useful editing still image files (such as .cin or .sgi files for film) in a video file format. Once you have finished editing "offline" you can open the workfile in Final mode, and your final settings will be applied.

This allows you to move a workfile from one format to another. If disk space is not an issue, the thumbnail settings may be a different version of final quality settings. From the menu commands, you can determine whether to convert a project to thumbnails, or to view a project in either mode.

- To create thumbnails from clips in the open workfile, choose **Project>Make All Thumbnails Now**.
- To determine whether to open the thumbnail or final settings for your Speed Razor workfile select either **Project>Use Thumbnail Settings** or **Project>Use Finals Settings.**
- To open Thumbnail or Final files in the workfile select **Preferences>Open Thumbnail Files** or **Preferences>Open Final Files** or both.

See:

Establish Editing Settings.

Edit Film

Edit With "Virtual" Files

You can begin editing a project even before capturing or importing material into Speed Razor, by working with "virtual" files—or placeholders—for media clips. This is another useful method for saving time, online editing resources, and valuable disk space. With a tight storyboard you can lay out placeholder clips, or "virtual" files, on the Composition window timeline. Then when you capture, the video clips automatically take their correct places on the timeline.

Note: Keep clear notes on the length of clips, since the virtual file clips, unlike original clips, can be stretched to any length provide have no visual cue to content.

To edit with "virtual" files:

1. Dub a master tape to a VHS copy and burn it to video tape.
2. Using a VHS tape machine and a portable computer, log the scenes.
3. Then open Speed Razor and choose **Media>Batch Capture**. In the capture list, type in the names and timecode In and Out points of the clips you want to capture. Then close the Batch Capture window. Virtual file icons appear in the Library.
4. Using your storyboard and the names as guides, complete a rough edit, ordering clips in the Library or on the timeline as you want them in the video project, even adding transitions and effects.
5. When you finish this initial edit, save the workfile. Transfer the workfile to your digitizing station.
6. Open the file, and choose **Media>Batch Capture**. Click the **Capture** button to use the existing capture list to digitize the video. The newly captured video clips replace the virtual clips and the workfile is ready for final editing and output.

See: Batch Capture.

Mix Audio in Realtime

You can mix volume and speaker pan for up to twenty audio tracks in realtime using the sliders, or "faders," in the Audio tab of the Item Info window. Adjust audio volume for a clip, a group of clips, and individual channels for clips. Adjust left and right speaker pan for stereo clips in realtime.

To mix audio in realtime, select the audio clip or clips for playback and, in Item Info (Audio), select the channels and aspect of the audio (such as volume or pan) you want to adjust. As you play the audio, drag the faders.

Monitor volume levels during playback with the VU meter for safe digital audio playback. VU meters aid in preventing audio oversaturation or "clipping," volume that exceeds the limits of digital audio. View sound wave forms for synching video to audio beats.

Read Audio Levels Using the VU Meter
Mix Volume
Mix Multiple Audio Tracks
Cross Fade Audio
Set Audio and Video Crossfade
Mute Volume
Pan Left and Right Speaker Sound
Pan Front and Back Speaker Sound
Lock and Unlock Audio Channels

See also:
Mix Audio Before Playback
Adjust Audio Channel Graphs
Adjust Decibel Levels
Audio Settings
Audio Layers
Audio Oversaturation
Trim Video and Audio
Select Clips and Groups
Turn Video and Audio Clips On or Off
Separate and Attach Audio and Video
Read Audio Beats with Waveforms
Adjust Audio Master Gain
Record a Voice Over

Read Audio Levels Using the VU Meter

The VU (volume unit) meter in Speed Razor indicates peak and average levels of audio, and aids in preventing audio oversaturation—volume that exceeds the limits of digital playback—during capture, editing, and output. The VU meter window can be resized. When capturing, batch capturing, or printing to tape, the VU meter appears in the open dialog box.

- Green areas indicate a safe audio range.
- Red indicates your audio is close to oversaturating. The upper edge marks the oversaturation point.

By the default settings, when the VU meter marker touches the edge, play stops and a warning message appears. You can then lower audio volume before playing back the clip again. You can opt not to receive this message while editing by choosing **Preferences>Miscellaneous Preferences** and clearing the "Notify on Audio Oversaturation" box.

When calibrating audio with a 1k tone, according to default settings, the level reads at the line between the green and yellow areas on the meter. Audio at an acceptable level will hover in this range. You can adjust the VU meter settings to meet your audio mixing needs, such as for specific broadcast standards. VU meter calibration settings are stored in the waverzf.ini file located in the Razor40 directory (Razor40/waverzf.ini). For information about adjusting VU meter settings, see "Advanced User Settings," in "Establish Editing and User Settings," Chapter 3 in *Setup and Technical Reference.*

The VU meter displays volume averages from a sound sampling taken from the capture card, which may read 1 or 1½ seconds ahead of the actual point of play on the timeline. This gap ensures that the hardware can process ahead of playback fast enough to maintain playback. (With certain audio cards this playback may be more immediate.)

Once the VU meter indicates that audio has "clipped" or "peaked" and playback stops, you have several options for adjusting the volume before beginning playback again.

Mix Volume

There are several ways you can adjust audio volume in realtime:

- To adjust the volume of a selected clip or group of clips, click and drag an audio volume fader in Item Info (Audio) as the clip or group plays. For mono tracks, adjust the left fader. For stereo tracks, adjust both the left and right faders.
- To dynamically adjust volume for a selected channel over time, in Item Info (Audio) clear its Lock box.
- To raise or lower volume for an entire clip or group, make your selection, and select its Lock box.
- To adjust the volume of the last clip selected in a group, select a group and play it. In Item Info (Audio), move the faders as it plays.
- To adjust the volume of all clips in a group on the timeline, first select the group by pressing the SHIFT or CTRL keys as you click items. Continue to hold the key as the audio plays, and in Item Info (Audio) adjust the faders.

When you adjust volume with faders in Item Info (Audio) a series of nodes is created on the audio clips' volume graphs. To view these graphs, choose **View>Show Audio Graphs.** Adjust nodes before playback using the same methods as for Video Opacity Graphs.

Volume for audio channels is measured in decibels, ranging from -96 (no sound) to +12. A setting of zero decibels reflects no change in volume from the original file. When an audio clip is not edited its volume level in Speed Razor remains at zero.

Mix Multiple Audio Tracks

When mixing multiple audio tracks it is important to keep in mind that audio volume is added with each track. As you add audio tracks, you will need to lower volume for each track to compensate. For more information, see "Mix Audio Before Playback," later in this chapter.

When you adjust left and right volume this changes the audio file's volume, not speaker volume.

Note: When mixing audio in realtime, if you receive an audio oversaturation message, and playback has stopped, this means that the volume of the clip (or the combined volume of multiple clips) has exceeded the levels of safe playback. You will need to lower the audio levels before resuming playback.

See:

Mix Audio Before Playback.

Crossfade Audio

Quickly apply fades to video by using a combination mouse and keyboard shortcut. To create a fade you must first unlock the audio volume level by selecting Item Info (Audio) and clearing the Lock box for channels you want to adjust.

- To use the audio fade shortcuts, you will first need to unlock the clip's volume graph. Select the clip (or clip) and in Item Info (Audio) clear the item's "Lock" box.
- To fade up from the left edge of a selected clip to a point on the clip, press CTRL+SHIFT and right-click at a point on clip, then drag left.
- To fade down to the right edge of a selected clip from a point on the clip, press CTRL+SHIFT and right-click at a point on clip, then drag right.
- To crossfade two selected overlapping audio clips, press ALT+C or choose **Media>Audio Crossfade.**
- To fade audio in realtime, click and drag the volume faders in Item Info (Audio) as an audio clip or group plays in realtime on the timeline or in the Library.

When you apply a video transition between video clips with attached audio, the audio clips overlap for the duration of the transition. You may set an automatic crossfade for audio clips when you set a video transition by choosing **Preferences>Drag and Drop Preferences** and selecting "Audio Crossfade." Note that if you trim the transition, the audio crossfade does not adjust automatically.

Mute Volume

You may turn off the left and/or right volume channels of a selected clip, a group of clips, or clips on an entire track by selecting the Mute boxes in the Audio tab of the Item Info window. Audio clips can be fully or partially muted.

- To mute a single clip, select the clip, and in Item Info (Audio) select the left and/or right volume Mute boxes.
- To mute a group of clips, first select the group. Then open Item Info (Audio) and select the left and/or right Mute boxes. This mutes that channel or channels for the entire group.
- To activate an audio channel, clip, or group of clips, select the audio and clear the Mute box.

When a group is selected and some channels or clips are muted, the mute box appears dark gray.

Pan Left and Right Speaker Sound

Pan is sound movement from speaker to speaker and is a function of stereo, not mono, audio. As with volume mixing you can create standard stereo pan effects in three ways:

- Play a clip and in Item Info (Audio) adjust the Left Pan and Right Pan faders.
- In the Item Info (Audio) pan value box, type a percentage between 0 and 100. 100 is full speaker strength. The stereo track default pan setting is 100 percent for the left and right speakers.
- Adjust the Audio Graphs on the clips by choosing **View>Show Audio Graphs .** See Adjust Audio Channel Graphs.

See: Pan Front and Back Speaker Sound

Pan Front and Back Speaker Sound

Build multi-channel audio by adding front and back speaker pan to projects. Once you have produced multi-channel audio in Speed Razor, it can be played back with the aid of a decoder. Unless you are specifically creating audio for multi-speaker playback, leave Front and Back speaker pan options in the Audio tab of the Item Info window dimmed.

- To activate front to back panning, clear the Left and Right F-B Mute boxes in Item Info Audio. Unlock audio graphs on the selected clip to modify pan over time.

To pan audio front and back:

1. Choose **Project>Editing Settings** and set audio output settings to 44.1kHz, 16-bit stereo. Then click **OK**.
2. Organize the audio clips on the Composition window timeline.
3. Select and playback an audio clip on the timeline, adjust its volume, and position its sound using the left and right and front and back panning faders in Item Info Audio.
4. Clear Lock boxes and adjust the faders to move sound over time.

See: Pan Left and Right Speaker Sound

Lock and Unlock Audio Channels

Locking a channel, clip or group keeps its volume or pan constant over time. Unlocking it allows you to mix audio.

- To lock, make your selection and in Item Info (Audio). select its Lock box to keep volume or pan constant over time. You have several options for locking:
    - ⇒ Lock left and right volume separately or together, or lock both, by selecting Lock L-R in the center of the window.
    - ⇒ Lock left and/or right pan for stereo tracks.
    - ⇒ Lock the last selected clip of a group simply by selecting Lock when a group is highlighted.
    - ⇒ Lock all audio clips or specific channels of clips on a track by clicking the track number and selecting Lock for the channel or channels.

Clear Lock to change volume or pan over time for an audio selection. Locking an unlocked graph will cause all values to conform to the first value of the graph. For example, if you have faded an audio clip up from 0 dB volume in the Audio graph, then lock its volume, the entire clip returns to 0 dB volume.

Mix Audio Before Playback

You can adjust the volume levels and speaker pan for audio selections before playback by:

- Adjusting audio channel graphs on the selected clip on the timeline.
- Entering decibel values and speaker pan percentages in Item Info (Audio).
- Adjust overall volume by adjusting master gain control, using Windows NT Volume Control, or using your audio card's sound tool.

See: Adjust Audio Master Gain

Adjust Audio Master Gain

Audio master gain is the overall volume level in decibels for the project. You can adjust master gain from -20dB to 20dB. To modify master gain, choose **Project>Master Gain Control.**

Adjust Audio Channel Graphs

Choose **View>Show Audio Graphs** to view and adjust channels for an audio track. The number of channels for a track depends whether it is stereo or mono. A typical stereo track may have four channels, for volume and left right pan. Audio channels are color coded.

Audio Channel Graph	Graph Color on Clip
Volume right channel	Red
Volume left channel	White
Left speaker pan	Blue
Right speaker pan	Yellow

When you mix audio volume or speaker pan in realtime a series of nodes appears on the audio graph of the adjusted channel or channels. At any time, you can adjust these nodes before resuming playback. A typical example would be if you receive an audio oversaturation message when mixing audio during playback and you need to lower the volume

When you are viewing the audio graphs on a clip on the Composition window timeline, you can hide selected graphs from view. To hide a volume or speaker pan channel, select the clip or group, and in Item Info (Audio), select the channel's Hide box.

Adjust audio graphs as you do Video Opacity Graphs, with the same set of commands.

- To activate Audio Graphs, choose **View>Show Audio Graphs.**
- To move a locked graph (no change over time), select the clip and in the Item Info (Audio) select the Lock box. Then right-click on the graph line and drag.
- To adjust the graph over time, select the clip and in Item Info (Audio), clear the Lock box. Then create a node.
- To create a node, press the CTRL key and right-click the graph line.
- To delete nodes, press the SHIFT key and click the node.
- To move nodes vertically or horizontally on the clip, right-click on the nodes and drag.
- To create Bezier curved graphs press the ALT key as you drag a node. As with effect parameter Bezier curves,

Note, however, that these graphs will not adjust if you trim or extend the audio clips. To adjust aspects of audio relative to the length of the audio clip on the timeline, use Item Info (Audio). Tip: When setting audio graphs for a fade, it is suggested that you end a graph before the end of the clip, to prevent any abrupt change in volume level.

Adjust Decibel Levels

You can directly type in a decibel value into a locked or unlocked audio channel. Select an audio clip or group of clips and type a decibel value in the volume levels boxes in the Audio tab of the Item Info window. You can type any value between -96dB and +12dB. Unlock the channel, and move the slider to set volume levels numerically.

Set Audio and Video Crossfade

When making a video crossfade you may also want one audio clip to fade out as another fades in.

1. Place two video clips on the timeline and position the Crossfade transition between them.
2. Choose **View>Show Audio Graphs** and **View>Video Opacity Graphs.**
3. Adjust the first audio clip to end with the transition by selecting it, and trimming or extending its length.
4. Clear the left and right Lock boxes in Item Info (Audio), and adjust its volume to fade out with the video transition, either by clicking and dragging the faders in Item Info (Audio) or right-clicking the clip's volume graph end point and dragging it to the bottom of the clip.
5. Position the second audio clip to start at the beginning of the transition.
6. Clear the left and right Lock boxes in Item Info (Audio), and adjust its volume so it fades in completely by the end of the video transition.

Read Audio Beats with Waveforms

You can view waveforms for selected audio clips on the Composition window timeline. Waveforms show the fluctuation of sound, and are useful for synchronizing video to audio beats or other significant sounds in a narrative track.

- To display waveforms for an audio clip or group, select the audio clip and choose **Media>Load Waveforms.**
- To clear waveforms, choose **Media>Unload Waveforms.**

Individual waveforms are displayed for left and right audio channels. A single waveform appears for a mono track, and two appear on a stereo track. Note: Waveforms are loaded into RAM. This may slow the loading of clips, screen redraw, and performance of your system. Clear waveforms before rendering.

What are Effects and Transitions?

Take advantage of enhanced software effects preview and render speed when working with its 75+ effects and transitions. With the RT version of Speed Razor, you can also use transitions and effects developed for realtime video capture hardware.

Digital video effects and transitions in Speed Razor are labeled respectively in the .vfx or .tra file formats. Since both .vfx and .tra files are adjustable and share a standard parameter setup, you may often use an effect .vfx file to create a transition between video sources, or a transition .tra file to create a video effect on a single video source.

- Transitions are stored in the C:/Razor40/Transitions folder.
- Effects are stored in the C:/Razor40/Effects folder.

See:

Import Transitions
Import Effects
Set Up Video Clips on the Timeline Before Placing Transitions
Place Transitions by Right-Click
Place Transitions by Drag and Drop
Source Transitions and Effects
Adjust Transition and Effect Parameters
Apply Scale Changes to Video and Still Images

Set Up Video Clips on the Timeline Before Placing Transitions

When placing transitions on the timeline between video clips, you have a variety of options. How you set up video on the timeline determines whether "drag and drop" or "right-click" placing a transition from the Library will be more convenient.

- Set video consecutively on one track, such as track 1. Select a video clip, and right-click a transition in the Library. This is useful for standard length and type transitions.
- Set video with overlap on successive tracks, such as tracks 1 and 2. Drag a transition from the Library and place it in the overlap—it fills to that frame size. Or select a video clip on the timeline and right-click a transition in the Library—it also fills to that frame size. This is useful for transitions set at individual length.
- Set video separated by a track, such as tracks 1 and 3. Drag a transition and place it in the overlapping area. Or select a video clip on the timeline and right-click a transition in the Library.

Note that when you place a transition on the timeline the video clip to the transition's left becomes the Input Source, the video clip to the right becomes the Output Source. For more information on how you can set sources, see "SourceTransitions and Effects" later in this chapter.

See:

Place Transitions by Right-Click

Place Transitions by Drag and Drop

Place Transitions by Right-Click

Right-click a transition in the Library to place it on the Composition window timeline with video clips on a single track, consecutive tracks, or tracks separated by an open track. This feature is useful for rapid placement of standard length or preset transitions, especially after you have laid out a sequence of straight cut video on the timeline.

- Right-click place a transition between straight cuts by selecting the clip before or after the transition (depending on Drag and Drop Preference settings), then right-click the transition in the Library.
- Right-click place a transition between clips on successive or separate tracks by overlapping video on the timeline, then selecting the video clip before or after the transition(depending on Drag and Drop Preference settings), then right-click the transition in the Library.

"Before and After" settings are found in the Drag and Drop Preferences dialog box (**Preferences>Drag and Drop**). When you right-click place a transition, clips on the timeline adjust by either moving to accept the transition or they remain in place and are trimming. These settings, called Film Style or Video Style, are also found in the Drag and Drop Preferences dialog box . See Set Drag and Drop Preferences .

To place a transition by right-clicking:

1. Position video as straight cuts on a single track.
2. Choose **Preferences>Drag and Drop Preferences**.
3. In the dialog box, select a default length for the right-clicked transition. Set Add to Beginning or Add to End. Set Video Style or Film Style. Then click **OK**
4. Select a video clip on the timeline. Then right-click a transition in the Library. Its parameters open in Item Info (Video). On the timeline, the transition is placed between the video clips according to your Drag and Drop Preference settings.

Place Transitions by Drag and Drop

You can place a transition on the timeline by selecting it in the Library, dragging it to the timeline, and "dropping" it in place. The "drag and drop" method is useful when you position video on successive tracks, or separated by a track, and when you want to vary the transition length to match video clip overlap. The placed transition sizes itself to fit the overlap.

1. Place a video (input) clip on track 1.
2. Place a video (output) clip on track 2 or track 3.
3. Overlap the beginning of this clip with the end of the first. (press S key to release Snap To if necessary).
4. Select a transition from the Library and drag it between the clips. Video on track 2 will jump down to track 3. The transition fits the overlap.
5. Release the mouse to apply the transition. When selected, its **I** and **O** sources can be seen.

Place Effects

As with transitions, you can place a video effect by selecting a video source on the timeline and right-clicking the effect in the Library or using a "drag and drop" method to place the effect.

Source Transitions and Effects

When you place a video effect or transition on the Composition window timeline you need to source it to a video or still image clip for it to work. (Exceptions are the Titles and Gradient effect which can be over video, background color, or black).

Source information appears on the effect or transition clip when you select it on the timeline.

- Transitions have input and output video sources, indicated by **I** and **O**.
- Single sourced effects have a source indicated by **S**.
- Dual sourced effects have numbered sources, indicated by **1** and **2**. (Dual source effects can easily be used as transitions.)
- To add a source, first select the effect or transition on the timeline, and click **S**, **1**, or **2** (for an effect), or **I** or **O** (for a transition). Then select the video clip you want as a new source.
- To remove a source, select the effect or transition on the timeline, and click the number or letter on the video clip that you want to remove as a source.
- To change or reverse video sources, select the effect or transition and click the Double Arrow button

You may apply multiple sources for effects or transitions. Effects can be stacked and sourced to other effects as well as video clips. You can provide multiple first and second sources for an effect, depending on the effect. You can also use the Video tab of the Item Info window for adjusting the sources of effects and transitions. Any effect or transition placed on the timeline without a source will have a default length set in the Drag and Drop Preferences dialog box.

Apply Transition Sources
Apply Effect Sources
To Change or Remove an Effect Source
Use Item Info Video to Source Effects and Transitions

Apply Transition Sources

When you place a transition on the timeline the video clip to the transition's left becomes the Input Source, the video clip to the right becomes the Output Source. You can change how clips are sourced to transitions without moving them, reverse a transition's sources, and add more than one input or output source to the transition.

To assign the input or output source for a transition:

1. Select the transition on the timeline.
2. Click its **I** or **O** button.
3. Select a video clip for Input or Output.

You can assign multiple video input and output sources for the transition in the same way.

Apply Effect Sources

When you select a video clip on the timeline, then right-click an effect in the Library, the effect sources to that clip. When you place an effect from the Library below a video clip on the Composition window timeline it also sources to that clip. For dual sourced effects the clip on the track immediately above the effect becomes source 2 and the clip above source 2 becomes source 1.

To source an effect:

1. Select the effect clip on the timeline.
2. If the effect is unsourced, click **S** (or **1** or **2**).
3. Click the clip you want as a source.

Note that when you move effects on the timeline the source remains the same until you actually change this.

To Change or Remove an Effect Source

To Change or Remove an Effect Source

1. Select the effect.
2. Click the **S** button on the effect.
3. Click the **S** on the clip you want to remove as a source.

Use Item Info Video for Sourcing Effects and Transitions

You can also apply effect and transition sources from the Video tab of the Item Info window. Select the effect or transition on the Composition window timeline and take one of the following steps:

- To set the input or Source 1, click **SET 1/I** at the top of in Item Info (Video).
- To set the output or Source 2, click **SET 2/O**.
- To reverse sources, click **SWAP**.

Adjust Transition and Effect Parameters

For most Speed Razor video effects and transitions you can specify the degree, positioning, timing, and other parameters of the effect.

Transitions and effects in Speed Razor share a standard dialog setup in the Video tab of the Item Info window when you apply or select the effect. The dialog setup contains adjustable parameters specific for each effect or transition.

Note that you do not have to click OK to apply effect changes made in the dialog setup. These automatically register.

As you work with effects, you can resize the Item Info window to full screen for more subtle adjustment. To rescale parameter graphs), drag up or down on the scale bar at the top or bottom of every parameter graph. Widening and tightening the Item Info window rescales the parameters accordingly.

Lock and Unlock Parameter Graphs

Adjust Effect Parameter Graphs and Nodes

Use the Node Bar to Adjust All Parameters

Use Bezier Curves

Adjust Effects Visually

Adjust Effects Numerically

Change Color and Alpha Channel

Customize Transitions and Effects

Apply Scale Changes to Video and Still Images

Lock and Unlock Parameter Graphs

You can adjust various parameters for each effect or transition, such as x and y positions, image sizes, color channels, degree of blends, and so on.

- Unlock to change graph over time

To adjust an effect parameter to change over time, click open its Lock button next to the graph.

- To adjust an effect parameter constantly over time, leave the Lock button locked.
- To lock an open parameter, click the parameter's opened Lock button. A message appears, stating this action will make all values equal to the first value of the graph. Click OK to apply the change.

Adjust Effect Parameter Graphs and Nodes

When a graph is unlocked you can control the speed, degree, and direction of change for the effect parameter—either with a series of node markers or by Bezier curves. You can often use an effect as a transition by changing its parameters over time.

You have several options for adjusting an unlocked graph:

- To move endpoints, click the graph's endpoints and drag up or down.
- To add nodes, press the CTRL key and click the line. A vertical line appears over the graphs, and the slider moves to that frame. Use the vertical line to align other nodes in properly timing the movement.
- To move a node, click it, hold and drag. As you adjust the node, the current value displays in its box. You can move a node up, down, left or right.
- To delete a node, press SHIFT while clicking the node.
- To make Bezier curves, press the ALT key and hold it while you click nodes in a parameter graph, and drag to the left or right.
- To move a set of nodes together, right-click the vertical bar in the graph. This moves nodes left or right (backward or forward in time) over the length of the effect and keeps the relationship of nodes intact.
- To scale, or " time-shift," node relationships as you move them, press SHIFT and right-click the vertical bar.

When you place nodes on the effect's parameters, markers appear in the node bar in the upper part of the dialog setup. As you slide the node in time, these move.

Use the Node Bar to Adjust All Parameters

Using the Node bar, you can adjust nodes in all open parameters at once. This is useful for synchronizing several moves in an effect.

- To create nodes at a single point on all unlocked graphs, click the node marker bar.
- To drag nodes at that point either forward or back in time, click and drag the marker.
- To drag existing nodes at that point without creating new ones, click and hold an existing marker.
- To move sets of nodes together, right-click the marker in the node bar. This moves nodes left or right (backward or forward in time) over the length of the effect and keeps the relationship of nodes intact.
- To scale, or "timeshift," node relationship across parameters as you move them, press SHIFT and right-click the marker in the node bar.

Use Bezier Curves

You can make effects and transitions adjust smoothly over time by applying Bezier curves in the parameter graphs. For example, you may want text to circle smoothly on screen. Bezier curves apply to Speed Razor video effects using the standard dialog box only. Note: Bezier curves in Speed Razor "cross" the same point only once.

1. Select the effect or transition to open its parameters in Item Info (Video).
2. Unlock the parameter you want to change by clicking open its Lock button.
3. Create nodes on the parameter by pressing CTRL and clicking the graph line.
4. Press ALT and hold it down, click on a node and drag left to create a Bezier curve to the node's left, drag right to create a curve to the node's right.

Adjust Effects Visually

You can adjust an effect visually on the Result Preview window using graphs. This is a useful visual tool for positioning effect and transition sources over time, such as light sources, text movement, and arrows.

When you click a parameter's Graph button in the effect setup in Item Info (Video), depending on the effect or transition, either a node or line with endpoints appears in the center of the Result Preview window. When adjusting Scale, Crop and other bounding outlines visually, you can ‘‘draw’’ the layer’s dimensions by resizing the box over the layer image in the Source window or Result windows.

1. Choose **View>Preview** and from the submenu choose Result.
2. Click the Graph button next to the parameter you want to change
3. Click, hold and drag the graph's dot. This repositions the specific parameter. For example, you can see the movement of a light source on the Emboss effect.
4. To apply changes over time, unlock a parameter by clicking open its Lock button, and adjust the graph.

Adjust Effects Numerically

Parameters are usually measured in one of the following ways: pixels for location, degrees for direction, or by percentage for relative values. Note that color and alpha parameters are measured on a scale of 0 - 100, to reflect the expanded support for 64-bit color depth files.

- When parameters measure pixels, enter a number for the exact pixel location on the image. 0 x and y is the center of the image. Examples include the Scale Image and Crop Image effects.
- When parameters measure percentage such as for color and transparency or alpha, (0 - 100) this number is relative. Examples include the Set Channel Values and Color Difference Keying effects.
- When parameters measure degrees (0 - 360 or 0-720) this applies to image or blur rotation. Examples include the Clock Wipe transition and 3D DVE effect.

Some effects use other scales. For example, Adjust Gamma applies an exponential scale (0 - 30) where the critical adjustment is near 1.

See Video Effects and Transitions Reference.

Change Color and Alpha Channel

If the effect requires color changes a color button appears next to related parameters. To adjust color you have several options:

- Adjust the parameter graph
- Enter a number for the color level
- Click the Color button. This opens the Color dialog box. Select a color by sight or enter its red, green, blue (RGB) or hue, saturation and luminosity (HSL) values.
- Click the Eye Dropper button. The pointer changes to an eye dropper when you move it over the Source 1 or 2 Preview windows. Click a color on the source image and the color parameters will adjust automatically.

It is important to note that color and grayscale levels are measured on a scale of 0 - 100. This percentage value relates to chroma level and luminance level between full opacity and full transparency, and its actual value is dependent on the color bit depth of your Video Output (Playback) device, set in the Editing Devices and Settings dialog box.

Customize Transitions and Effects

You can specify how transitions and effects will open (default settings), and create your own presets. For example, you may want to use the Dissolve transition with specific settings throughout a long project. Or you may have set up a particular 3D DVE turn to keep it for future use.

See:

Create New Default Settings

Reset Effect Defaults

Make a Preset

Create New Default Settings

When you change the settings of an effect or transition on the timeline you alter it for that instance only. When you change an effect or transition in the Library, you affect its default settings. Changing a transition or effect's default parameters is a quick way of setting up standard transitions and effects you often use.

- To change the default parameters of a transition or effect, double-click it in the Library to open it, and make changes in the dialog setup.

Set the default length for transitions when you right-click to place them between video sources by choosing **Preferences>Drag and Drop Preferences.** The original default is 30 frames. To adjust this type in a new number in the dialog box.

See: Set Drag and Drop Preferences

Reset Effect Defaults

You can reset a selected effect's default parameters at any time by clicking the RESET button in the Video tab of the Item Info window.

Make a Preset

It's easy to create presets for effects and transitions as a way of storing specific settings for future use. You can create as many presets for an effect as you want. The Preset box is located at the top of the dialog setup.

- To add a preset, adjust the effect or transition parameters as you want them. Click ADD at the top of the dialog box and name the preset.
- To delete a preset, click the Preset drop down arrow and select its name, then click DEL.

Apply Scale Changes to Video

When you want to set an image's frame size at variance from your project's frame size, adjust its scale parameters in the Video tab of the Item Info window. You can maintain the size of small and oversized images, work with any size image up to 4000 x 4000 pixels, and select whether the video source is fielded or non-fielded.

The scaling parameters for a selected image clip displayed in Item Info (Video) match those in the Scale Image effect. You can graphically select the area to scale by adjusting the box in the Source window. Select the Source is Fielded box if the image source is a video (fielded) for smoother scale adjustment. The first four parameters provide the imported file coordinates, while the second four provide the result dimensions.

You can adjust a parameter graph, enter numbers into the number fields for each corner point, or "draw" the layer's dimensions by resizing the box over the layer image in the Source window or Result windows.

When applying scale changes to image files, it is important to keep in mind that: To adjust scale for a single clip on the timeline, use its scaling parameters. To adjust scale for clips in a composite image it is recommended that you apply the Scale Image effect to clips.

Use the parameters in Item Info (Video) to adjust the scale of a selected image clip or drag the boxes in the Source and Result Preview windows.

- Drag the box in the Source Preview window box to adjust the scale and size of the original image as it will appear in its frame. This relates to the first four parameters in Item Info (Video).
- Drag the box in the Result Preview window box to adjust how the image will appear in the video frame. This relates to the last four parameters in Item Info (Video).

You can adjust total size, keeping aspect ratio, or adjust height and width separately:

- To keep the frame aspect ratio as you adjust the image size, simply click and drag any corner of the box.
- To adjust only the height or width of the image scale, press SHIFT as you drag the horizontal or vertical line of the box.
- To change the dimensions over time, click open the parameter Lock button.
- To move the box, click, hold and drag its center marker.

Select the Source is Fielded box if the image source is video (fielded) for smoother scale adjustment.

See also:
Scale Video on Import
Scale Video Effect

Video Effects and Transitions Reference

Brief overview information about each Speed Razor video effect and transition is provided.

New Effects and Transitions in Speed Razor 4.0

Transitions Plus Set
Gradient Designer
Grayscale
Image Filter Set
Add Noise

Color Tone and Alpha Channel Adjustment Effects

Scale and Other Position Adjustment Effects

2D DVE
3D DVE
Border
Crop Image
Motion Track
Point Tracking (1-4 Point)
Scale

Text and Highlighting Effects

Draw Arrow
Border
Lens Flare
Titles

Image Surface Texture and Quality Adjustment Effects

Blur
Color Difference Keying
Displace
Emboss
Garbage Matte
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Black and White

Create a unique crossfade transition using the grayscale values of a bitmap image (.bmp file). You can choose whether the crossfade draws first upon the darkest or lightest pixels of the input clip, and how feathered the edge of the fade will be. You can also adjust the blur of the edges of the transition. For example, a black and white image of zebra stripes can be used as a matte transition to combine an input video source clip with an output clip through the shape of the stripes.

Clock Wipe

Create a widening angle that sweeps in a 360 degree radius, similar to a radar screen. This reveals the output source clip "behind" the input clip. The angle can move clockwise or counter-clockwise, and can start in any location on the image. Both "hands" of the clock may be set to move as it gradually opens, and you can also adjust the blend from a crisp edge to a soft blend. When the center point is placed at the edge of the video image the Clock Wipe serves as a fanlike transition. Interactive tool shortcuts in the Preview window:

- To change the initial angle, drag the white line.
- To change the wipe percentage, drag the black line.
- To change the wipe blend, press the SHIFT key and drag either line.

To create a simple Clock transition:

1. Set Angle 2 to remain constant This determines the starting point of the clock.
2. Set Angle 1 to change over time from 0 to 360 for a full cycle.
    - ⇒ To start and end a clockwipe at noon set Angle 2 at 90 degrees, and Angle 1 from 0 to 360.
    - ⇒ To create a counterclockwise movement unlock the angle parameters so they decrease from 360 to 0 over time.
    - ⇒ To create a moving clock set both angles from 0 to 360 degrees over time. To create a full cycle moving clock (both hands moving) start angle 2 at zero.

Cross Fade

The Cross Fade transition is the most commonly used transition in video editing. The opacity of the input video clip fades out as the output video image fades in. You can adjust the percentage of the crossfade in its dialog box.

Cut to Field

Cut to Field shows every other field of the two video sources. This creates an interesting horizontal Venetian blind transition. Cut to Field has no dialog box.

Dissolve

Dissolve is a cross fade in which the input video source fades depending on its brightness (luminance levels). Dissolve performs a grainy, coarse cross fade, as though the input source image is being eroded by the output image. In the Dissolve dialog box you can adjust the Dissolve threshold level from a range of 0 - 100.

Iris

Iris simulates a camera iris opening. You can create a circular or oval area for the output video source, which can expand, contract, rotate, or remain constant over time. Thus, Iris can be used as an effect. The edge of the iris may be a soft blend or a hard edge, and you can adjust the position, radius and angle of its opening or closing. Interactive tool shortcuts in the Preview window:

- To move the center, drag the circle
- To change the radius length, drag the gray control points or press the SHIFT key and drag up or down
- To change the oval quality of the iris, drag the white control points
- To rotate the iris, press CTRL and drag any of the control points

Luminance Fade

Luminance Fade is a type of cross fade that uses the light and dark values of either the input or output video sources to make the transition. You have options for emphasizing the brightness or darkness of the cross fade. You may hold the lightest or darkest values of the input source until last, and determine whether the input or output video source luminance values will underscore the transition's light.

Pagecurl

Pagecurl curls the input video source toward the viewer, revealing the output image. You can adjust the angle, width, brightness, and position of the curl. Interactive tool shortcuts in the Preview window:

- To adjust the angle and percentage of the curl, click the graph on the Source preview window.
- To change the angle of the curl, click and drag near it
- To change the position of the curl, move the control point

Wipe

This common transition "wipes" the input video source with the output source. You can create a number of wipes by adjusting the wipe angle, x and y rotation centers, and blend. As with many other transitions and effects, you can adjust the movement of a wipe. To divide the screen in half between two sources, adjust the x or y values to create the splitscreen effect and set the parameters to remain constant over time. Interactive tool shortcuts in the Preview windows:

- To change the angle of the wipe, rotate the line by click and drag near it
- To move the center, drag the white control point.
- To adjust the blend, drag the gray control points.

See also:

Double Wipe

Transitions Plus

Double Wipe

Double wipe creates two wipes that mirror each other.

- To create barn doors, set the percentage of wipe over time, moving toward negative to close, positive to open.
- To create a spinning double wipe across the x axis, set the percent of wipe constant, and adjust Start X from negative to positive over time.
- To create a square iris transition , set the x and y axis.

Interactive tool shortcuts in the Preview windows:

- To change the wipe angle, rotate by click and drag between 2 lines
- To change the center, drag the white control point.
- To blend the wipe, drag gray control points.

Transitions Plus

Transitions Plus provides ready-made transitions to squash, squeeze, and square video, along with multi-directional slides, pushes, and wipes. These are stored in the transplus.tra file. When you load the file into the Library the full set of transitions appears.

Transitions

Push The input video source is "pushed" to the left, right, up or down by the output video source replacing it.

Picture Square In Picture Square, the input image shrinks into the center of a constant, full size output image. As the input image shrinks its original aspect ratio remains the same.

Use the ‘‘Crop Image’’ option in the dialog box to trim any unseemly black edging on your video clip.

Slide The input image slides off the screen and the output image takes its place. You can apply Crop Image and determine the background color for the interval between the input clip’s full exit and the output clip’s full arrival on screen.

Square The input image shrinks into the center of the screen and the output image emerges out of this. Set a background color, which can be seen while the input image shrinks and the output grows to full size on screen.

Squash The input image is squashed horizontally to the screen center and the output image emerges from this. Both images are scaled over the transition. As with other transitions, you have Crop Image and background color options.

Squeeze Similar to Squash but vertical, with Squeeze the input image is squeezed vertically to the screen center and the output image emerges from this. Both images are scaled over the transition. You have Crop Image and background color options.

Wipes (Multi-directional) The input image remains constant and the output image wipes over it in the direction indicated. There are four wipe transitions: bottom to top, top to bottom, left to right, right to left. You can apply a blend or hard edge to the wipe.

3D DVE

The 3D DVE effect treats the video source as a plane in space that you can resize and rotate on its x (horizontal), y (vertical) and z (depth) axes. 3D DVE is useful in spinning, flipping, and moving images off and onto the screen, and creating such effects as picture-in-picture, or kaleidoscopic video images. You can also use it in a number of ways as a transition. You will find some of these among the presets in the effect.

You can place an image within an image using 3D DVE and bend the inside, outside or both images. You can scale an image as you rotate it, and also source multiple effects to one clip. 3D DVE can also be used with titles, to tilt or fade them in perspective. 3D DVE interpolates and anti-aliases the image as it field renders, to avoid jags where edges meet. It is also useful for subtly correcting skewed images. Interactive tool shortcuts in the Preview windows:

- To move the center, click left mouse button inside the rectangle and drag.
- To rotate in x and y directions, click and drag control points.
- To rotate in the z axis, press CTRL and click inside the rectangle and drag.
- To adjust the image scale, press shift and click inside the rectangle and drag.

Add RGB

The Add RGB effect is useful for superimposing special effects (such as explosions, fire, lightning, etc.) over a background video source. Adjust how strongly the foreground image appears over the background. For example, you may want fireworks to appear behind a closeup of a figure in the foreground. When combining special effect layers with the Add RGB effect it is best to have footage of the special effect shot against black (source 2), and a background image (source 1).

Draw Arrow

You can position white arrows on a source video clip using the Draw Arrow effect. Position x and y coordinates, length, angle and thickness of the arrow line, and adjust these over time. The Draw Arrow effect may be combined with the Crop effect to highlight an area of a clip. You can apply one or more arrows to a clip.

- To apply an arrow to a clip place the Draw Arrow effect beneath the clip and in the dialog box, adjust the arrow size, position, and angle.
- To apply two or more arrows to a clip follow the same steps for applying a single arrow. Then, place a second Draw Arrow effect below the first and source it to the video clip.

Interactive tool shortcuts in the Preview window:

- To rotate the arrow, press CTRL as you drag.
- To move the arrow, click and drag the white control point.
- To change length, click and drag middle gray control point.
- To change width, click and drag gray side points of the arrow.

Black and White

The Black and White effect is used for turning a video source to a grayscale image. This effect has no parameters and is applied constantly for its duration.

Blur

The Blur effects soften the overall video image. There are three Blur effects:

- Use the Fast Blur for the fastest render time. The Fast Blur has been updated to emulate the Gaussian Blur. With Fast Blur you can set the vertical and horizontal aspects of the blur.
- Use the Circle Blur when applying a blur over time (i.e. to fade in or out of a scene).
- Use the Gaussian Blur when you want the highest quality blur. It has the longest render time.

Blurs can be used to create or enhance textured effects, blurred text or drop shadows. You can feather the edges of text to increase its sense of roundness. You can also create a blur transition, such as a simulated rack focus, by applying an opposite or mirror blur effect on an adjoining video clip.

Border

Use the Border effect to add borders to a video and still image source. Control the height, width, colors, and transparency of a border, and adjust the "bevel" or color difference between the two sides of a border.

Since borders can be adjusted over time, this effect may also serve as a transition by applying colored or transparent borders. Transparent borders, when alpha (alpha channel) is set to 0, can then be used to read other images and textures. Setting 0 nullifies RGB values, and creates a transparent border. Use the eyedropper to select a color for the border by clicking on the Source image in the Preview window.

Brightness

With the Brightness effect you can alter the brightness of a video source constantly or over time. When applied as a transition you can control the speed or consistency of the fade from or to black or white (such as an oscillating fade.) It is also useful for compensating over-exposed and under-exposed passages in your video. This effect is stored in coloradjustment.vfx

Color Correction

Use the Color Correction effect (formerly Fine Color Correction) to apply subtle color changes over aspects of an image by increasing or decreasing the balance of the three main color channels: Red - Cyan, Green - Magenta, Blue - Yellow.

Color Correction is a useful tool for adjusting color distortion when you have a continuous shot between natural and artificial light. Compensate for the difference in light temperature between the two light sources, and keep a natural sense of color throughout a scene. Color Correction is also useful for creating mood, or color ambiance in a scene. This effect is stored in coloradjustment.vfx.

- Red - Cyan: Positive values add red, negative values add cyan. -100 = Cyan, +100 = Red.
- Green - Magenta: -100 = Magenta, +100 = Green.
- Blue - Yellow: -100 = Yellow, +100 = Blue.
- Default for RGB channels is 0 (0 = original image).

Color Difference Keying (Chroma Keyer)

The Color Difference Keying effect is Speed Razor's chroma and luma keying tool. In Speed Razor you can key out chroma—or brightness—and color differernce aspects of video or still images by using the Color Difference Keying effect. With this effect, you have several options for selecting colors to key:

- Click on a suitable color area in the video source Preview window. This automatically adjusts the parameters to that color.
- Manually adjust the effect red, green, and blue parameters in Item Info (Video).
- Enter a percentage value for red, green, or blue.
- Click the Color button to select a specific color in the Color dialog box.

In the Color Difference Keying effect parameters, you can also select "threshold" and "blend" of the key. Threshold is the range of colors close to the selected color that are also keyed out. Blend softens the edges of the keyed image into the background. Alter the key color, threshold, and blend over time by unlocking the paramter graphs and then adjusting the parameters.

To create a color difference key:

1. Place a background video or still image source on track 1 (V1) of the Composition window timeline. (Click and drag the item from the Library to the timeline, or right-click it in the Library.)
2. Place the foreground video source on V2 directly below it.
3. Select the Color Difference Keying effect from the Library and place it on V3.
4. Select a color for keying by clicking on the source Preview image, or adjusting the red, green, or blue parameters.
5. Preview the composited image. If the Result image edges have a fringe from the screen color, increase the threshold value. Once you set the correct threshold, alter the blend to soften the edges of the keyed image.

Adjust Contrast and Brightness

With the Adjust Contrast and Brightness effect you can adjust both image contrast and brightness, as well as image midpoint. The image midpoint is the value from which brightness and contrast levels are measured. By moving the midpoint you have greater control in enhancing the image. This effect is stored in coloradjustment.vfx

Crop Image

Then Crop Image effect is like a resizable frame over the video image, which you can adjust to highlight specific areas. Adjust the crop area height and width, and move the cropping "frame" either with the Graph tool or by parameter graphs in its dialog box. By setting the Crop Image effect over two video sources and adjusting its parameters over time it can be used as a ‘‘barn door’’, ‘‘reveal,’’ or border transition.

Because the area cropped is black, which is transparent, a cropped image can be matted to a background color or image. When you adjust the size of the foreground image with the crop effect the background is revealed. x and y locations are measured in pixels, with Center X and Center Y being zero. You can use the graph on the image to set the crop "frame."

Displace

The Displace Wrap and Displace Repeat Edges exchange color pixels between two video source images to create a distorted result image. These effects are useful when combining a video clip with a grayscale .bmp file. You can also displace a still image over time to show distorted movement. The Displace effects present different calculations of the displaced video source.

- Displace Wrap Edges wraps the source 2 video around to the other side of the screen.
- Displace Repeat Edges repeats the source 2 video edges to fill any space created by the displacement.

As with other dual sourced effects, source 1 is the background image and source 2 video is the image being displaced. Pixel colors are then exchanged according to the type of displacement you want.

- Red in the source 1 image determines the amount a pixel is displaced in the vertical direction.
- Green in the source 1 image determines the horizontal displacement.
- Blue determines the highlights added to a pixel.

When combining a clip with a grayscale bitmap, the displacement reads the source clip's color and white and black (opaque and translucent) values. Both Displace effects share the same parameter options. You can use these to displace the video Source 2 horizontally and vertically, and adjust the highlight strength from the original image to a negative exposure. A lower highlight strength keeps a stronger contrast; while higher adds more white.

Emboss

Using the Emboss effect, you can "emboss" one image over another, or create raised text on an image. When you apply the Emboss effect, luminance (light and dark) values of the source 1 video are superimposed on source 2, creating the result image. The darkest part of the first source (its black pixels) become the "deepest" parts of the resulting embossed image. You can adjust the light position, light strength, ambient qualities, and bump height of an image.

Emboss is similar to the Glass Texture effect, except that as the "bump" quality increases in the Emboss effect it appears more as a solid surface (such as metal or stone) while with Glass Texture you create an effect of refracted light (as in glass or water).

Adjust the light source position by clicking the Light Source Y and X Position parameters Graph buttons. Click and drag the graph node on the Preview image. Unlock the parameters to change the light source over time. Adjusting the light source position is like moving a light bulb around the image at different angles and distances.

Light source X and Y positions are measured in pixels with zero being center. Elevation—also referred to as a Z coordinate—expresses how close the light source is. It is measure from 0 to 100, with 50 as the original elevation. Increasing the Light Source Strength adds white, weakening it adds black. The original image is 50. To create a closer light without glare, use ambient lighting. Bump Height is the difference between height and indentation.

Fade

Fade a clip to and from black and white. The effect's video source clip fades evenly over the time of the effect. For example, "fade from black" evenly fades a clip from black to its original color and brightness. There are no parameters; the fade is automatically applied.

Freeze Frame

Hold a video frame over the length of the effect. For example, to hold a frame for 10 seconds, drag the effect so it starts at the frame you want to hold and then stretch it for 10 seconds. The Freeze Frame effect has no parameters.

- To freeze a frame and maintain a still, stable quality for video output, apply the Repeat Even Field or Repeat Odd Field effect to Freeze Frame.

Another option for creating a freeze frame is to export a single video frame file to the Library using the video format specified in the Editing Devices and Settings dialog box (**Project>Editing Settings**) according to your capture hardware.

Adjust Gamma

Use the Adjust Gamma effect to match the brightness and quality of your computer VGA monitor with the external NTSC or PAL monitor. The computer monitor generally appears darker than the external monitor. You can adjust the gamma of a clip, thus brightening or darkening the source image. While this creates results similar in appearance to brightness or contrast adjustments, Adjust Gamma changes the manner in which tonal and color value is scaled.

Gamma is similar to luminance adjustment except that it is based on a non-linear scale. A VGA monitor uses a linear scale, whereas the NTSC monitor uses a curved, exponential (1-30) scale. The critical adjustment in the Adjust Gamma effect is at the 1 value. Settings above 1 will darken the source image. Settings below 1 will brighten it. The estimated value for gamma is .75. You may have to adjust this according to your system.

Glass Texture

Use the Glass Texture effect to superimpose one image over another to create the look of light refracted through glass. Adjust light position, strength, and quality, and the bump height on the image. Like the Emboss effect, Glass Texture lets you create unusual titles.

Glass Texture uses the luminance values of first source image to appear as glass on the second source image. Source 2 is the image ‘covered’ by the glass texture. The brightest part of the image (the white pixels) correspond to high areas of the glass image; the black pixels correspond to the lowest. For best results soften the source 1 image (applying Blur to it). Glass Texture also works well with grayscale bitmap images. Glass Texture and Emboss share the same parameters.

See also Emboss.

Glow and Glow Alpha Channel

Simulate or enhance a neon effect to video by feathering all edges (where two colors meet) within an image.

- Use Glow with an object or figure against a single color background, where the edges are clear, such as with a color keyed image.
- Use Glow Alpha Channel for creating neon text.

In the Glow paramters you can choose color channels, the thickness of the glow, and saturation. Thickness is the width of glow feathering. Since this involves rendering, a wider thickness takes longer to render. Saturation is the glow color. A lower number means a sharper drop off, higher more smooth. Note that Glow and Glow Alpha Channel are slow rendering effects. A higher thickness to the glow slows the rendering time.

Gradient Designer

Use the Gradient Designer effect to blend colors, ranging from a delicate grade of color over a video image, to unexpected background patterns, shapes and blends. A gradient can be used on its own as a background color effect, or with video either as an effect or transition. As with other Speed Razor effects, you can change the opacity over time so gradients fade in or out. If the gradient remains constant over time, it is rendered as one frame only. You may also want to apply a graded tint to areas of an image (a smoggy sky, for example, or a colored lens flare).

Gradient Designer blending and shape options include linear, rectangular, elliptic, cone and diamond forms. Adjust these shapes to repeat, wrap, and invert forms, and change these over time to ‘‘animate’’ a blend. For example, applying Ellipse and Wrap Around Color in the Gradient Designer parameters produces a mixed, hard edge and feathered gradient.

You can also use gradients for colored crossfades, fades and wipe transitions. In addition, the Gradient Designer effect provides a range of shape and effect options. The shape settings (Line, Eillipse, and so on) can be adjusted by applying an Alternative Shape effect to them, and further modified by the Selected Color Boundary, Wrap Around Color and Wrap Back effects.

You can move two points in any gradient. These represent the two gradient colors and shapes. For most shapes point 0 provides the shape center; and point 1 lets you guide its dimensions. For example, ellipses can be vertical, horizontal, or more circular depending on how you move point 1.

- To shrink a gradient shape, move point 1 toward point 0.
- To enlarge a gradient shape, move point 1 away from point 0.

When working in Line mode, points 0 and 1 indicate line areas. In this mode you can move the points over time to create colored wipes and crossfades over video images. When applying gradients, you can adjust how color and video are revealed:

- Use the opacitiy paramteters in the Gradient Designer dialog to adjust points 1 and 2.
- Use the Video Opacity Graphs to adjust the effect’s opacity level on the Composition window timeline.
- Use the Video Opacity Graphs to adjust the video source opacity levels on the Composition window timeline.

Grayscale

Use the Grayscale effect to convert color video to grayscale according to specific broadcast standards and also for high quality mattes and television output. The broadcast standards (Rec. 601, SMPTE 240M, and Rec. 709) let you develop grayscales for television output. Which standard you'll use depends in part on compatibility with your video capture hardware. Most current capture hardware is compatible with Rec. 601. The broadcast standards are also useful when creating grayscale mattes that correspond exactly to television specifications helpful in high quality alpha channel compositing.

Linear Average and Maximum provide interesting, non-broadcast standard, grayscale effects. These are useful when you are more concerned with the grayscale's look than how it will meet specific broadcast standards, for example, when creating video for playback over the Internet or on CD ROM.

Image Filter Set

Use the Image Filter Set to adjust image sharpness and edges, as well as its brightness, contrast and color. Because these tools are within one effect, you can manipulate images without the added editing and rendering time involved in using multiple effects. Each image filter parameter works as a mathematical “lens” through which the result image is affected. You have options for displacing an image's pixel values spatially—moving pixels left, right, up and down to affect the image's sharpness and edges. You can alter colors and tonal values by changing saturation, brightness, contrast and tint. The Image Filter Set also provides a Difference Mask tool useful in alpha channel compositing.

By combining Brightness and Contrast adjustments with color parameters, you can subtly reshape an image, both through individual color changes and overall color scheme. This is particularly useful for footage that, for example, has an unwanted color cast and is underexposed, or for softening sudden light shifts such as a move between interior and exterior lighting sources, or sun glare and shadows.

When working with a great deal of footage that has a consistent color problem, you can establish a corrective preset that will give a unified improvement to the image quality. Increase or decrease the intensity of colors in an image by adjusting its saturation level. 0 saturation is a grayscale image, 200 provides full purity. This is most noticeable when colors in the original image are already saturated (such as a flag or bright shirt).

To dramatically change or reverse the color scheme of an image, adjust **Hue Rotation**. This moves an image’s colors according to the RGB color spectrum, which contains red, magenta, blue, cyan, green, and yellow, and can be represented as a six point star. At 90 degrees Hue Rotation, red in an image shifts to blue, blue to green, and green to red. Yellow moves to magenta, magenta to cyan and cyan to yellow. At -90 degrees these reverse directions: red shifts to green, green to blue, and so on.

Tint Hue and **Tint Saturation** apply a blanket of color over the entire image. For example, you may need to first apply a general corrective tone to footage before adjusting individual colors (Hue Rotation and Adjust Saturation) within that scheme. Use Tint Hue to set the tint color using the RGB spectrum with a 360 degree cycle. 0 is red, 60 yellow, 120 green, 180 cyan, 240 blue, 300 magenta, and 360 back to red. Combine this with Tint Saturation to set the intensity of the tinted color.

Difference Mask Difference Mask subtracts the result image from the source, creating a black (transparent) image with white edges. If an image with Difference Mask is applied over a video clip, any black area will allow the background video to show through.

Invert

Use the Invert effect to reverse an image's red, green, blue, and alpha channels independently. The inversion is complete and constant over the course of the effect.

- Select Red Channel to replace red in the image with cyan.
- Select Green Channel to replace green with magenta
- Select Blue Channel to replace blue with yellow.
- Select Red, Green and Blue together to create a negative image
- Select Alpha Channel to invert the levels of transparency and opacity in the image. Each color has an opacity level.

Lens Flare

Lens Flare simulates the look of sunlight or other light glare. Prismatic flare colors are produced as in a typical lens. You can make video appear to be shot into sunlight, and adjust flares over time. Three different camera types are simulated: a 30 to 550 mm zoom lens, a 35 mm Prime camera, and a 105 mm Prime camera. You can adjust the flare center, brightness of the flare, and the ray rotation. Brightening the flare increases size of sun, lengthens rays, and brightens the flare.

Looping

Repeat a given number of frames for the effect's duration. Repeated frames are taken from the beginning of the effect, and are repeated throughout. You can repeat as many frames as the size of your clip will allow. For example, to repeat 5 frames in the middle of a video clip, place the Looping effect on the timeline beneath the first frame you wish to repeat and adjust its length. Keep in mind that the Loop effect supersedes anything above it on the timeline.

You can apply a loop within a clip, or you can extend a loop beyond the duration of the clip. Or set the number of loops to repeat a background clip. You can loop messages using the Loop effect with the Titles effect.

Matte

For information about using the Matte effect, see "Composite Images," in Chapter 8, "Add Video Effects."

See: Garbage Matte

Add Noise

Use the Add Noise effect to apply red, blue, and green pixels to an image in a random way. Applying noise over an image enhances a degraded television screen effect and is useful in creating other unusual textures, such as backgrounds for titles. You can vary the colors by adjusting the parameters or clicking the cursor over the source 1 image in the dialog. For each frame of the effect the random arrangement of noise is redrawn, so it moves over time. You can also adjust the color variation over time.

Pixelate

Use the Pixelate effect to alter a clip's pixelation. Choose pixel size from 1 to 1000.

Motion Tracking

Use the Motion Tracking effect to composite figures or irregularly shaped objects as they move on the video screen. For example, you may have an animated hat that moves with a figure as he or she walks through a scene. Find a high contrast spot where the object will be placed, and set this as the tracking spot. This spot is then tracked over the course of the effect.

Point Tracking

An advanced form of motion tracking, the Multi-Point Tracking effect lets you place an image over your background video and track all four corners of its movement over time on x, y, and z axes. For example, you can track a logo on the side of a truck or other moving object as it passes across a screen. Another use could be to place a video image in a television or other picture-in-picture field that can move within a shot. The Multi-Point Tracking effect includes one, two, three, and four point tracking tools.

Raindrop

Use the Raindrop effect to create waves that emanate from a center point. Adjust the x and y coordinates of a center raindrop point, in addition to the wave height, wave length or frequency, ripple phase or movement, and angle. The eccentricity of a raindrop is its oval quality; increasing eccentricity makes circular waves more elliptical.

The Raindrop effect is similar to the Ripple Image effect, which makes linear waves. Like Ripple, Raindrop can be combined with Blur and Fade effects to create an unusual transition. Setting the Raindrop Phase parameter in a negative direction causes the waves to move inward; setting it in positive moves waves outward from the center. In other dialog box options, amplitude is the apparent wave height, how tall or deep the wave appears. If you increase wavelength the wave frequency decreases. Move the Ripple Phase over time to shift ripples, not image, and change the direction of the ripple flow. Eccentricity is the degree of ellipse. Lower is more circular; higher more elliptical.

Repeat Field

Use the Repeat Field effects to repeat an odd field into an even field or vice versa. When you change a video clip's speed or freeze a frame on the Composition window timeline, to avoid jagged edges in the image, apply either the Repeat Even Field or Repeat Odd Field effects. There are no parameters for the Repeat Field effects. Both effects are stored in repeat.vfx.

Reverse Frame

You can run a clip backwards with the Reverse Frame effect. The last frame of the source video plays first, and then the reverse order of frames plays for the length of the effect. This effect is stored in Freeze.vfx.

Ripple Image

Use the Ripple Image effect to create linear waves across an image. Adjust the wave height, wave length or frequency, ripple phase or movement, and angle. Ripples can be combined with Blur and Fade effects to create an unusual transition.

Setting the Raindrop Phase parameter in a negative direction causes the waves to move inward; setting it in positive moves waves outward from the center. For other dialog options see "Raindrop" earlier in this section.

Scale Video

The Scale Image effect has a wide range of uses. You can use it to enlarge, reduce, or maintain the frame size of a clip that differs from the frame size set in your editing settings. Also use Scale to distort a clip vertically and horizontally. Use Scale as a transition to squeeze a clip off the side of the screen, squash a clip from above or below, have a clip shrink away revealing the output clip or have the output clip emerge out of the input clip.

Graphically select the area to scale by adjusting the bounding rectangle in the Source window. Then set how you want it zoomed in the Preview window. When you scale a clip the black area in the Preview window represents the background. Since black's RGB color values are 0,0,0, it is transparent. All measures are in pixel location. You can also set "Source is Fielded" checkbox for imported sources that are fielded. Interactive tool shortcuts in the Preview windows:

- To move the center of the image, click inside the rectangle and drag.
- To adjust size and maintain the aspect ratio, press SHIFT and click inside the rectangle and drag.
- To adjust height and width, press CTRL and click inside the rectangle and drag.

See also:

Apply Scale Changes to Video

Scale Video on Import

Set Channel Values

Use the Set Channel Values effect to alter the red, green, blue and alpha channel values of a video clip. You can make subtle adjustments of image color and transparency or opacity of the color and apply these over time. This effect is often used with text, for nullifying the alpha channel. To do this, set the alpha channel to full opacity without changing the red, green, or blue channels. Similarly, you can set all the channels and get a solid color. It is also used to emboss text through a video clip.

- To create a red tinged image set R=100, G=0, and B=0. Take similar steps for yellow and blue tinged clips.

Strobing

Often used for stereoscopic effects, the Strobing effect lets you alternate video input between 2 sources. Alternate the number of frames specified from source 1 with the number from source 2 over the duration of the effect. You can choose as many frames as contained in each clip.

Adjust Tint

Use the Adjust Tint effect to alter the red, green and blue tints and tint strength of an image over time. You can adjust colors by clicking on the Color button at the top of the box or using the eyedropper over the Source 1 image. In the dialog box, a color strength of 100 is completely opaque, 0 is the original image and completely translucent. This effect is stored in coloradjustment.vfx

Titles

Using the Titles effect, you can make anti-aliased text of any color that moves, scales, and changes in size over time. You can also make drop shadows, and burn-in text with Titles.

See:

Create Titles

Move Text Over Time

Set Burned in Timecode

Create Titles Using the Speed Razor Titler

Using the Speed Razor Titles effect, you can make anti-aliased text that may change size, direction, and color over time. You can also add drop shadows with adjustable offset, blur, and transparency. As mentioned above, the Speed Razor Titler is particularly useful for creating text fill, burn-in timecode, and special text movement. When you combine Titles with other effects, text can be made to appear softened, neonlike, shiny, transparent, textured, rounded, and even scaled on a three dimensional angle.

? Place titles on the video image using graphs n the Preview windows.

You may establish Titles presets for a project by selecting the Titles item in the Library and making parameter changes, and then saving this as a preset. When placing the Titles (titles.vfx) effect on the Composition window timeline you may apply it to video or over a background color.

- To create text over video, source the Titles effect to the video clip above it on the Composition window timeline.
- To create text over a background color or black, place the Titles effect on the timeline by itself. Choose **Project>Set Background Color** and set a color or leave the default, which is black.

The Titles parameter setup in Item Info (Video) provides options for entering text, setting font, style and alignment. Note that when creating text in the text box, to get to the next line, press the CTRL+ENTER keys.

The first two parameters in the Titles dialog setup—Center X and Center Y—correspond to the node that appears on the Source and Result Preview windows. To move the center of text either drag the node, adjust the parameter graph, or enter a value. As with other effects, you can preview the source video and effect separately and in its final version.

Using the drop shadows feature, you can make text stand off the video image. Darken or lighten text shadow, determine how soft or hard edged it is, and set the shadow angle and distance from text as you wish. Add a drop shadow by adjusting the X and Y drop shadow coordinates, and change transparency and blur.

You may also change the color of text by clicking any of the color buttons beside the Red, Green, or Blue parameters . Use Center in Text X and Y to adjust how text will move onto and off the video screen when moving text over time. Interactive tool shortcuts in the Preview windows:

- To move the center of text, click and drag on title
- To change text size, click and drag the white control points
- To move the offset text shadow, click and drag the gray control point

To create a title over video:

1. Place a video clip on the Composition window timeline.
2. Place the Titles effect on the timeline below the video clip. Its parameter setup opens in Item Info (Video).
3. Type the text you want in the Text box. (When typing text, to move to the next line, press CTRL+ENTER.)
4. Click the **A** button next to the Text box to select the font and style. Then select the text alignment by clicking the Left, Center, or Right alignment button.
5. Set text size by adjusting the Size parameter graph. To change text size over time click open its Lock button.
6. Position text in the video frame either by dragging the node in the Source Preview window or by adjusting the Center X and Center Y parameters.
7. Add drop shadows if you want by adjustings the Drop Shadow X and Y offset, blur, and transparency parameters. Adjust Center in Text X and Y coordinates if you are making text scroll or crawl onto or off the screen.

8. As you adjust text, Preview it by scrubbing the Item Info (Video) slider or the pointer on the timeline.

Move Text Over Time

Change text attributes such as size, location, color, drop shadow, drop shadow blur over time by unlocking these parameters in the Titles parameter setup in Item Info (Video). To move text over time, unlock Center X and/or Y parameters. Coordinate values range from -50 to +50 and represent relative distance from the image center point (0, 0). Adjust the left side or the parameter to determine the starting value, the right side to determine the ending value.

See:

Create Titles

Set Burned in Timecode

- Coordinate values range from -50 to +50
- Y position at start of effect
- Pointer position

Click open to change text over time

Set Burned In Timecode

Use the Speed Razor Titles effect to "burn in" date, time, frame number and SMPTE timecode on video by entering a codes into the text box. These codes are listed in the lefthand table .

Code	Burn-in
&F	Frame number
&S	SMPTE timecode
&T	Time
&D	Date

When entering the code, type it exactly as it appears in the table, capitalized and without a space. You may include the ampersand sign (&) and quotation marks (" ") in on-screen titles. However if the letters F, S, T, D, directly follow the ampersand (without a space) in the title, add a second ampersand in the text box. For example, to create the title "Honey&Tea" in the text box type, "Honey&&Tea".

See:

Create Titles

Move Text Over Time

Transparency

Adjust the transparency of a source video clip, effect, or transition. You can use this effect to fade in a clip from black, or any background color you choose. It is a quick alternative to using Video Opacity graphs.

Trobing

Create a syncopated, “stutter,” or mechanical movement. Trobing holds and plays frames at intervals set in the dialog box. For example, you can play every fourth frame for four frames, or every fifth frame for five frames, and so on.

Turn Red, Green, Blue

Use the Turn Red, Turn Green and Turn Blue effect to quickly change an image's tone to red, green or blue. Like the Black and White effect, these effects have no parameters, and the change is applied constantly. To apply subtle adjustments of color, either constant or over time, use the Set Values or Adjust Tint effects.

Twirl Image

Use the Twirl Image effect to twirl one video clip over another. It is useful for melting and psychedelic effects. You can use Twirl as a transition by twisting into or out of an image. The position, strength, radius, contraction and phase of a twirl can be set. Strength is the amount of twirl applied. Positive numbers denote a counterclockwise twirl, negative numbers denote a clockwise twirl. A positive radius indicates the distance from the center where twisting drops off. A negative radius indicates the distance from the center where twisting begins. For Contraction, a negative number indicates the corners of a centered twirl should be fixed in place. A positive number results in the center being fixed. Twirl Phase rotates the entire image. Interactive tool shortcuts in the Preview windows:

- To adjust the strength of the twirl, press CTRL as you drag.
- To change the twirl center, click and drag inside the rectangle.
- To change the twirl strength, press CTRL and click and drag on the twirl control point. To enlarge strength , move clock wise.
- To change the twirl radius, click and drag on the twirl control point.
- To change the twirl phase, press ctrl and click and drag inside the rectangle.
- To change the image scale, press SHIFT and click and drag inside the rectangle.

Play and Preview Video, Audio, and Effects

In Speed Razor you have a wide range of options for playing back and previewing video and audio in your project.

Speed Razor 4.5 introduces realtime software playback to your computer screen Preview windows for video effects overlays. Preview windows have other roles as well. Use these for video trimming, and viewing video effects layers, and editing effects and transitions graphically. You can play back straight cut video and still image files, and mix all audio in realtime. You can also scrub, shuttle and jog through video and audio in your project.

In Speed Razor 4.5 RT you can play back hardware developed effects without waiting for render. And Speed Razor provides dramatically enhanced render time for effects and transitions, along with instant single frame render.

Realtime Video and Audio Playback

The following are realtime playback options in Speed Razor:

- Realtime Offline Editing: Speed Razor 4.5 introduces realtime software playback to your computer screen Preview windows for video effects overlays. Use any version of Speed Razor 4.5 to edit video effects in software realtime. You may also use Speed Razor software realtime to play back still image file sequences such as those in .bmp, .cin, .dpx, .jpg, .raw, and .sgi formats.
- Realtime Online Editing (Speed Razor RT): Play video or audio with specified hardware developed transitions and effects for video according to your capture hardware.
- Play straight cuts and all audio on the timeline: When outputting to an external video monitor, you can use any Speed Razor 4.5 version to play back video straight cuts and all audio on the timeline and from the Library.
- Play video or audio items or groups from the Library.
- Play video or audio using Item Info (Trim)
- Play audio using Item Info (Audio)
- Loop playback for selections
- Play background colors or black without render.

Playback on the Timeline

You can play video and audio clips, groups, selected areas, and tracks on the Composition window timeline. For audio, you can also play individual channels.

- To play a selected clip or group, double-click it.

You can opt to not play certain clips, or tracks. To do this, make your selection and:

- To turn off video, in Item Info (Video) clear the VIDEO ON box.
- To turn off audio, in Item Info (Audio) select the LEFT MUTE, or RIGHT MUTE box.

Select and play areas with mouse operations, menu commands, or keyboard shortcuts. Once an area is selected you can play it by pressing ALT+SPACEBAR.

- To select an area of any length to play, click on the Preview bar just above the Composition window timeline, and drag to highlight the area for play.
- To set or modify selection areas to specific frame or timecode position and length, right-click on the Preview bar just above the Composition window timeline. This option is useful for accurately selecting areas for playback.

You can play any group or selected area of straight cut video in the Library or on the timeline, but groups can't be trimmed together.

- To play a group of trimmed clips on the timeline, select the group, and click PLAY in Item Info (Trim).

Playback	**Shortcut Key**
From pointer to end of the timeline	SPACEBAR
Current selection	ALT+ SPACEBAR
Entire project	CTRL+SPACEBAR
Area surrounding position (one second default)	ENTER
Area Surrounding In point (before and after In point)	COMMA
Area Surrounding Out point (before and after Out point)	PERIOD
Area In to Out point of the selected clip	SLASH

-

Playback in the Library

Play individual video or audio items in the Library either in full or trimmed versions using the Trim tab of the Item Info window. For audio items, you can also play and mix audio in the Library using Item Info (Audio). Play a selection of video or audio clips in straight cut sequence in the Library by first arranging them, and then selecting the group. When one item is selected in the Library:

- Double-click the item to play it in full.
- Click PLAY in Item Info (Trim) to play the item from its MARK IN point (if it has been trimmed)
- Click Preview in Item Info (Trim) to play the item from MARK IN to MARK OUT.
- Click PLAY in Item Info (Audio) to play and mix an audio item.

When a sequence is selected:

- Click PLAY in Item Info (Trim) to play the sequence as trimmed straight cuts.
- Click PLAY in Item Info (Audio) to play and mix an audio group.

Playback is determined by the items' position in the Library (from left to right) and not the order of selection. Play a group of items in the Library as a sequence of straight cuts by selecting the group and clicking PLAY in Item Info (Trim).

Playback Using Item Info Trim

While trimming clips, use the Trim tab of the Item Info window to play areas around clips, end points, and groups of audio or video on the timeline or in the Library. The blue area on the Item Info (Trim) slider indicates the active area of a clip or group. White indicates a trimmed area.

- To play the trimmed selection of a clip, click VIEW LEN in Item Info (Trim).
- To play a clip in its entirety, click Preview in Item Info (Trim).
- To play a clip from its mark In point, click PLAY in Item Info (Trim).
- To play the areas surrounding In and Out points, click VIEW IN and VIEW OUT in Item Info (Trim).

Playback Audio Using Item Info Audio

Play audio clips on the timeline whether they are straight cuts on a single track, or overlaid simultaneously over a number of tracks. Note: When overlaying audio on multiple tracks, because audio volume levels accumulate you will need to lower volume levels to prevent audio volume oversaturation. You can select individual channels for playback.

- To play a single audio clip, click PLAY in Item Info (Audio) or double-click the item. This plays the entire clip back, whether it has been trimmed or not.
- To play multiple audio clips—which have been trimmed—on the timeline or in the Library, select the group and click PLAY in Item Info (Audio). The clips playing back as trimmed from left to right.
- To play a group of clips on the timeline using Item Info (Audio), set the timeline point at the start of the group (or where you want to play from). Then click Play.

While a clip or group plays, you can adjust the volume or speaker pan on selected channels.

Loop Playback

You can loop playback for audio and video. This is useful for adjusting audio while the video is playing back. Choose **Play>Loop Playback** to activate this.

Select and Play Areas on the Timeline

You can play video and audio clips, groups, selected areas, and tracks on the Composition window timeline. For audio, you can also play individual channels.

- To play a selected clip or group, double-click it.

You can opt to not play certain clips, or tracks. To do this, make your selection and:

- To turn off video, in Item Info (Video) clear the VIDEO ON box.
- To turn off audio, in Item Info (Audio) select the LEFT MUTE, or RIGHT MUTE box.

Select and play areas with mouse operations, menu commands, or keyboard shortcuts. Once an area is selected you can play it by pressing ALT+SPACEBAR.

- To select an area of any length to play, click on the Preview bar just above the Composition window timeline, and drag to highlight the area for play.
- To set or modify selection areas to specific frame or timecode position and length, right-click on the Preview bar just above the Composition window timeline. This option is useful for accurately selecting areas for playback.

You can play any group or selected area of straight cut video in the Library or on the timeline, but groups can't be trimmed together.

- To play a group of trimmed clips on the timeline, select the group, and click PLAY in Item Info (Trim).

Playback	**Shortcut Key**
From pointer to end of the timeline	SPACEBAR
Current selection	ALT+ SPACEBAR
Entire project	CTRL+SPACEBAR
Area surrounding position (one second default)	ENTER
Area Surrounding In point (before and after In point)	COMMA
Area Surrounding Out point (before and after Out point)	PERIOD
Area In to Out point of the selected clip	SLASH

Preview Effects and Video

In Speed Razor you can preview video, effects, with great flexibility using up to four Preview windows on the computer's VGA screen and external monitor.

When you have an external NTSC or PAL video monitor set up with your system, if an area is not yet rendered the external monitor with display a message when you attempt to play it. You can, however, scrub and preview the area.

See:

Set Scrub and Preview Preferences

Preview a Single Frame of a Video Effect

Preview Video Effects by Scrubbing

Preview Window

Use Multiple Preview Windows

Shuttle and Jog Video and Audio

Render Effects Before Playback and Output

Use Multiple Preview Windows

Use Speed Razor's multiple Preview windows to play back video, to view transition and effect source and result images, and to scrub video trim In and Out points as you preview on the computer screen and/or video monitor. When trimming two adjoining clips at the same time, view the Out point of the first, and the In point of the second.

To open a Preview window choose **View>Preview** and select the type you want from the submenu. By default all Preview windows open, though you can close and open those you need.

You have four Preview options on your computer screen:

- Source 1: Source ! of an effect or the Input Source of a transition. (Trim In for video item).
- Source 2: Source 2 of an effect or the Output Source of a transition. (Trim Out for video item).
- Result: Preview the combined image with sources and effect.
- Playback: Scrub preview video and effect areas.

To open the window menu, click the window name or icon in the upper left of the window. Each Preview window shares the same menu options. Open the Preview menu by right-clicking the upper left corner of the window In the menu you can set image scale to match the window, and you have several zoom options with some associated shortcut keys:

- Right-click on an image to zoom at actual image size. Right-click and drag to move the image.
- To zoom into the image press ALT and right-click or drag the mouse up.
- To zoom out of the image press SHIFT and right-click or drag the mouse down.

Resize the Preview windows on the computer screen to suit your working needs.

- To expand and contract a window without changing the image view size, drag the window edges.
- To keep the window aspect ratio as you resize it, without changing the image view size, hold the SHIFT key and left click while dragging a corner.
- To pan when the image is larger than the window, right-click and drag the image.
- To view the window at 1:1 (according to your editing settings frame size), press the SHIFT key and right-click. Press SHIFT and right-click again to return to your previous view.

See:

Preview

Preview Options

Preview a Single Frame of a Video Effect

When outputting to an external monitor, you can quickly view an unrendered video effect overlay by using a keyboard shortcut.

- To preview an effect frame, press CTRL and click at the timeline frame you want to preview. To scrub preview the effect on the external monitor, hold CTRL as you scrub.

Preview Still Image Files and Sequences

You can play back in software realtime or scrub and preview still image files and sequences in their native format on the computer screen. You may use Speed Razor software realtime to play back still image file sequences such as those in .bmp, .cin, .dpx, .jpg, .raw, and .sgi formats. For details on setting up software realtime playback, see: Editing Settings.

To scrub preview still image files:

1. Choose Project>Editing Settings.
2. In the Editing Devices and Settings dialog box, in Video Playback, select Computer Screen. Then click its Setup button and set the image preview size.
3. In Video File Format select the still image file type and size. Set the size to match that in Computer Screen.

Preview Video and Effects By Scrubbing

You can scrub video and audio on the Composition window timeline or in the Library.

- Preview effects and transitions on the timeline.
- Find exact frames for trimming, and synching audio and video.
- Scrub audio, video, or both backward and forward on the timeline.
- Shuttle audio and video at various speeds.

To scrub, drag the pointer on the Preview bar over a clip or clips on the Composition window timeline to preview exact video frames (or sound instances) while editing, trimming, and synching audio and video clips.

You can change Scrub mode from Audio only, to Video only, or both. Click the **Scrub** button to change modes. You can set the Scrub button on the Composition window by choosing **Preferences>Toolbar Preferences** and making your selection.

- **Scrub A (Audio)** Scrub audio for all audio layers at once.
- **Scrub V (Video)** Scrub video. If the video track includes an effect or transition, Speed Razor Mach 4.0 will render any frame dragged over.
- **Scrub A/V** Scrub both audio and video.

To set preview as you scrub, either on the computer screen, or on the external video monitor, choose **Preferences>Scrub and Preview Preferences**. For more information on these preferences see "Set Scrub and Preview Preferences," earlier in this chapter.

Note: If a scrub mode doesn't appear, it may mean you haven't turned on that aspect of the project. Choose **Project>Editing Settings** and in the Editing Devices and Settings dialog box, select the Audio or Video box.

See:

Scrub Video, Audio, and Effects on the Timeline

Scrub Using Item Info

Scrub Video or Audio in the Library

See also:

Trim Video and Audio.

Scrub Video, Audio, and Effects on the Timeline

You can scrub preview a video effect (or straightcut video or audio) on the Composition window timeline easily on your computer screen. A low resolution result image appears in the Playback Preview window.

- To scrub video or effect areas from the timeline, click on the timecode bar at the top of the timeline, and drag.

As you pause in dragging, the Preview window displays that frame. Stop on a frame for a few seconds to see it at higher resolution. Press CTRL to see it on the external monitor.

Scrub Using Item Info

When you select an effect on the timeline and open the Video tab of the Item Info window, you can preview it using the frame slider. A low resolution result image appears in the Playback Preview window on your computer screen.

Enter a frame number or drag the slider and the pointer moves to that location within the effect. When you move the slider in Item Info (Video) the timeline pointer adjusts with it.

Scrub Video or Audio in the Library

You can scrub video and audio in the Library by using the Trim or Audio tabs of the Item Info window and dragging the slider. You can scrub effect source and result views from the Video tab of the Item Info window by dragging the slider. When you scrub from the Item Info window, the pointer on the Composition window adjusts with the scrub.

Shuttle and Jog Video and Audio

Shuttle video and audio clips at various speeds to determine a frame accurate position for cutting or other editing actions. The Shuttle bar provides options for viewing frames at speeds from 1/8x to 8x in forward or reverse, and you can easily shift from between these speeds.

- To activate the Shuttle Bar, choose **Preferences>Toolbar Preferences** and selected the shuttle bar elements.

Jog and shuttle video in "sticky" or "non-sticky" mode with the timeline Shuttle bar. Preview a selection forward or backward by clicking the Shuttle bar arrows or the slider button, or using shortcut keys.

- To jog the view forward one frame, press RIGHT ARROW.
- To jog the view backward one frame, press LEFT ARROW.
- To adjust shuttle speed between 1/8x and 8x forward, press UP ARROW.
- To adjust shuttle speed between 1/8x and 8x backward, press DOWN ARROW.

The numbers above the Shuttle slider mark the pointer's timecode location in SMPTE or Frame. These shortcuts correspond to **Edit>Goto** menu features. The numbers above the Shuttle mark the pointer's timecode location in SMPTE or Frame.

Render Effects Before Playback

Areas in a video project where you have applied software video transitions and effects must first be processed by the computer before playback. This is called "rendering" or "building." After rendering an area or entire project the video can be played back. Note that in Speed Razor 4.0 and later, program advances including a fully multi-threaded interface have led to significantly reduced render times for software render effects and transitions.

Areas that contain only background color (no video or effects) do not need rendering. If a workfile consists of only audio, the background color will play without rendering. Areas needing render are indicated by a red line on the Timecode bar.

- To stop rendering at any time during render, press the ESCAPE key.
- To preview each frame of an area as it renders to the NTSC monitor before export, choose **View>Preview While Render.** (Note: this slows render time. Use only for specified areas.)

The type and number of effects applied to video will impact rendering time. This means a single transition will take less render time than a complex, multi-layered composite image.

If you create an effect area and export it, it is advisable to use this in another project only if you will not be adding effects to it. If you do not readjust an effects area in a workfile once it is rendered, it does not need to be rendered again in a subsequent workfile within the project.

It is important to know when rendering is necessary in Speed Razor.

- When you make changes in the Editing Devices and Settings dialog box during a project you will need to render all clips on the timeline again.
- When you merge workfiles, the workfile merged into the open file, must be rendered.
- When you apply thumbnails, these must be rendered.
- When you move a rendered clip or clips, it is rendered again.

See: Delete Renders

Delete Renders

When you render more than one frame in a workfile, a temporary file beginning with RZR for the rendered area is created in the project folder. As you compile a project from various versions or workfiles, areas rendered in an earlier workfile, if not altered in a later workfile, do not need to be rendered again. So a final workfile may have areas rendered from any previous version.

> **Use caution in choosing Project>Clear Rendering (All). This removes all temporary render files in all workfiles of the current project.**

An example of when you might choose to clear all renders of a project, would be to save drive space before building the final project from a single workfile.

- To delete all previous renders from all workfiles in the current project, choose **Project>Clear Rendering (All).**
- To delete renders for a selected area of the active workfile, choose **Project>Clear Rendering (Selected Area).**

See: Render Effects Before Playback and Output

Adjust Video Image Area for Output

You may need to adjust the image area of video when you apply digital video effects, such as 3D DVE or Crop Image effects, that reduce video images and show image edges. You can correct this by adjusting the narrow image of video.

Black edging may be visible when you view video on an "overscan" monitor that shows the entire video signal (720 pixels wide) as opposed to the normal video monitor that shows only the middle 660 pixels of the video field.

To adjust the narrow image area for video, select the clip or group and choose **Media>Narrow Image** or, in Item Info (Video), click NARROW IMAGE .

In the Narrow Image dialog box you can set the vertical and horizontal pixel values of the narrow image area to soften the edges and apply a slight crop to the source video clip. Set any range you want.

Note: When you export to a file format where the entire image will be seen you may want to increase the image scale from the center before exporting, so that the image occupies a full screen. To do this, apply the scale parameters or Scale Image effect to the video.

Tip: Once an image is reduced, if black edges still appear, apply the Crop Image to the video clip to reduce its size before applying the 3D DVE or other image adjustment effect that will reveal its edges. You may also use Proc Amp settings to adjust the image edge.

Print to Videotape

Print and direct record to tape options are not available in Speed Razor Client versions.

Once you complete the video project in Speed Razor outputting is as easy as pushing a button. You can print a project or part of it to videotape with frame accuracy at the highest level your video capture hardware allows. Speed Razor is capable of outputting up to full D1 uncompressed video. In printing to videotape the capture hardware converts the digital video and audio to analog for play on an NTSC or PAL video monitor. You have two choices for outputting to tape.

Direct Record : Press **Record** on your deck and play the project (or an area of the project) from Speed Razor.

Print to Tape: Choose **Project>Print to Tape (All)** or **(Selected Area)** to output a video project or a selected area of the timeline with frame accuracy. This is useful when inserting the video to specific timecode on a tape. To output to tape you must have video capture hardware that allows for capture and output to tape and an RS-422 compatible deck.

See:

Batch Capture Hardware Setup

Adjust Image Area for Output

Record Project to Tape

You can record the video project timeline to tape from Speed Razor through a simple process. Set up your video deck and when you are ready to record the video project, start the deck to record. Click **Play** in Speed Razor. The project is recorded.

To record a project to tape

1. Follow the capture hardware instructions for deck hook up.
2. Once you have completed and rendered necessary areas in the Speed Razor project, start the deck to record.
3. Click **Play** in Speed Razor. The project is recorded.
4. To play a selected area, make your selection and then click Play.

Print to Tape

When you choose **Project>Print to Tape (All)** or **(Selected Area)** options resemble those in the Batch Capture window. However, the Print to Tape window provides one video clip entry. This is your project or the selected area.

- To output the whole project, choose **Project>Print to Tape (All).** The time of entire project is automatically registered from the In point set in the Print to Tape window.
- To output a selected area of the timeline, choose **Project>Print to Tape (Selected Area).** The time of your selection is registered from the In point set in the Print to Tape window.

A typical use for Print to Tape is when you need to insert your video project at a certain time in a videotape.

Click Record button to begin print to tape

You cannot adjust the length of timecode in the Print to Tape window. You must do this when you select the area to print. Specify the In point location for the video in SMPTE timecode. The default file to lay to tape is your entire Speed Razor work file name. You can also select the filename field and type. Select V to print video. Select A1 and/or A2 based on your audio card connection to your deck.

In addition to directly entering timecode, you can control the deck to find the In point of the material. When the frame on the output monitor is the first frame of the material to print, click the Timecode button. The In and Out points will be set automatically. Once the timecode is set, click the Print to Tape button to record the material to tape.

To establish subframe accuracy for printing to tape, click the Print to Tape Options button in the upper left of the window. These options are similar to those in Batch Capture Options, with the addition of Edit Delay. You will need to adjust and test this according to your video capture hardware.

To print to tape an entire project or selected area:

See also:

Frame Accurate Print to Tape

Batch Capture Hardware Setup

To Print to Tape a Project or Selected Area

1. Once you have prepared tape for printing and checked your deck setup, insert the tape into your RS 422 controllable deck.
2. Complete and render necessary areas of the video project. If you are outputting a selected area, make your selection on the timeline.
3. Choose **Project>Print to Tape (All)** or **(Selected Area).** The Print to Tape window opens.
4. Click the **Print to Tape Options** button to establish frame accurate settings with the deck.
5. Specify in SMPTE timecode the In point either by entering timecode or controlling and previewing the tape and clicking the **Timecode** button and printing destination.
6. In the Tape field, enter the file name and directory where the video will print to tape. Select video and/or audio components to print.
7. When you are ready to print, click the **Print to Tape** button.

Frame Accurate Print to Tape

When printing to tape, you can set how Speed Razor will communicate with your deck for output, including edit delay time, in the Print to Tape Options dialog box.

- To set Print to Tape options, choose **Project>Print to Tape** and in the upper left of the Print to Tape window, click the check mark button.

Most Print to Tape options are similar to those in the Batch Capture Options dialog box but for output.

Edit Delay is the length of time it takes your deck to switch from play to record modes. For most decks this is from 3 to 6 frames. Here you set the number of frames after receiving the Record command before your deck begins to record. Set this anywhere from 0 to 16 frames.

Subframe Play Delay is the time delay from the beginning of the previous frame before actually starting the playback of the card. Many decks report the timecode slightly ahead of the actual timecode on the tape. Some playback cards start playing faster than others. To make up for this possible difference the Subframe play Delay unites these. When printing to tape at frame accuracy, set the time before the video capture card begins to play. The default is 15 milliseconds.

For playback cards that start particularly quickly, use the Subframe Play Delay option to slow them down. Set this to a value less than a frame: 33mS for NTSC. Some cards take multiple frames to start playing. If you are getting black or repeated frames at the beginning of your clip, try reducing playback delay. If the first frame is skipped, try increasing it. As with Batch Capture options, you will need to test the capture hardware for the right setting.

To print to tape with frame accuracy:

1. Place a batch captured video on the timeline at 0:00:00:00.
2. Check the edit delay for the deck. (For Sony PVW video deck this is on the setup menu. Menu 303 shows the edit delay - the default is 6 fields. To adjust the edit delay press the variable button and then turn the jog/shuttle knob.)
3. Start Speed Razor and choose **Project>Print to Tape**. In the Print to Tape window, click the Print to Tape Options (check mark) button and in its dialog box, set the timecode to match that on the deck.
4. Note the Edit Delay, the default is 6 frames. Set the Edit Delay to match the deck's Edit Delay. If the deck edit delay is in fields, divide by two to set it in frames. (6 fields equals 3 frames.) Then click **OK.**
5. It is useful if you have blacked your tape with an image and LTC timecode to tell if you have printed black frames from the computer. Choose a point on the tape where no material is recorded and set the in point of the print area by clicking the Timecode button in the Print to Tape window.
6. Print the project to tape by clicking the Print to tape button.
7. When print to tape finishes, rewind and check the tape. If there are images on the tape before the In point set in the Print to Tape window, the edit delay is too large. If the In point (or the Out point) is too late, the edit delay is not large enough.
   Note: Speed Razor sends the "record" command to your deck at "time equals In point minus edit delay. In and Out points should be off (or on) by the same amounts. The out point is exclusive, it denotes the first frame of the next clip, not the last frame of the current one. When checking the placement of your in point, consider any new video (black frames or still frames) to be part of the clip.
8. If the In point is correct but the out point is not, then you may have a fraction of a frame discrepancy. To fix this, adjust the subframe edit delay value. This value is in milliseconds and in NTSC it can be varied from 0 to 33. In PAL it can be varied from 0 to 40.
9. Check that the print to tape is accurate at least five times. If it is consistently accurate then the settings are correct.
10. Once output starts and ends on the correct frames on the tape, see that output from the computer

is correct. If there is a frozen frame on the first frame(s) of the tape where you print, reduce the SubFrame Play Delay. If the first frame on the tape is not the first frame of the project, increase the SubFrame Play Delay. For NTSC video this varies between 0 and 33, for PAL between 0 and 40. Some cards take multiple Frames to start playing. Large variances like these are taken care of by your card's driver, which reports that delay to the software.

11. Repeat this procedure until the first frame of the project equals the first frame on the tape.

Export to a File

Export all or part of a project timeline to a range of file formats. These include:

- The video file format specific to your video capture hardware.
- MJPEG .avi video file
- Video for Windows .avi video file
- Still frame file formats, including .bmp, .cin, .dib, .jpg, .raw, .sgi, and .tga.
- Audio .wav files.
- Any compatible plug-in formats.

When exporting a file, sections with no effects or transitions are not decompressed and recompressed. They are simply copied into the new file.

- To export the entire timeline, choose **File>Export (All).**
- To export a selection of the timeline either to the Library or to a file for use in another workfile or software program, choose **File>Export (Selected Area).**

Uses for exporting to a file include:

- Export the entire timeline to the video file format of your capture hardware. You may want to export the timeline as a file for playback only, without accompanying files in the Library.
- Export video frames or selected areas of the timeline to the Library for use in the open workfile.
- Export video frames or areas of the timeline to a still image format for use in a graphics program for touch up and then re-import these to Speed Razor, or use the still images for another purpose.
- Export the timeline or parts of it to a secondary video file source. A project may be printed to tape, then exported to a file.
- Export a Video for Windows .avi file for multimedia production.
- Export only the audio aspect of the timeline or selected area of the timeline.
- Export a mult-layered composite image for use in another Speed Razor workfile. This maintains the composite as a single image so no further rendering is required.

Exporting to a file involves establishing export settings at the video and audio quality levels you want. See the following section for more information.

To export a file or part of a file:

See:

Establish Settings for Export

Choose File Formats for Export

Export a Selected Area

To Export a File or Part of a File:

1. Render areas in the timeline that need rendering. If you are exporting an area of the timeline, select that area. Then choose **File>Export to a File (All)** or **(Selected Area).**
2. In the Export to a File dialog box, Select the Video box, then select a video or still image device type.
3. Click the Video Setup button to adjust video quality and/or frame size and color bit depth settings for export. (Options vary by file type).
4. Directly name the video file for export or click the **Browse** button.
5. Select the Audio box to export audio in the project. Unless you are interleaving audio with video, select the Audio .WAV device and click the Setup button to set its quality. Then name the audio file.
6. Click **OK** to export.

Establish Settings for Export

When you choose **File>Export to a File (All)** or **(Selected Area)** this opens the Export to a File dialog box. Here you apply file settings for export. Because settings for export are maintained separately from editing settings you have the option of either establishing unique settings for export or applying editing settings by clicking the Copy Edit Settings button in the dialog box.

See:

Choose File Formats for Export

Export a Selected Area

See also:

Establish Editing Settings

Choose File Formats for Export

From Speed Razor, you can export an entire timeline, an area of the timeline, or single frames to a range of video or image file formats. In addition, you can export audio .wav files of any length. File export options include:

- The video file format specific to your video capture hardware.
- MJPEG .avi video file
- Video for Windows .avi video file
- Still frame file formats, including .bmp, .cin, .dib, .jpg, .raw, .sgi, and .tga.
- Audio .wav files.
- Any compatible plug-in formats.

When exporting a file, sections with no effects or transitions will not be decompressed and recompressed. They will simply be copied into the new file.

Export a Selected Area

You may export a selected area of the timeline, audio, a still image file or single video frame from Speed Razor.

- To export an area of the timeline, choose **File>Export to a File (Selected Area).** When selecting an area for export, use the Preview bar, or select specific clips on the timeline.

Exporting a selected area of the timeline is useful in the following occasions:

- Export a still image file to the Library, converting it to your video capture file format.
- Export a still image or sequence of .bmp or .tga files to touch up images or alpha channels in paint program, and then re-import to Speed Razor for matte or "traveling" matte images.
- Export a mult-layered composite image for use in another Speed Razor workfile. This maintains the composite as a single image so no further rendering is required.
- Export an area for later import to another Speed Razor workfile.

Export to Video Capture File Format

Export a file to your video capture hardware's native format by selecting this in the Video section of the Export to a File dialog box. Once you have selected the video file format, click its **Setup** button to apply video compression and other available quality settings for export. For example, a Truevision Targa user would select DVM Device as the video file format.

For more information about export and editing settings for your capture hardware, see your "Using Speed Razor and…" documentation.

Export Still Image Sequences and Film Files

You can still frames and frame sequences in .bmp, .cin, .dib, .dpx, .jpg, .raw, .sgi, and .tga file formats. When creating a series of still image files, name these numerically. For example, the first file in the sequence could be named "fun0001.tga." When the sequence is written, this follows (fun0002.tga, and so on). Tip: To keep sequences intact, when naming files enter enough zero placeholders in the first file.

Export film .cin and .sgi files maintaining full color bit depth and definition quality of film images. In the Export to a File dialog box, when you select .cin or .sgi as the file format, click the Setup button to establish color and frame size settings.

See:

Edit Film

Import a Series of Still Images.

Export a Still Image to a Video File

By exporting a still image file such as a .tga file to the video device type for your capture hardware, you can create a single frame video file that you can stretch it and play without rendering.

1. Place the .tga image file you want to convert on the Composition window timeline.
2. Select a single frame on the timeline by pressing CTRL+1 and then selecting one frame in the Preview bar.
3. Choose **File>Export to a File (Selected Area).**
4. Select the Video Device as your video capture hardware standard device. For example, Targa users select .dvm.
5. Click the **Setup** button to specify settings, then return to the Export to a File dialog box.
6. Name the clip and location. Click the Browse button to find a location.
7. Clear the Audio box so that no audio will be attached. Then click **OK** to close the Export to a File dialog box and render your single frame.
8. Delete the .tga image file from the timeline and replace with the next .tga file to be converted.
9. Repeat Steps 2-8 as needed

When finished rendering all of the single frames, import the newly created video frames into the library.

Export Audio Files

In addition to exporting video and audio aspects of a project, you may also want to export the audio only:

- Export an audio area of the timeline for use in another Speed Razor workfile.
- Export audio to mixdown several audio tracks into a single track so that you can then mix other tracks in realtime using your audio card.

Export an MJPEG AVI File

When exporting an Active Movie MJPEG .avi file, you can set image resolution, data rate, and target capture hardware. The minimum and maximum data rates are dependent on the image resolution you set. Set the target hardware to your output device, or another specified device. This establishes the .avi file as readable by that device.

Certain capture cards, such as the Matrox DigiSuite and DigiSuite LE, and the Pinnacle Systems miroVIDEO DC 30, use the Active Movie MJPEG .avi file format.

When using the miro DC 30 with Speed Razor, export an MJPEG .avi file which you can then print to tape from the DC 30 capture and output utility, or keep the file in its digital format. MJPEG .avi files have no 2 GB size limit inherent in the Video for Windows .avi format.

See also:

Export a Video for Windows AVI File

Establish Editing Settings

Export a Video for Windows AVI File

The Video for Windows .avi file format is used commonly for multimedia output such as CD-ROM and playback from a computer hard drive, and often as a basis for files that are converted to streaming formats such as ASF or RealMedia for the Internet.

To export a Video for Windows file, from the **File** menu choose **Export to a File (All)** or **Export to a File (Selected) Area**. In the Video section of the Export to a File(s) dialog box, select Multimedia Device .AVI, and then click its Setup button. The .AVI File Setup dialog box provides options for setting the frame size and rate, field rendering, compression scheme, data rate and other file qualities for export. Settings will vary according to your intended output source, whether CD ROM or computer hard disk. These settings options are covered in the following sections.

When choosing a file compression and decompression scheme, or codec, keep in mind that qualities and options will differ. Check these before compressing the file. Files can range from 8, 16, 24 to 32-bit formats, 16 and 24-bit YUV formats, uncompressed format, and Run Length Encoded (RLE) format (a lossless type of compression for animation with large areas of a single color). As a result, the image quality of material compressed at the same data rate with two different codecs may vary.

When determining the video quality, set either the compression quality level or data rate. Setting the Quality Level slider sets image quality as a higher priority than speed of playback, and the range is from 1 (highest compression) to 100 (highest quality). Setting data rate gives priority to speed of playback.

Padding allows faster playback of your .avi file. Some drives, particularly CD-ROM drives, are only capable of reading certain size units of data. Therefore, use this option to set each video frame to a size evenly divisible by the number in this field. Speed Razor will add padding information to make each frame evenly divisible.

When exporting to an .avi file you may keep audio and video separate to maintain the audio as an uncompressed .wav file. To compress audio with video on export, select Audio Interleave with Video in the Export to a File(s) dialog box.

See:

Export an AVI File for CD-ROM Playback

Export an AVI File for Hard Disk Playback

Export an AVI File for CD-ROM Playback

Create a Video for Windows .avi file for CD-ROM distribution from Speed Razor. CD-ROM playback requires lower data rates than playback from a hard drive. Set the data rate to the maximum desired data rate. Though faster CD ROM drives handle higher data rates, keep in mind that many computers still have older (slower) CD ROM drives. To allow for variations and different systems we recommend a 150 data rate for CD ROM playback. (The actual data rate will vary slightly from this setting due to the compressor.)

To export a Video for Windows .avi for CD-ROM:

1. Complete and render the project. Then choose **File>Export File (All)** or **(Selected Area).**
2. In the Export to a File dialog box, set the Video Device Type to .avi. This becomes the export file format. Then click the Setup button.
3. In the Setup dialog box set the data rate to 150 or other acceptable range for CD playback. Set the Padding to Meet Byte Boundary to 512. Set the frame size to an acceptable size for CD playback, such as 240 x 180 or 360 x 240. Set the frame rate in the 15f/sec range. Then click OK.
4. In the Export to a File dialog box, select the Audio box, to maintain audio as a separate file. If you want audio interleaved with video in the .avi file, select the Interleave Audio box.
5. Enter a Video File Name and drive and directory destination for the video project. If audio is maintained as a .wav file, name the file and its location. Then click OK.

See also:

Export an AVI File for Hard Disk Playback

Export an AVI File for Hard Disk Playback

When exporting a Video for Windows .avi file for playback from a computer hard drive, because hard drives sustain a higher data rate than CD-ROM drives, padding and data rate settings will differ.

To export a Video for Windows .avi for hard drive playback:

1. Complete and render the project. Then choose **File>Export File (All) or (Selected Area).**
2. In the Export to a File dialog box, set the Video Device Type to .avi. This becomes the export file format. Then click the Setup button.
3. In the Setup dialog box set data rate for hard drive play back. Set the Padding to Meet Byte Boundary to 2048. Set the frame size and frame rate. Standard frame rates are in the 15f/sec range. Then click OK.
4. In the Export to a File dialog box, select the Audio box, to maintain audio as a separate file. If you want audio interleaved with video in the .avi file, select the Interleave Audio box.
5. Enter a Video File Name and drive and directory destination for the video project. If audio is maintained as a .wav file, name the file and its location. Then click **OK**.

See also:

Export an AVI File for CD-ROM Playback

Add Files to Library After Export

When you export a selected area of the timeline, by default this is saved to the Library. This means that you can quickly convert files for use in the open workfile. There is no need to export and import single frame files and areas for use in Speed Razor.

- You can change the default setting by choosing **Preferences>Miscellaneous Preferences** and clearing the "Add File to Library After Export" box.

Audio Oversaturation

Audio volume levels that exceed the limits of safe digital playback. Other terms used include: audio clipping, or peaking. A snapping or popping sound may result from oversaturated digital audio.

Realtime Offline Editing

If you are using any Speed Razor 4.5 version you have the capability for software realtime "offline" editing. Edit multiple video layers and play these back in realtime on your computer monitor using Speed Razor's software realtime decompression.

- If you are a single Speed Razor user with video capture installed, you can edit using software playback, build composite images and test video effects in realtime, and later render these for output.
- If you are using Speed Razor 4.5 on a network, it is possible to offline edit in realtime without any capture hardware installed on your workstation. You may need only one video capture card for a network of users.

Using realtime software playback, you can create and test video effects without waiting to render, and without dependence on the playback capabilities of your capture hardware. You may apply any k:sync compliant plug-in effect or transition (all in-sync effects and transitions and other third party effects) and see the result in real time. Once you have established the video effect or composite you want, output final sections or programs using either dual or single stream video capture hardware.

See

Play Back Video on Your Computer Screen

Play Back Video on Your Computer Screen

In Speed Razor 4.5, you can play back video files with video effects overlays, including MJPEG and Multimedia .avi files, and still image sequences in .bmp, .dib, .jpg, .tga, .sgi, .cin, and .dpx formats.

To setup software playback to your computer screen, begin by choosing **Project>Editing Settings**. In the Editing Devices and Settings dialog box, for Video Output (Playback) Device, you will see two options: your video hardware format, and Computer Screen.

When you set the Video File Format in the Editing Devices and Settings dialog box, it is recommended that you use the software device for your video capture hardware. If you have no video capture hardware installed in the computer (if you are working over a network) consider the output hardware. The Matrox DigiSuite and DigiSuite LE, and Pinnacle Systems miroVIDEO DC 30 use the Software MJPEG .AVI device.

Note that when you set up software playback to your computer screen, your Scrub and Preview Preferences (Preferences>Scrub and Preview Preferences) default to "External Monitor."

To set up software realtime playback:

1. 1. Select capture hardware format or Software MJPEG AVI device if no hardware installed
1. Select Computer Screen and click Setup

Select the video box

Once you have a Speed Razor project open, from the **Project** menu choose **Editing Settings.**

2. In the Editing Devices and Settings dialog box, select the Video box, and for the Video Output (Playback) Device, select "Computer Screen." Then click its **Setup** button to open the Video Playback Settings dialog box.
3. Select Direct Draw and click OK.
4. In the editing settings dialog box, under Video File Format select the Software device that matches your capture hardware file format. If you have no capture hardware installed, choose this based on the hardware you anticipate using as an output device. Click its **Setup** button.
5. In the software device setup dialog box, set the image resolution that best matches your source material. Data rate options and target hardware settings relate to exporting only, and you can ignore these at this point.

If you have a Matrox DigiSuite or DigiSuite LE, or a miroVIDEO DC 30, you will choose Software MJPEG .AVI device. In the .AVI Settings dialog box, set the frame resolution and data rate. To maintain smooth preview on your computer screen, set the data rate within the range of your hard drive. Select target hardware based on the video capture hardware you have installed on your system. select the file type's size for editing and playback.

Edit Video Over a Network

Speed Razor 4.5 is the first networkable version of Speed Razor. You can combine Speed Razor 4.5 RT, S, SE and Client versions for realtime online and offline editing. You may also use a variety of hardware combinations on a single network.

Speed Razor 4.5 can be used over high speed Windows NT/98 based networks, including file-server based Ethernet LANs, and storage area networks (SAN) such as Fibre Channel and SSA.

Speed Razor 4.5 makes use of basic Windows NT file sharing protocols for video and still image files that have been captured to a network server.

Editors on any network station may open a Speed Razor project. However, if one user has a project open, this project is unavailable to other users on the network though video and other source files may be shared, since these are accessed from the server and copied to local drives.

> **It is strongly recommended that users not share individual Speed Razor project files over the network.**

When working on a large program—such as a film —segments of the program may be stored as individual Speed Razor projects by each editor. When these Speed Razor projects are completed, they may then be merged into a single Speed Razor project. In this case, it is important that the master project timecode and common video file size and editing settings be established for ease of use.

For optimal performance of Speed Razor 4.5 over a network it is recommended that you use capture hardware that uses the standard Windows NT file system. These cards may be combined and used interchangeably on a network so files generated in the native formats of these cards can be shared. For example, it is possible to combine .avi file captured from a Matrox DigiSuite station with .dvm files captured from Truevision Targa hardware in a single project.

Video capture hardware that uses a proprietary file system such as the DPS Perception may also be used on a network, with other capture hardware. However, files must be translated so you will need additional drive space to move files from the PVR drives to Windows NT drives, so they may be shared over a network.

See:

Realtime Offline Editing

Play Back Video on Your Computer Screen

Edit and Transcode NTSC or PAL Source Video Files

Edit and transcode NTSC or PAL Source Video Files

You can transcode and share files from any of the file formats that Speed Razor supports (DigiSuite AVI, Targa DVM, TGA series, and so on) to a hardware playable format for supported video capture hardware. (This is excepting the DPS Perception, because there is currently no software writer for the Perception PVD file format).

You will need hardware capable of playing back the converted file. For example, if you captured a video clip on a PAL Perception, you can export the file to an NTSC Matrox DigiSuite playable AVI file. However, you need an NTSC DigiSuite to play the file to an NTSC monitor or to tape.

New Video Effects in Speed Razor 4.5

New video effects include a key-frameable Garbage Matte, Image Stabilization, Multi-Point Tracking, 2D DVE and Motion Tracking. Many existing effects and transitions (including 3D DVE, Titles, and Wipe) have also been enhanced with new intuitive graphic tools.

Tip: Look in the Info tab of the Item Info window, under “Notes” to find mouse and keyboard actions and other usage notes for video effects.

See:

Garbage Matte

Image Stabilization

Multi-Point Tracking

Motion Tracking

2D DVE

Image Stabilization

Use the Image Stabilization effect to steady unwanted movement in video images. When footage is shot from an unsteady source, such as a car or handheld camera or if the camera tripod is bumped, you can fix a point in the video image and adjust frames to keep that point steady.

To stabilize an image:

1. Place the Image Stabilization effect on the Composition window timeline, beneath the video clip you want to modify.
2. Select a prominent point in the first frame of the effect.
3. Then choose the last frame and select the same point.

2D DVE

Use 2D DVE to rotate images on x and y (two dimensional) axes, instead of the 3D DVE to cut render time on output. To adjust the dimensions graphically, click and drag the node in the Source preview windows. You can tilt the image to the left or right, and adjust its size. You may also position a light source on the image and drop shadows behind it. Tips:

- To maintain image scale as you resize it, press the SHIFT key as you drag.
- To rotate the image, press CTRL as you drag.
- To move the image, click inside the rectangle and drag.

Garbage Matte

Using the Speed Razor Garbage Matte effect you can create a moving matte image of any shape, and define its movement with key frames to build professional composites. When you select the Garbage Matte effect, in the Video tab of the Item Info window, you'll see tools for drawing and editing on the left, and key framing tools on the right, an option for previewing the matte shape as filled, and a slider for adjusting the matte's transparency.

See:

Create and Edit Matte Shapes

Set Key Frames to Matte Shapes

Create and Edit Matte Shapes

Add Points to Create a Matte Shape: To create a shape, begin by clicking the + button in the Edit palette. Then add a point by clicking on the video image in the Preview window. Continue to click on the video image to add points.

To close a shape, click the first point of the open-ended line. When you move the mouse over the first point, a small "Close" icon appears. Once you close a shape, the first and last points are joined. A closed shape cannot be re-opened.

Make Curved Shapes: Each point has two controls to modify the line between it and the next point. Use the Edit tool to adjust control points after the point has been added. Create bezier curves by adjusting the controls. Click and drag a point to move control points as you add them. Both control points are adjusted together. To adjust only one control point, press the CTRL key as you click and drag.

Move Shapes and Points: With the Edit tool, you can select a point or control, select a shape, move a selected shape, select a group of points with the selection rectangle, and move that group of selected points.

- To select and move a shape, click the outside boundary of a shape to select it and move it. A white box indicates it is selected.
- To view a point's controls, click on the point. Once you select a point you can drag it
- To select several points, click outside the shape and drag to draw a selection rectangle. A selection box is displayed around the points.

Once you select a group of points you can move these, keeping their relationship in tact. With the Editing tool active and a point selected, press the CTRL key to adjust its control points individually. Press the SHIFT key to modify them as if both points lie on the same line connecting the two.

Close a Shape with a Straight Line: Another way of closing an open shape is to select the Close tool in the Edit Palette. It is recommended to close a shape before starting a new one. Use the Close tool to add a straight line between the last and first points of the shape.

Draw a Freehand Shape: Use the Freehand tool in the Edit Palette to draw a curved or irregular shape. Click and drag the mouse to create curves. To close a freehand shape, as you draw, move the mouse over the beginning of the line. The Close icon appears. Release the mouse to close the curved shape. The curve is approximated to the actual drawing.

- To create a curved open-ended line, draw a curve and stop without closing, the curve will also be approximated.
- To resume drawing an open-ended line, click on the end point of the curve. A + sign appears above the mouse pointer.

Copy and Paste a Closed Shape: To copy a matte shape, select the shape and click the C button or press CTRL+C. To paste a copied shape, click the P button or press ctrl+v, and click on the Preview window. The shape is pasted at an offset.

Insert a Point into a Shape: Once you've created a matte shape and you want to modify it, you can add points to it.

- To insert a point, click the Insert button. An "I" appears next to the mouse pointer. Position the mouse along the line where you want to insert and click.
- To change from Insert mode, click the Insert button again.

When you insert a point at a key frame in a moving matte, corresponding shapes in other key frames are updated to include the inserted point at that same location. The keeps the number of points the same for the shape throughout all key frames.

Delete a Shape or Point: You can easily delete closed shapes or points on the line of an open shape. When you delete a point on a line, the point before and after the deleted point form the new connecting line segment. To delete, select the point or shape and click the Delete button or press DELETE.

Adjust the Opacity of a Matte: To adjust an alpha channel shape's opacity, select the shape then click and drag the slider or type a opacity percentage value in the edit box. 0 percent is clear. 100 percent is fully opaque. Note that adjusting the transparency of a shape on a key frame will not adjust its transparency for all key frames.

Fill Matte Shapes for Preview: As you create matte shapes, you may want to see how aspects of the video image are affected. Select the Fill Shapes box in the Item Info window to fill shapes with black on the Preview window for easier editing. Open-ended matte shapes are filled based on how they would look if closed. Fill Shapes is an interface only feature and does not effect the render. You can turn Fill Shapes on or off at any time while editing.

See also:

Set Key Frames to Matte Shapes

Set Key Frames to Matte Shapes

When you modify a frame it becomes a key frame . The first key frame you set represents the image rendered for every frame of the effect. To move or modify elements of the shape, set the next key frame. The second key frame determines movement from the first. All frames after the last key frame created will be that image. The Garbage Matte key frame tools are displayed on the right side of the Item Info window.

Copy and Paste Key Frames: Select the "C" button to copy, and the "P" button to paste. The last key frame copied can be pasted as many times as needed on different frames.

Delete Key Frames: Select the "D" button to delete key frames. Once a key is deleted it is interpolated like other non-key frames in the sequence.

Set a Key Frame: Select the "S" button to "set" a key frame after the initial key frame was established. This enables all shapes in the frame.

Move to Next and Previous Key Frames in the Sequence: Select the "<" or ">" buttons to move the slider position and pointer on the Composition window timeline to the previous or next key frame in the sequence. These tools are useful for scrubbing and editing key frames.

See also:

Create and Edit Matte Shapes

Mattes

A matte is a shape imposed on the video background through which you can view another video or still image. A "garbage" matte is a drawn and moveable shape often used to clean away or hide artifacts on the original image.

Key Frame

Key framing is a process of marking frames in a sequence to denote specified movement. Frames between the key frames are interpolated based on a linear calculation.

Chroma Keying

Chroma keying is a common method of combining foreground bluescreened subject matter with a separate background image or image sequence to produce a composite final image from both elements.