



SpeedEDIT™
USER GUIDE



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PART I (GETTING STARTED)

Introducing SpeedEDIT basics – a top-level overview of primary features, and a workflow tour to get you started ...

1 ABOUT THIS MANUAL



Hate reading manuals? If so, you are part of the majority (estimates are that between 60 and 97% of the human race concur). Most prefer to jump right in, maybe asking a friend for occasional help (and who can blame them)?

The SpeedEDIT manual attempts to tell you what you need to know in a friendly, concise way, while also providing a deeper reference section you can turn to when you really need specifics.

Even if you hate reading, please take a moment to peruse at least *this* section, which explains the manual's organization. You may find you can escape with a minimum of reading. (Or, if you are a devout reader, you can be the hero the others turn to for expert advice.)

- **Part I – Getting Started:** introduction to SpeedEDIT, installation and registration, ending with the Quick Start section – a brisk jog through fundamentals, only about 75 (bite-size) pages. If you're a quick study, this may provide all you need.
- **Part II – Reference:** chapters in this section cover more advanced topics – for those who need it, or just like to know 'everything').
- **Part III – Appendices:** Appendix A lists all shortcut keys. Part III is also home to a comprehensive keyword index.

2 INTRODUCTION



SpeedEDIT™ is a ‘Blazing-Fast Video Editor’, and we’re delighted you have chosen it as your non-linear editor!

SpeedEDIT boasts a long and prestigious heritage. It represents the culmination of many years of development by NewTek, the recognized creators of Desktop Video. This chapter provides a quick tour of SpeedEDIT’s more important features-

2.1 OVERVIEW

SpeedEDIT is able and eager to handle web, DV, HDV and High Definition video editing ... all within a single project. By design, the emphasis is placed right where it belongs – on making it easy for you to tell your story. The friendly interface may seem very simple at first glance, but don’t let the clean design deceive you. As you proceed, the depth and power of the tools it provides will make a lasting impression.

SpeedEDIT supports diverse editing styles, providing a variety of ways to perform almost every editing task. As just one example, In and Out Points for a video clip can be adjusted in many different ways, one of which will surely suit your preference. As you become familiar with the program, you will discover your own favorite techniques and workflow.

2.2 SYSTEM REQUIREMENTS

Installation of SpeedEDIT can be achieved with most computers running the Windows® XP (Service Pack 2), x64™ or Vista™ Operating System. NewTek offers the following hardware guidelines:

MINIMUM

- Hardware: Intel® Pentium® 4 or AMD Athlon™ processor that supports Streaming SIMD Extensions 2 (SSE2) and a DVD Drive.
- Operating System: Windows 7™, Vista™ (Service Pack 2), or XP (Service Pack 3)
- Memory: 1 GB of RAM
- Hard Disk: System drive with 6 Gigabytes of free disk space

- Input/Output: IEEE1394 FireWire™ card for DV or HDV capture
- Graphics Card: DirectX 9 capable card with 64MB RAM (ATI or NVIDIA chipset recommended)
- Display: Minimum 1280x1024 screen resolution

RECOMMENDED

- Hardware: multi-core CPUs for high definition editing and a DVD drive
- Operating System: Windows™ 7 or Vista™ 64-bit (Service Pack 2)
- Memory: 4 Gigabytes of system RAM
- Hard Disk: System drive with 6 Gigabytes of free disk space
- Output: BlackMagic™ or other supported DirectShow device for SD or HD output
- Graphics Card: PCI Express-based, Direct X 10 capable card with 512MB RAM or more
- Display: minimum 1280x1024 screen resolution. (ATI or NVIDIA graphics chipset recommended)
- External Storage: Separate SATA drives for video playback

NewTek recommends the optimal system configuration. Systems with slower processor and drive speed will work with SpeedEDIT, but some of the more complex functions may not perform in real-time. To review the minimum specifications suitable to your production requirements visit www.newtek.com. Oh, by the way – our attorneys wanted us to apprise you that specifications are subject to change without notice.

Your license agreement allows the installation of SpeedEDIT on one computer. After a successful installation and acquisition of the NewTek registration key to operate SpeedEDIT, the software cannot be registered to run on any additional computers.

2.3 INSTALLATION

To install SpeedEDIT software on your workstation or laptop computer:

1. Insert the SpeedEDIT program disk in your CD or DVD drive
2. Allow autorun to begin the installation. (If you have disabled autorun, you can navigate to that drive and double-click on setup.exe)

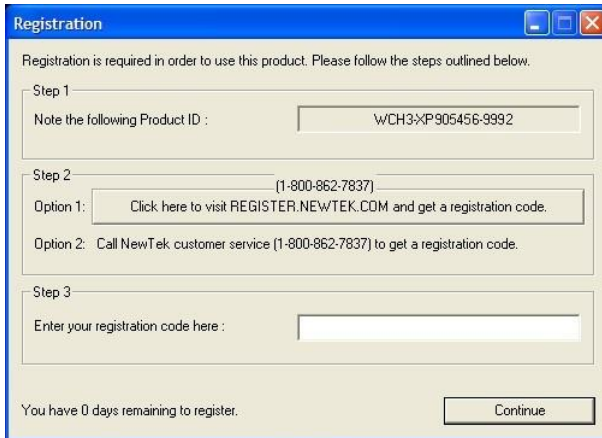
3. Read the License agreement. Afterward, indicate acceptance by clicking 'I accept' at the bottom of the window, then click "Next"
4. Read the SpeedEDIT Release notes in the information panel, as these supply important information that may not be reflected in this manual, then click next.
5. Determine the hard drive and folder where SpeedEDIT will be installed.

The default location is the system drive, C: but SpeedEDIT can be installed to any drive in the computer by selecting the 'Browse' button to the right. (If you choose a root location of a drive (such as E:\) the installer will create a SpeedEDIT folder for that location)

6. On the component selection window, choose Full installation (this will install the Windows Pre-Requisites and NewTek's SpeedHQ video codec.) Click "Next"
7. The Start menu panel determines the link that will be created in your Start > Programs listing. Leave this at the default setting so NewTek SpeedEDIT will be available from the Start menus for all users logged into the machine. Click "Next"
8. On the 'additional tasks' panel, you may create a SpeedEDIT icon on your desktop (recommended for more convenient launching) and also create a Quick Launch icon, which will be placed on the task tray. Decide which you would like and click "Next"
9. The "Ready to Install" panel summarizes your choices before you begin. To modify any option, click the "Back" button; otherwise click "Next"
10. Click "Install" to perform the SpeedEDIT installation according to your choices
11. After a few moments, Setup will report the installation has been completed.
12. Click on the "Finish" button to launch SpeedEDIT (almost done!)

(You may, at this point, wish to install the content of the second disk, which is material provided to permit you to follow the exercise in the accompanying Quickstart Guide.)

2.4 REGISTRATION



The screenshot shows a Windows-style dialog box titled "Registration". The text inside reads: "Registration is required in order to use this product. Please follow the steps outlined below." The dialog is divided into three steps:

- Step 1:** "Note the following Product ID :" followed by a text box containing "WCH3:XP905456-9992".
- Step 2:** "(1-800-862-7837)" followed by two options:
 - Option 1: "Click here to visit REGISTER.NEWTEK.COM and get a registration code." (This text is inside a button-like box).
 - Option 2: "Call NewTek customer service (1-800-862-7837) to get a registration code."
- Step 3:** "Enter your registration code here :" followed by an empty text box.

At the bottom left, it says "You have 0 days remaining to register." and at the bottom right is a "Continue" button.

Figure 1

Before SpeedEDIT can launch, it asks you to enter a registration code. This will be based on the unique Product ID at the top of the Registration panel.

If your computer is online, the registration code can be obtained automatically at any time, by clicking option 1: 'Click here to visit REGISTER.NEWTEK.COM' in the middle of the registration panel. This launches a web browser and connects you with the NewTek Registration system.

If your computer is not online, jot down the Product ID and perform the following steps on a computer that is online, or call NewTek customer Service at 1-800-862-7837. The phone option can only be fulfilled during U.S. Central Time working hours (9:30 to 5:30 Mon-Fri).

Connecting with the registration server online, enter the requested information to set up a NewTek customer profile. This is where all your information, such as product registration IDs, updates, available downloads and more will be accessible any time you need it.

If you are already a NewTek customer, you likely have access to your customer profile. Provide your User Name and Password in the Registered Users fields and Login.



Figure 2

If this is the first NewTek product you've registered, thank you! You will need to follow the instructions under the New Registration field.

- After your account is set up (or you have logged in) you will see the “Product Registration” screen.
- Enter the 15-digit SpeedEDIT serial number found on the Program CD.
- If you are performing online registration from your SpeedEDIT machine, your Product ID will be entered for you automatically. Otherwise, enter the product ID exactly as it appears on the SpeedEDIT registration panel.
- Select the processor manufacturer of the computer to be used, whether Intel, AMD or unknown.
- In the next window, list the company that sold you SpeedEDIT.
- Below that, enter the purchase date. Lastly, you have the option of providing NewTek with additional e-mail addresses to send your key to.
- Click Submit, and your 6-digit registration code will be e-mailed to you. Paste or type this into the registration panel and click Continue, and Speed Edit will launch.

3 SPEEDIT BASICS



This chapter provides a brief overview of SpeedEDIT 2 to get you started right away. In a very short time, these basics will be second nature to you.

When you want to get into more advanced details, you'll find a great deal more information on the deeper aspects of the features, tools and options available to you in Part II (Advanced).

With registration cared for (Section 2.4), we're ready to proceed. Let's go ahead and launch SpeedEDIT. Double-click its desktop icon to do that. The **Welcome panel** appears immediately. This allows you to quickly opt to either open a previously saved project from the list shown at left (**Open Recent Project** pane), or start a new project at right.

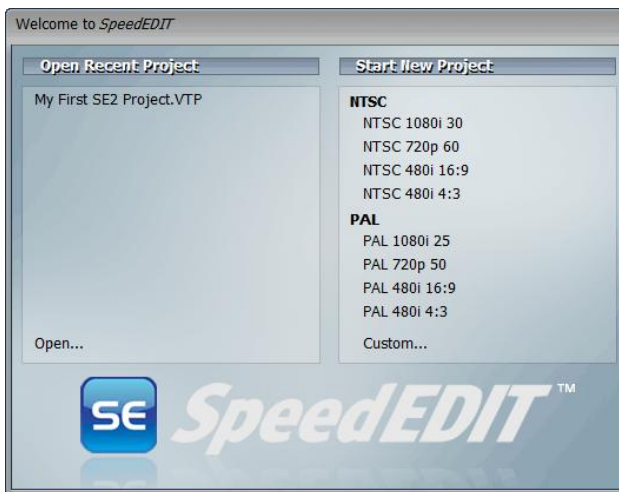


Figure 3

Starting a new project begins with specifying its attributes (size, aspect, fielding, framerate and video standard) in the Welcome panel. A number of presets are available at right in this panel for quickly setting up a new project. You'll want to consider the following:

Video Standards – New Projects are generally NTSC (North America) or PAL (most common elsewhere around the globe).

DV and HDV are familiar varieties of standard and high definition video, but you are by no means restricted to these choices.

Screen Aspect – unless otherwise specified, presets are 4:3, which is the most common standard television aspect. 16:9 is wide-screen (all of the popular HD formats are 16:9).

While generally you will work in projects created for your typical requirements, SpeedEDIT allows you to add video of virtually any common size and standard into its project. Inserted clips are automatically conformed to current project settings. (For more information, please review Section 4 - Project Settings.)

3.1 ONLINE HELP

Rolling the mouse over most panes and modules and pressing **F1** on the keyboard over reveals a comprehensive list of **Keyboard Shortcuts**.

For certain modules, context menus also permit you to view a list of additional shortcuts. Keyboard shortcuts can save you lots of time when performing common operations, so be sure to explore their use.

3.2 DUAL PANE INTERFACE

SpeedEDIT's dual pane interface can be configured in a variety of ways to suit your workflow needs and the task at hand. You'll find the main options in SpeedEDIT's **View menu**.

If you have a two-monitor setup (highly recommended) you'll have much more room to view project and file data, and to spread out integrated modules like the **Waveform/Vectorscope**, **Clip Properties** and **Video Output** windows.

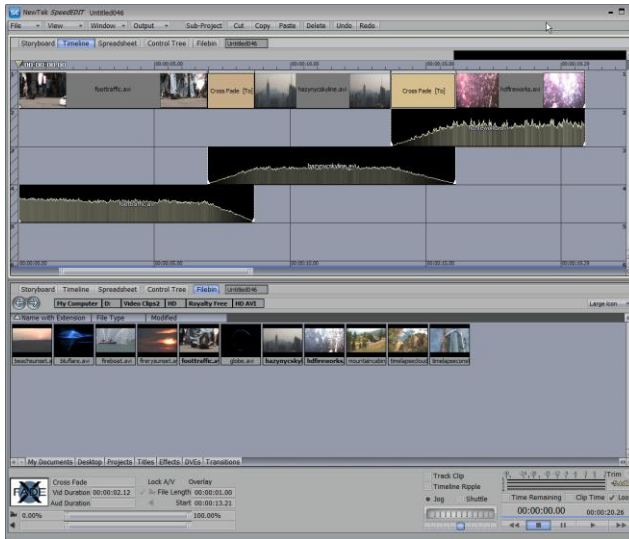


Figure 4

3.2.1 THE SPEEDEDIT PANEL

THE MAIN TABS

The top of each pane of SpeedEDIT's interface features five labeled tabs. Clicking a tab opens one of SpeedEDIT's principal views -- Storyboard, Timeline, Spreadsheet, Control Tree or Filebin. Each of these is discussed in detail further on. Initially each pane covers just one half of SpeedEDIT's split-screen desktop. Double-clicking the selected tab expands the pane to fill the window.

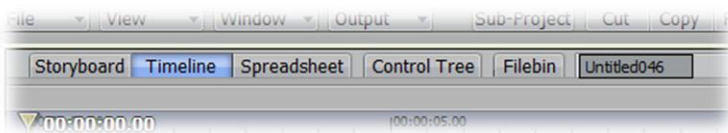


Figure 5

Begin by selecting the Storyboard tab at the top of the SpeedEDIT panel. Then click the **Filebin** tab displayed above the bottom pane once. Roll the mouse pointer over the horizontal divider separating SpeedEDIT's primary panes, and the cursor will change to a double-headed arrow. Drag the divider to maximize a pane or adjust the portion of the window it covers.

There are other tweaks to specific panels that will be described in the context of those panels. As you become familiar with SpeedEDIT, you will find a desktop layout to suit your personal taste.



Figure 6

If you right-click on the same horizontal divider, a drop-down menu appears. You can also use this to maximize either the top or bottom pane. Also in this menu is an item that is especially useful if you use twin monitors. Using this configuration would normally force you to endure a vertical split caused by the monitor bezels.

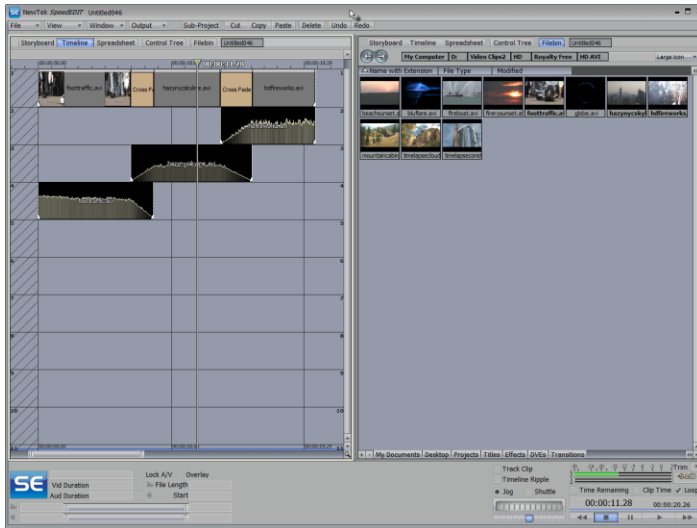


Figure 7

Select **Switch to Vertical** to convert the SpeedEDIT desktop into a side-by-side layout, a much nicer solution for this kind of physical configuration.

Notice too, that a similar menu appears when you right-click the divider between the **Control Tree** and its secondary pane, allowing versatile layout alternatives.

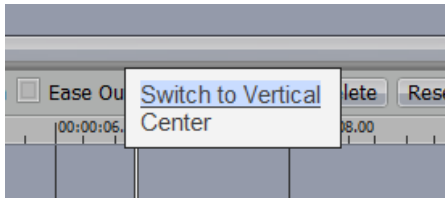


Figure 8

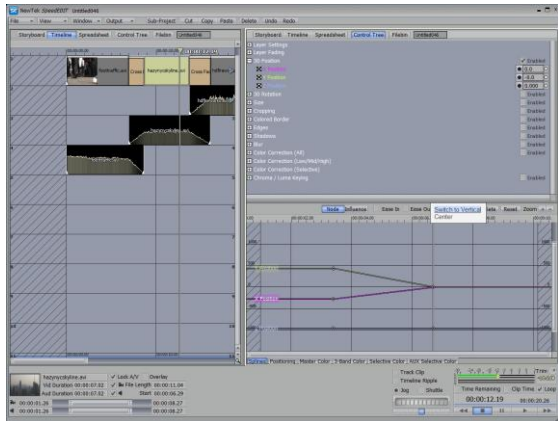


Figure 9

3.2.2 INTERFACE COLORS

USER INTERFACE COLORS	
Brightness	1.00
Contrast	1.00
Gamma	1.00
Lightness	1.00
Red Tint	1.34
Green Tint	1.00
Blue Tint	1.39
Menu Alpha	255.00

Figure 10

The **User Interface Colors** section of the **Preferences** panel allows you to modify some of SpeedEDIT's default color attributes. You can modify **RGB** and **Lightness, Brightness, Contrast** and **Gamma**. The **Menu Alpha** slider in Preferences controls the transparency level of menus overlaid on SpeedEDIT panels.

HINT: Lightness and Brightness sound similar, but you may find Lightness more useful. Brightness uniformly raises the luminance of the interface colors. The impact of Lightness diminishes progressively as luminance falls off -- black text will stay black even when you dramatically lighten mid-tones.)

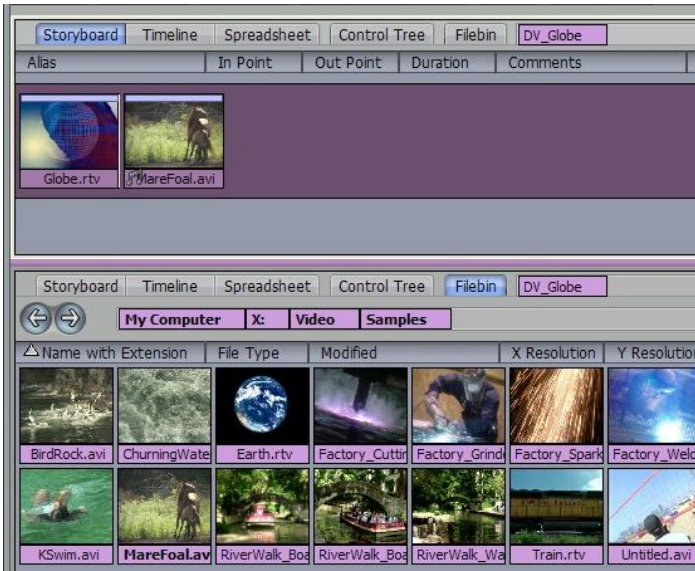


Figure 11

3.3 VIDEO PREVIEWS

Obviously you need to see what you are editing. SpeedEDIT offers several output options.

You can view your project on your computer monitor, or optionally via an external IEEE1394 device, NewTek video I/O card, or other supported third-party card you have installed.

See Section 11.3, Output Menu for information on specifying optional output devices.

3.3.1 VIDEO OUTPUT

The SpeedEDIT Video Output is an onscreen digital monitor launched from the Main Menu (Windows > Video Output). This is a re-sizeable window, so you can tuck it beside the editor on one monitor, or stretch it to completely fill a second monitor if you use one.



Figure 12

NOTE: A more detailed discussion of the Video Output window and its options can be found in Section Video Output 11.1.4, Video Output.

3.3.2 IEEE 1394 PREVIEW

A wonderful feature of SpeedEDIT is its ability to provide a realtime preview of both SD and HD format projects to IEEE 1394 devices. Simply connect a suitable digital device, be it a DV or HDV camera, VCR, or a display with IEEE 1394 connection, and play your project.

NOTE: Switch DV cameras to VCR mode. As well, some DV devices must be manually switched to DV-In mode before connection to the computer.

Even if you only have an inexpensive consumer DV camera on hand, this feature can usually provide a full color preview not only on the camera's integrated LCD display, but also an analog television monitor when connected.



Figure 13

To take advantage of this ability, open the **Preferences** panel from SpeedEDIT's Windows menu, and enable **DV/HDV IEEE1394 Preview**. SpeedEDIT will detect whether your device is in DV or HDV mode, and automatically scale the signal accordingly.

When IEEE1394 Preview is enabled in Preferences, the (DV or HDV) connection is shown in the Display status line at bottom left corner of the Video Output window.

HINT: High Definition devices generally accept both Standard Definition DV and HD via IEEE1394 connection. If you modify the settings of the external device from DV to HDV or vice versa, disable and then re-enable the DV/IEEE1394 Preview in Preferences to refresh this attribute.

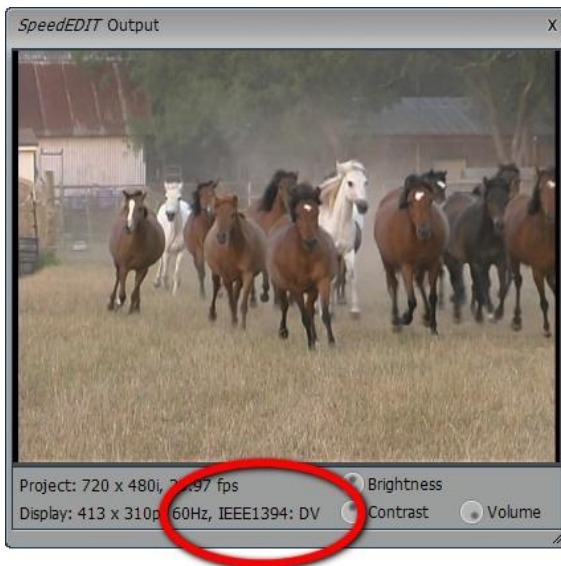


Figure 14

You must also set the framerate for the IEEE1394 preview according to whether the external device accepts PAL or NTSC timing – use the HDV Preview format option in Preferences for this purpose.

NOTE: System resources impact this preview ability, and frame accurate playback is not assured (for a discussion of final output of your project to DV/HDV format tape, please see Section 3.15, IEEE 1394 Output.) On some systems, reducing the size of the Output Window may result in smoother preview playback via IEEE1394.

Also noteworthy – this option is not presented when SpeedEDIT detects the presence of a NewTek HD output card on the system.

3.4 THE FILEBIN

By default, when first opened SpeedEDIT's lower pane, comprising almost half the interface, is dedicated to the Filebin. This makes it easy for you to access the media files you will use in your projects.



Figure 15

You can also use its tools for asset management, creating and organizing folders and files, and personalize the view the Filebin provides of these assets using the Filebin options.

3.4.1 ANIMATED PREVIEWS



Figure 16

One of the great advantages of the SpeedEDIT Filebin (versus) standard system file explorer is that it provides much more detailed information about video files lurking in your folders.

In the default Filebin view mode (and several of the optional ones) you will see a thumbnail image icon for video files.

When you roll your mouse over the icon, the thumbnail begins to play a small representation of that file's video scene. As well, a small running timecode panel shows the current location in the file and its duration. A video project will often involve many similar clips. This animated preview is a great help in distinguishing one clip from another.

Sometimes, a longer clip may best be distinguished from a similar one by viewing something near the end of play. To reverse the direction of the preview, hold down the ALT key. You can also engage Fast Forward and Fast Reverse, by adding the Shift key to the operation. The Shift key causes playback at 10X the normal rate.

NOTE: Where it seems desirable (perhaps because of limited system resources) animated icon previewing can be disabled in SpeedEDIT's Preferences panel. (You can separately opt to enable or disable animated previews for SpeedEDIT project files, as well.)

3.4.2 FILE MANAGEMENT

BASIC OPERATIONS

SpeedEDIT's Filebins easily care for the typical housekeeping chores you might normally perform in a system file explorer – **Cut**, **Copy**, **Paste**, and **Delete** work just as you would expect, and can be performed in various convenient ways, as described later in Section 3.5.

NOTE: See the discussion of File Deletions in Section 3.5, Cut, Copy, Paste, and Delete regarding the Confirmation popup.

DRAG ‘N DROP

Files and folders alike can be interactively dragged in the Filebin pane. You can drop a file into a folder for example), or onto one of the editing panes or an Add Media window (basically a floating variation on the Filebin – please see Section 3.4.8, Add Media for more information.)

A special case of drag ‘n drop is provided for use with sequentially numbered image file sequences, a favorite for animators and others. Suppose you have a file sequence ranging from myimage_0001.jpg to myimage_0900.jpg. If you drag myimage.001.jpg onto the timeline, it is treated just like any other still image format. However, if you keep the ALT key depressed while dragging, the entire sequence is imported into the project, just as though it was a video clip. It will even be trimmed by the default amount on each end, just like a video clip; press the g key to restore the full length on the timeline.

The icon for a file in a numbered sequence in the Filebin will also be animated when you hover over it with the ALT key depressed when this feature is enabled. Create New folders using the context menu opened with a right click in a blank area of the **Filebin**, or the shortcut CTRL + n.

CLEANING UP



When you examine the contents of folder in the SpeedEDIT Filebin, a hidden folder (named NewTek Info) is created to contain certain files that the Filebin uses– such as the tiny animations used for the icon system.

The management of the asset-related files in this hidden folder is automated, but the Filebin does provide two related context menu options. To access this menu, right-click inside an empty area of the Filebin.

Figure 17

Clean Missing Files checks to ensure that anything in the hidden folder that was inadvertently left behind after a file deletion or transfer is removed. **Clean Temporary Files** forces the content of the hidden folder to be updated, and is useful to update the hidden reference files after external modifications may have been made.

3.4.3 CLIP CONTEXT MENU

The context menu that appears when you right-click a *file icon* in a **Filebin** is slightly different. To *rename* a file, use the file context menu: right click directly on the icon, and select **Edit Name With Extension**.

In addition to **Cut/Copy/Paste** and **Delete** items, it also lists **Render/Convert**. Basically, this is a single-clip version of the **Render** function found in SpeedEDIT's main **File menu** (its use is very similar to the Render item in the file menu, discussed later in Section 3.14).

Hint: Multi-selected clips processed by the Filebin's Render/Convert function will be appended daisy-chain style into one file.

Likewise, the Clip context menu option **Send to Tape** is detailed in Section 3.15, IEEE 1394 Output.

CONVERT TO SPEEDHQ

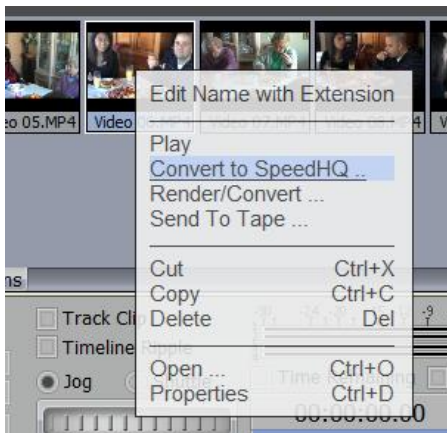


Figure 18

The **Convert to SpeedHQ** feature is very useful for file formats (such as the consumer AVCHD format) that are inherently not well suited to realtime editing. Unlike Render/Convert, this feature creates individual files for each clip selected, including multi-selections.

It is not necessary to enter a filename in this case. Newly converted files are given their original filenames with an AVI file extension. Thus, once you designate a destination folder the conversion proceeds without further input.

Clips are converted to AVI using SpeedHQ compression, a high-quality 32bit format (to preserve transparency, if any) with 4:2:2:4 color sampling. Wherever possible, the original file resolution, aspect, and frame rate are respected for each individual file created by **Convert to SpeedHQ**. If the source file does not supply aspect information, a ‘best-guess’ is applied (further aspect corrections can be made easily in realtime using the Control Tree inside a SpeedEDIT project if necessary).

FILE PROPERTIES

The context menu – opened by right clicking a file, a folder or the blank area of the Filebin - contains an entry various named **Folder Properties** or simply **Properties**. Regardless of the label, the menu item will open the **File Properties panel** shown here.

This panel displays pertinent information about the item selected, such as the last time it was modified, when it was created, and so on. It also provides several very useful functions, as follows.

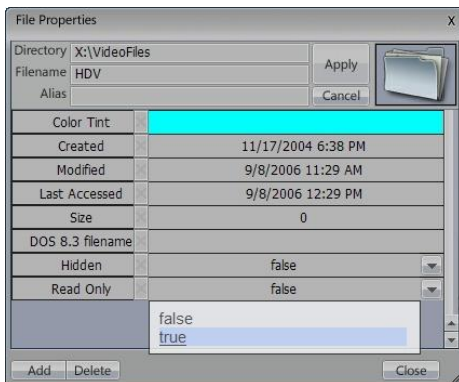


Figure 19

In addition to allowing you to modify (via the drop down menus provided) the Hidden and Read Only file status of the current item, you can click the color swatch next in the **Color Tint** section to pop up the SpeedEDIT Color Picker, and set a color for this item. The color you pick will give the item a distinctive appearance wherever it shows up in your Filebin or editing project.



Figure 20

HINT: Use color schemes to identify clips belonging to a group or different media types for easy recognition in the editing panes.

You can also change the file or folder name in the upper section of the panel. What is more this area of the panel gives you the ability to enter an Alias – an easily remembered nickname for quick reference. Aliases entered here become a file attribute, permanently associated with that file or folder within SpeedEDIT. (Don't forget to click **Apply** after creating an **Alias** or editing a Filename.)

NOTE: Completely different "local" Aliases (only valid in the context of a specific project) can be assigned in the Trim Tab and Selected Clip Properties windows.

3.4.4 LOCATE CAMERA FILES

Another **Filebin** feature accessed by right-clicking on *folders* (only) in the **Filebin** is **Locate Camera Files**. A number of more recent camera storage systems capture video clips into rather complex folder structures. This makes it rather difficult to locate clips for use in editing project.

The **Locate Camera Files** menu item invokes 'a search function with a difference'. First, it hunts recursively down through content nested anywhere inside the selected folder, locating files with an .mov, mxf or .mp4 file extension. It doesn't matter how many sub-folders there are between the current folder and the media files.

Next, for each clip discovered within, **Locate Camera Files** creates a convenient *file instance* at the folder level you began at. File instances are very small file that serve as reference pointers to

other data, and have the file extension .VTD. You can use instances in your project just as though they were the original file (see also Chapter 8, Asset Instances).

Note: Instances are not created for audio-only MXF files in the selected folder structure.

3.4.5 NAVIGATION TOOLS

The **Goto Folder** context menu point pops up a small dialog. You can directly type a path to a specific folder into this popup panel, such as “V:\SE Projects\ThisProject\Graphics\”.

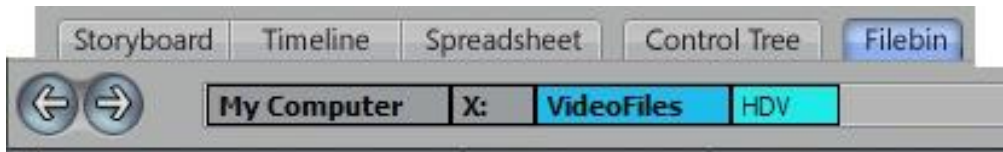


Figure 21

Just above the **Filebin** window, you will notice several navigation aids to help you make your way successfully around your system’s file hierarchy. The rectangular list boxes to the right of the left and right arrow devices show the various levels down to the current folder you are viewing.

Clicking on one of these boxes jumps the **Filebin** view directly to that level. The left and right arrow buttons are Forward and Backward functions. These access a history of your explorations to quickly jump back and forth between several locations, the same way as a web browser’s similarly named buttons do.

3.4.6 QUICKTABS

Located across the bottom of the Filebin pane you will observe convenient **QuickTabs**. When you click a Quicktab, the pane above refreshes instantly to display the content of the folder selected.

Initially, you will only see the default tabs created by the SpeedEDIT installer, but you can easily add your own favorites. To do so, navigate to the desired folder, then click the + button to the left of the existing **Quicktabs** (as you might expect, clicking the – (minus sign) button removes the current Quicktab, though of course the actual folder is not deleted.)

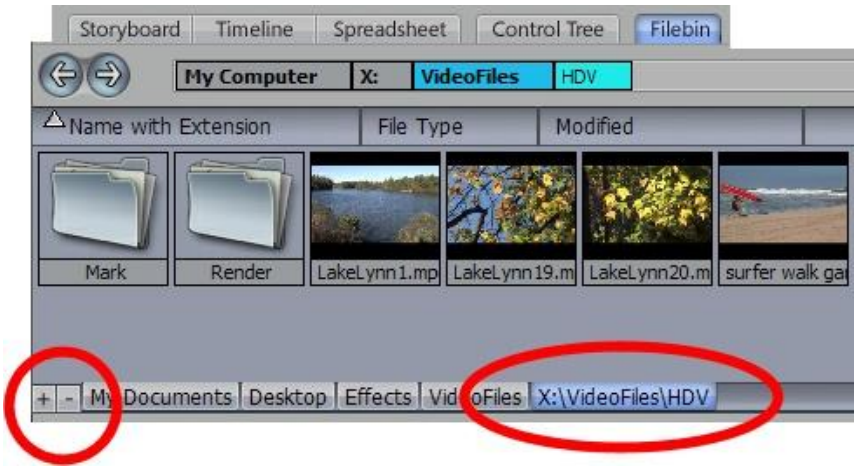


Figure 22

Quicktabs, like so many SpeedEDIT features, have their own local context menu (when in doubt, right click – it won't do any harm to explore!)

When you right click directly on a **Quicktab**, a two-item menu appears. You may optionally **Remove** the selected Quicktab, or **Rename** it. The latter option creates an **Alias** for the current folder, and refreshes the Quicktab to display the convenient new nickname.

3.4.7 VIEW OPTIONS

The Filebin Options drop down menu in the right upper corner controls the appearance of items in the Filebin. By default this menu is set to **Large Icon**, as shown.



Figure 23

You can use this menu to radically alter the Filebin's appearance and features.

HINT: The labels of files that are already in use in the current project are displayed in bold text.

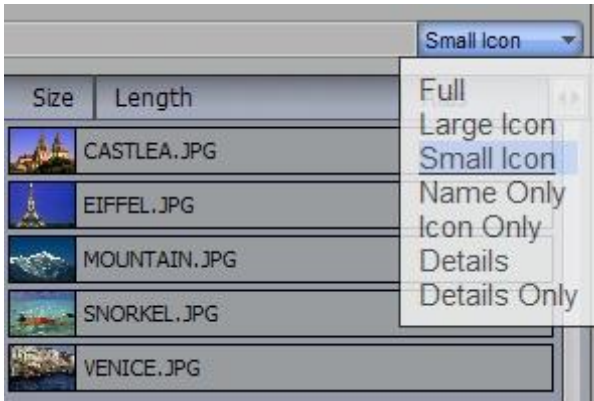


Figure 24

Try the different view options out, and you'll quickly see how they affect the display. The only option that benefits from a few supplementary details, funnily enough, is the **Details** view (**Details Only** is similar, but minus the file icon.)

Notice that in this mode, the **Filebin** looks a bit like the **Spreadsheet** pane discussed later, in Chapter 9. Both supply a good deal of information about the files shown.

The **Spreadsheet** is somewhat more comprehensive, and is linked to the current project. It is really a manifestation of the edit system, just like the **Timeline** or **Storyboard** panes. If you drag a clip in the list, the clip moves in the project. The **Filebin** is instead a view of your hard drive contents at the current level. Nevertheless, in **Details** view it gives you a lot of in-depth information about your files.

Name with Extension	File Type	Modified	Size	Full Path
BirdRock.avi	avi	7/16/2003 11:01 PM	26.0 MB	X:\VideoFiles\Samples\BirdRock.avi
ChurningWater.avi	avi	7/17/2003 3:46 PM	26.2 MB	X:\VideoFiles\Samples\ChurningWater.avi
Earth.rtv	rtv	10/29/2003 10:25 AM	240.5 MB	X:\VideoFiles\Samples\Earth.rtv
Factory_CuttingPool.rtv	rtv	7/30/1999 4:19 PM	88.3 MB	X:\VideoFiles\Samples\Factory_CuttingPool.rtv

Figure 25

The column labels at the top of the **Details** view do more than just identify the column. Clicking a column label toggles the file sorting order based on entries in the column, and the labels can be dragged left or right then dropped to re-arrange the order of the columns.

Drag the dividing line between two columns left or right to change the width of the column.

Also, the column labels have a unique context menu of their own. To open this menu, right-click a column label or the empty space to the right of a column.

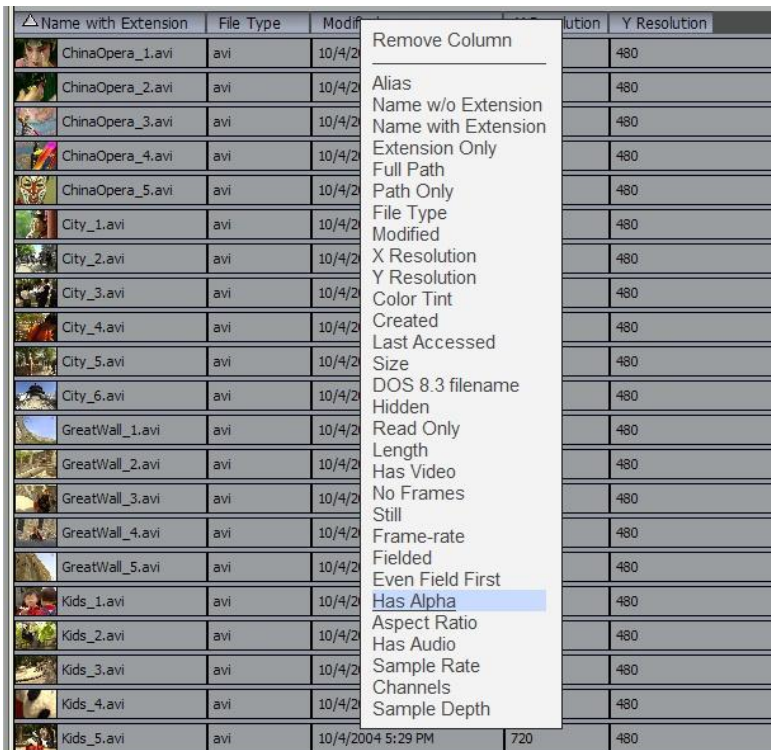


Figure 26

In addition to opting to **Remove Column**, you may select from a long list of file attributes that may identify or distinguish various file types. Select one of these entries to modify the current column contents or add a new column.

HINT: This is another place where Color tinting can be used to differentiate between different categories of files.

In addition to helping with the occasional ‘spring cleaning’ of your storage system, judicious use of **Details** view can greatly assist you to differentiate organize and different elements of your project, and quickly drop large groups of files into a **Storyboard** or **Timeline** pane.

3.4.8 ADD MEDIA

In addition to the Filebin, SpeedEDIT allows you to quickly add clips from an **Add Media** window.

These supplementary windows are accessed via the **Windows menu** item, Add Media.

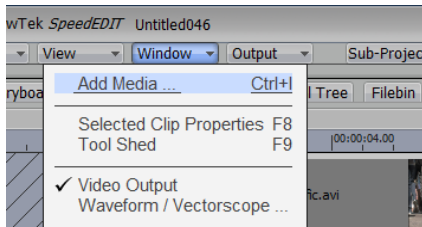


Figure 27

Actually, you can have a number of Add Media windows open to different location on your hard drive(s), which is a great convenience. (This also means you do not need to devote one of the precious SpeedEDIT panes simply for the Filebin.)

Using the **QuickTabs** at the bottom of the **Add Media** window, you can navigate to any folder, select a file or group of files, and press the **Add** button at the lower-right corner.



Figure 28

When you do so, the selected clips are automatically inserted at **the Edit Line** (in the order of you selection.) This eliminates the need to drag clips across the screen, and means you are always merely two clicks away from inserting any media.

3.4.9 COMPATIBLE FORMATS

SpeedEDIT provides resolution-independence and broad format support. Mingle diverse video formats and resolutions within a single project. Edit in any common resolution (and some not so common - from a 320x240 web stream up to a massive 2880x1920) ,and then render to whatever video standard (progressive or fielded) you need. Lastly, you can output HD, SD and web-sized versions of a single project.

3.5 CUT, COPY, PASTE, AND DELETE

These buttons are always present at the top of SpeedEDIT, just above the upper set of tabs. This provides easy access no matter which pane or module you are working in. The **Cut**, **Copy**, **Paste**, and **Delete** functions, while familiar, do vary somewhat in their effect from one module to another.

For the most part, their use is quite intuitive. Suppose, for example, you are working in the **Storyboard** and decide to dispose of a clip entirely. You would use **Delete** for this. Delete removes an item from the work area; no copy is held in memory for a subsequent **Paste** operation.

Cut, on the other hand, keeps an item in temporary memory, even though it is removed from its current location. Subsequently you can Paste the clip at a new location in your project (to paste a copied or cut Storyboard icon to the right of another, click the stationary object to highlight it, then click Paste.) **Copy** is similar, but does not affect the clip in its original location, merely storing a reference to it in memory for later pasting operations.

In the **Timeline** pane, **Paste** inserts items that you previously cut or copied at the **Edit Line** (then advances the Edit Line to the end of the inserted object in preparation for another Paste operation.)

If icons are pasted into a **Storyboard**, rather than at the end, a standard ripple operation occurs. If the clips are pasted into the **Timeline**, the project will ripple *if* you have **Ripple** enabled (greater detail on SpeedEDIT's ripple feature can be found in Section 3.9, Timeline Editing.)

These four functions can also be accessed by right clicking a clip or file (or, in the case of Paste, on an empty part of the workspace) and selecting the operation from the **Context Menu**.

Another common way to use these features is to use the standard keyboard shortcuts:

- Cut — Ctrl + x
- Copy — Ctrl + c
- Paste — Ctrl + v
- Delete — Delete key

NOTE: When used in a Storyboard or Timeline pane, Cut, Copy, Paste and Delete do not remove the actual files from on your hard drive. The clip is still available on your hard drive for later use. However, when you delete a clip from the Filebin, you do delete the clip from the drive.

FILE DELETIONS

The first time you delete a file from the **Filebin**, a popup confirmation panel will ask you to verify your decision to permanently remove the file from your system. You will be given the option to **Cancel**, **Delete** it permanently, or transfer it to your system's **Recycle Bin** (often, however, video files are so large that recycling is impractical.)

You will also observe a checkbox in this confirmation panel that permits you to *disable confirmation* in future. While disabling confirmation does speed up your workflow, please exercise caution. It is all too easy to permanently remove a file in a hasty act, only to have to **capture** it again later (if you still have the original source material).

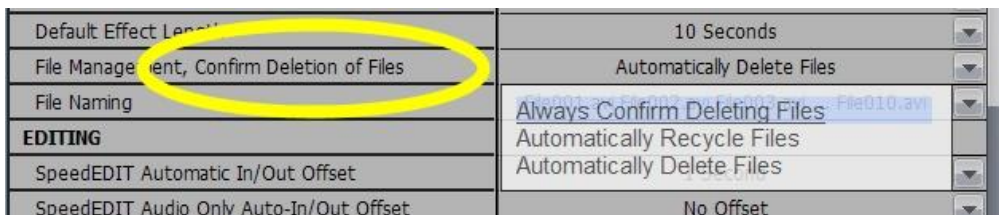


Figure 29

Hint: If you have disabled the verification popup, but later wish to re-enable that feature for safety's sake, you can do so from Preferences, using the listing File Management, Confirm Deletion of Files and selection Always Confirm Deleting Files.

MULTI-SELECT

To select multiple items for various operations in most of SpeedEDIT's modules, press Shift + click to select a range of neighboring clips and effects, and Ctrl + click to select non-contiguous items.

In many cases you are also able to drag out a marquee (rectangle) with the mouse to surround the objects of interest – when you release the mouse button, all the objects you enclosed by the marquee are simultaneously selected.

In the **Storyboard**, when you select the icons in a specific order and **Cut** (or **Copy**) them, then select **Paste**, they are pasted back in the very same order you chose. In essence, you are making a mini-project out of the selected icons, which are then pasted together.

Multi-selected **Timeline** clips, however, are not affected by your selection order. Rather, Timeline clips keep their positions relative to each other when pasted back into the project at another point on the timeline.

HINT: This method of pasting multiple selections in the Timeline is a very useful ability, especially when combined with the Inherit feature discussed later.

For example, you can paste a complex composition comprised of a number of clips and graphic elements repeatedly into your project (perhaps a picture-in-picture over a suitable background, complete with a lower-third overlay and title graphics.) Then you can use Inherit to replace just those visual elements you want modified for use at a different part of your timeline. This is a great way to ensure a consistent look for your productions.

To re-iterate – **Paste** works slightly differently depending on whether the active pane is a **Timeline** or a **Storyboard**. Pasting to the Timeline pastes copied elements at the **Edit Line**. Pasting to the Storyboard inserts the elements after the last selected icon, or – if no icon is selected – after the last icon in the project.

HINT: The Paste Buffer is global, so you can copy/paste between projects. The Delete button clears all of the selected icons from the project.

3.6 DECK CONTROLS

The Deck Controls at the base of the SE desktop mimic the familiar functions of a tape deck. Click the appropriate button to play, pause, stop, and shuttle through your project.

PLAY, PAUSE, & STOP

Clicking **Play** begins playback from your current position in the project. The Pause button will hold playback at the current frame; click it again to release the pause. Or, you can hit Play to continue playing, or **Stop** to end playback.

Click on the Stop button again to jump to the beginning of the selected clip (or the beginning of the project, if nothing is selected.)

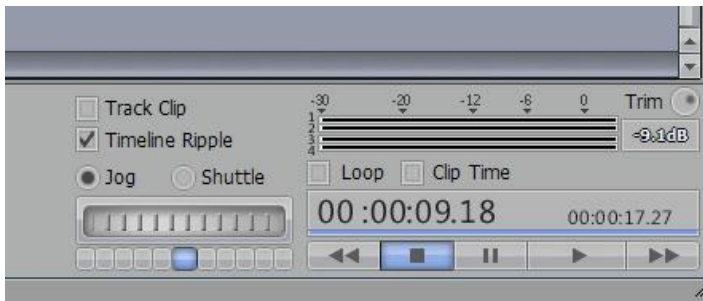


Figure 30

REWIND AND FAST FORWARD

The **Rewind** and **Fast Forward** buttons let you scan quickly through your project. These buttons have another feature: double-clicking Rewind jumps to the beginning of the project, while double-clicking Fast Forward jumps to the end of the project.

JOG & SHUTTLE

The **Jog** and **Shuttle** wheel located beside the deck controls lets you scan through your project at various rates. (This control works with both video and audio, so you will hear audio if it exists.) To use the wheel, pick Jog or Shuttle *mode*, then click and drag the wheel left or right.

If you click **Jog** and twist the wheel, you can scan through your clips frame by frame. If you click **Shuttle**, the wheel provides variable speed fast-forward and reverse playback. In this mode, the LEDs under the wheel indicate your rate of progress through the frames.



In shuttle mode, the LEDs beneath the wheel indicate the degree of wheel rotation (and hence, rate of play) but also serve another purpose as incremental speed controls. Click directly on any of them to play the clip (in either jog or Shuttle mode.)

Figure 31

Each LED represents an incremental change in speed. The first three LEDs from the center activate slow motion playback (.3, .5, and .8 of regular speed). The fourth one to the left or right of center plays at regular speed. The outermost LED plays your project at double speed. Clicking any of the LEDs right of center plays forward; those on the left play in reverse. Clicking again stops playback.

BACKGROUND RENDER STATUS



Figure 32

Just above the **Play** button, there is a (normally) blue status line (a similar status line is located at the bottom of the Timeline pane.) When completely blue, this indicates that the project is ready to play in realtime. If the line is partially red, SpeedEDIT is busy; perhaps background rendering or generating the audio waveform displays. Even so, you can work on your project, editing clips, setting up effects, etc.

By design, **Background Rendering** in SpeedEDIT does not disturb your workflow. It is optimized to operate in the most efficient manner your computer system is able to support.

As the background render proceeds, the red status line turns progressively beige, with the red area indicating the extent of rendering remaining to be performed. When the system is ready to

play, the line turns blue again. Even when background rendering is not complete you can play your project with impunity, although playback may be a bit choppy.)

NOTE: A beige line may also indicate that there are files missing from your project. The missing clips will be bordered in red in the Storyboard or Timeline panes.

TRACK CLIP

With **Track Clip** check-marked, when a clip is selected the **Edit Line** automatically advances its beginning. Also, when you pick a clip in the **Storyboard**, the **Timeline** jumps to that clip in its layout.

NOTE: You can change the Track Clip option in the Preferences menu under User Interface. The choices are jump to the Clip Start, Clip Center (the default), or Clip End of the clip. The default is Center. The keyboard shortcut to toggle Track Clip on and off is “u”.

TRIM CONTROL

This knob controls the global audio level of SpeedEDIT. File renders will respect this setting. This is to say that levels shown in the VU meters (and Peak level display) in this area will be the levels rendered. Double-clicking the volume control will silence it, and Shift + double-click brings it back up to the unity level (approximately 75%).

HINT: Use the separate Volume knob on the Video Output window to ensure comfortable listening levels while previewing your project. The Video Output volume has no effect on rendered files.

VU METER

There are four channels of output audio displayed on the VU (Volume Unit) meter. The meters continuously display the audio level during playback, permitting you to monitor them to ensure compliance with norms. As in most digital audio environments, 0dB should be considered the ceiling – higher levels will result in distortion or clipping.

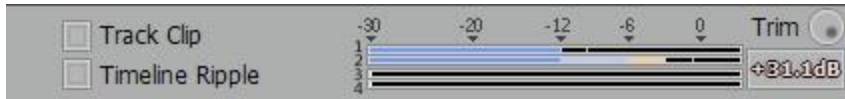


Figure 33

The color of the illumination in different segments of the **VU Meter** scales provides a visual reminder of these considerations. As levels approach 0dB, the illumination is a lighter blue. Above 0dB, the line turns first pink (below 5dB) and then red -- to warn of the likelihood of clipping.

PEAK LEVEL

This numeric display to the right of the **VU Meter** area shows (and holds) the highest level you have played back. Click the mouse on the **Peak Display** to reset the currently stored peak value. Subsequently, as you your project plays the Peak Display retains the loudest level measured (you can even fast forward through your edit to scan for highest level quickly.)

LOOP

You will find a **Loop** switch located beside the timecode display, too. As you would expect, enabling this feature causes SpeedEDIT to play the project or selection continuously until you click the Stop button. The keyboard shortcut for Loop is the apostrophe (') key.

TIMECODE

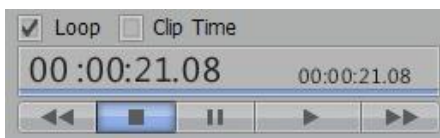


Figure 34

The term *timecode*, as used in the video realm, describes the use of a unique time stamp for each video frame. This reference enables frame-precise editing. Timecode is customarily formatted as 00:00:00:00, denoting HH:MM:SS:FF (Hours, Minutes, Seconds and Frames.)

The Timecode display at the bottom of SpeedEDIT is essentially a clock showing your current location in the project as an expression of project time.

When SpeedEDIT is playing your video, the clock will be counting, as it were – but the time displayed at any moment is really a reference to the specific video frames as each one flashes by. The similar but smaller display at lower right denotes total project duration.

Depending on how you capture an individual video clip, it may or may not have its own embedded timecode. If it does, and if the **Clip Time** switch located above the larger Timecode field is check-marked, the clip’s own embedded time is shown during play. Otherwise, SpeedEDIT provides the timecode itself.

HINT: You can also quickly toggle the Clip Time switch status by clicking directly on the large Timecode numeric display.

More details relating to timecode and SpeedEDIT fields displaying it can be found as we go along, such as in the section detailing the Trim Bay and Selected Clip Properties panel.

3.7 CAPTURING CLIPS

Capture could hardly be simpler. Connect your digital video playback device (VCR or camera) via your system’s IEEE 1394 port, and turn it on. Open the **Capture** panel using the **File** menu point by the same name.

The right side of this panel is a fairly standard SpeedEDIT **Filebin**. Use its features to navigate to the place where you want to store the files you are about to capture. Assign a descriptive *base filename* for the current session using the **Name** field in the lower half of the panel.



Figure 35

HINT: The Total Free Space display will help you ascertain that you have sufficient space for the Capture session you plan. One hour of DV25 or HDV 1080i (MPEG2 transport stream) requires about 12 gigabytes of space. DVCPro 50 doubles that, and DVCPro HD consumes about 4X that amount. (In general, it's a good idea to add another 25-50% to the minimum capacity you expect to use.)

Video source devices will be automatically detected (it must, of course, be in **Playback** or **VCR** mode), and listed at the bottom-left of this panel. If you change devices and do not see it listed, click the **Refresh** button or use the down-arrow next to the Input field to select the correct unit.

NOTE: SpeedEDIT captures your files in the native format for the device you used to record the video in the first place (consumer style DV25 capture is Type 2, if you're keeping score.) The Capture process is thus basically a file transfer – a lossless process.

With your device connected and listed, use the VCR-style *transport controls* beneath the **Source Preview** window to locate the part of the tape you wish to record. Having already set the path and filename for the Capture session, there's no need to fuss with file formats and options. Simply click the triangular **Play** control to start playback, and click the red **Record** button to begin **Capture**.

HINT: The timecode display above the preview shows the embedded source timecode as it plays. The larger timecode display to the right shows the duration of the current clip as you record it.

3.7.1 STOP AND CHOP

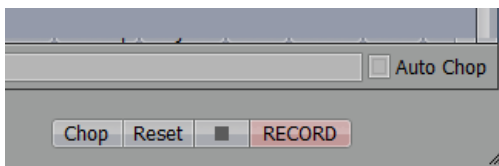


Figure 36

Click **Stop** when you like, or use the **Chop** button to break off **Capture** to the current file, and immediately commence recording another.

Repeated use of **Chop** can quickly populate your project with ready-to-trim content.

NOTE: A couple of frames may be lost between scenes when you use Chop. While generally they will not be missed, do not use Chop in hopes of abutting the resulting clips tightly in your project for seamless playback.

If for any reason a frame is dropped during capture, a **Frames Dropped** message will appear in the **Record panel**. SpeedEDIT's internal buffering should make this a very rare occurrence, but glitching affecting the recorded tape may cause it to appear.

It's important to be aware that the **Reset** button actually drops the current clip being recorded, and restarts from the current point in the source material.

AUTO CHOP

The timecode digitally recorded during your video shoot is recognized and captured along with the video transferred. In fact, by enabling the **Auto Chop** switch prior to clicking Record, you can have a new file automatically created each time the digitally recorded timestamp changes, without ever touching the controls during Capture. This is a great timesaver. (Auto chop is the default for **HDV**, which requires its use.)

3.8 THE STORYBOARD

3.8.1 ADDING CLIPS TO THE STORYBOARD

Let's get down to it – you've shot your video, logged your tapes, and digitized your clips. You've put the coffee on – mind the keyboard, now - and are all ready to edit.

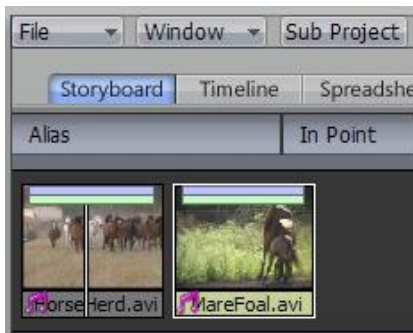


Figure 37

You will immediately discover there is more than one way to accomplish even the most fundamental tasks in SpeedEDIT. For example -- at the very core, SpeedEDIT provides not just one, but two ways of editing video -- the **Storyboard** and the **Timeline**.

Luckily, these two views are complementary, intimately linked. Edits in one pane are immediately reflected in the other, allowing you to jump between them with only a mouse click.

Many editors find the **Storyboard** a good place to begin an edit session because its almost simplistic project overview makes quick clip organization (and re-organization!) a breeze. Switching to the **Timeline** view then greatly facilitates adding multiple layers, narration, titles, and so on, to finish the program.

In the **Filebin**, navigate to a location on your system where some video clips can be found. If you know the order of the clips in your program, you can Ctrl + click each in order to select them. Then, when you drag them all at once onto the **Storyboard**, they will line up retaining your selection order! (Of course you can also add clips one at a time.)

To *insert* a clip between two others on the **Storyboard**, just drag its thumbnail from the **Filebin** (or **New Media** window) and drop it between them. Rearranging clips works the same way, by dragging thumbnails to new positions on the Storyboard.

NOTE: If you will be using the Timeline later, you might wish to check a setting in the Preferences panel before you start dragging clips into the Storyboard. The Preferences menu item EDITING has an option labeled Timeline A/B track editing.

When you drag a clip to the **Storyboard**, the **Timeline** updates simultaneously. If you choose the default setting (**Single track-row editing**) the clips are lined up on a single row of the Timeline track, one butted next to the other. **A/B track-row** will put the first clip on the top track; the next will be placed on the track below, the third back up to the top, and so on.

HINT: To help you visually identify your clips in the Filebin, make sure that your Filebin View Mode (the drop-down in the upper right corner of Filebin) is set to Large Icon. (If you have added a lot of comments to your files, then you probably should be in Details mode.)

At the bottom of the Large Icon is the name of the clip. You can change that display by clicking to select one of the other Filebin tabs, such as File Type or Modified. (This also works in the Storyboard panel.) Also, note that SpeedEDIT thumbnails are animated -- place the cursor over a clip in the Filebin to play the thumbnail anim.

You can load sample clips and images from the NewTek Content folder if you haven't yet captured any of your own. Drag some video icons from the Filebin onto the Storyboard. A thumbnail icon is placed on the **Storyboard** for each clip. The icons for various clip types differ somewhat:

- Video-only files have a blue bar at the top of the icon.
- Audio-only files have a green bar.
- Files with both video and audio tracks have a two-tone bar of blue and green. (The green bar turns yellow if you use a split edit.) They also display a little magenta music note above the filename area of the thumbnail.
- Still images have no bar at the top.
- DVE (Digital Video Effect) icons are a bit smaller, and also have a blue bar.

ENLARGING THE ICONS

If you are reaching for a magnifying glass to see the icons on your monitor, note that NewTek has conveniently built one into the SpeedEDIT interface for you.

The *magnifying glass icon* is found at the bottom right corner of the **Storyboard** panel. When you have thumbnail icons loaded into the Storyboard, use this control as follows.



Figure 38

- Click and drag up to make the icons smaller.
- Click and drag down to make the icons larger.

(Alternatively, you can single-click on the top or bottom half of the magnifying glass gadget to nudge the thumbnail size in small increments.)

3.8.2 EDITING IN THE STORYBOARD

You can rough-edit right in the **Storyboard** pane without opening another panel (it often helps to understand the process if you view the **Timeline** in the lower pane as you work on the Storyboard above.) Click to select a clip icon. Move your mouse to the top-left corner of the icon, and hold down the **Alt** key. The mouse cursor changes to say **In**, and the timecode for the clip's **In Point** will pop up nearby.

When you bring a clip in to SpeedEDIT, by default the software automatically sets the **In Point** precisely one second past the beginning of the clip, and the **Out Point** one second before the last frame. This is done to ensure there are unused frames to permit the seamless addition of DVEs (transitions) between clips.

You can manually override this automated behavior of the **In**s and **Out**s easily, because the whole clip is always available. Or, if you prefer that the In point frame to default to the true beginning of the clip (and Out to the last frame,) you can do so. Change the setting in the **Preferences panel** listed as **Automatic In/Out Offsets** to **No Offset**.

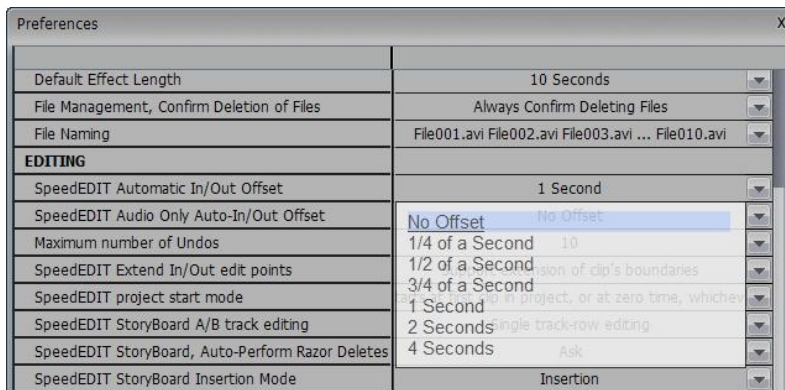


Figure 39

HINT: To quickly modify one or more clips in this fashion, highlight the clip(s) and press the g key. This resets both In and Out point for the clip to the first and last frames in the file, and works in both Storyboard and Timeline views.

Try this with a video clip: hold the **Alt** key down, and with the left mouse button, drag left or right to change the **In Point**. The image at current frame is displayed on the SpeedEDIT **Output** window as you drag. Now, you can use the same Alt + drag technique on the right side of the icon to set **the Out Point** (just pick an Out Point that you like.)

To alter the audio edit points only (without adjusting the corresponding video clip) hold down Alt + Ctrl as you are dragging. The green bar will move, but the blue one will not. (When you split the audio from the video, the green bar turns yellow.)

To move an **In** or **Out** while maintaining the length of a clip, you can perform a **Slip and Slide** operation. Hold down Alt + Shift and the cursor says **S/S**. As you drag the mouse, the bars move but remain the same length. Slip and Slide for audio only is Alt + Shift + Ctrl.

NOTE: More details relating to timecode and SpeedEDIT fields displaying it can be found as we go along, such as in the sections detailing the Trim Bay and Selected Clip Properties panel. See the Index for a list of all references.

You have just performed the most common task of editing — adjusting the beginning and end of a clip, then adjoining it to another adjusted clip. The “cut” is the fundamental building block of both movies and TV programs.

NOTE: You also can edit Storyboard clips in the Trim Bay, which will be discussed later.

3.8.3 STORYBOARD PLAY OPTIONS

To play a clip, double-click it to start playing at the **In Point** and to stop at the **Out Point**. Hitting the **Spacebar** will pause playing the clip.

Tap the **Spacebar** again to resume playing. Whereas the double-click play ended at the last frame of the (trimmed) clip, however, pressing Enter puts SpeedEDIT into continuous playback. The entire storyboard will play from left to right continuously, until it comes to its end or you manually **Pause** or **Stop**.

NOTE: When a clip is playing, a vertical blue line, (called the Edit Line), crawls along the Storyboard icon giving you a visual reference of your current position in the clip. If you hit the right arrow key on the keyboard, the clip pauses.

Click the arrow again and it advances one frame. Hold the arrow down and it plays the clip. Hold Shift + arrow and the clip will advance five frames at a time (the left arrow key plays in reverse.)

For a quick review of a clip, pressing **Shift + Spacebar** begins playback three seconds prior to the actual current position in the project (this is especially useful for reviewing the cut point at the boundary between two clips.)

You can play the whole project in a number of ways. On the keyboard, hit **Home** to jump to the beginning of the project, and then press the **Spacebar**. The keyboard shortcut **k** will also play the project (to be precise, the **k** shortcut toggles **Play/Pause**.)

In fact, there is an extensive list of keyboard shortcuts for the SpeedEDIT panel — five pages of them. You can view the list when you are in the SpeedEDIT panel by pressing **F1** (that's the Function 1 key located in the upper row of your keyboard).

3.9 TIMELINE EDITING

Many editors spend most of their time in the Timeline mode of SpeedEDIT, in appreciation of the clear view it offers of the relationships between layers in a project. This makes it easier to create, visualize and adjust multi-layer compositions. The unique combination of the simplicity and speed of Storyboard editing with the depth of the Timeline for advanced work is one of SpeedEDIT's greatest strengths.

3.9.1 TIMELINE INTERFACE

If you have been following along, click on the **Timeline** tab in the bottom pane (unless it is already active.) The display updates, replacing the **Filebin** with the Timeline pane. While you're here, click in the **Storyboard** pane; notice that its background becomes lighter, indicating it is the active pane. Click again in the Timeline pane and the Storyboard pane darkens.

SYNCHRONICITY

When you select an icon in the **Storyboard**, you do not automatically select the corresponding clip on the **Timeline** or vice versa. However, any changes you make to your project in either pane are immediately reflected in both views. For example, if you alter the In and Out points of an icon in the Storyboard, these are updated in the Timeline view too.

The portion of the project displayed in the two panes does not always correspond, however. This is actually an advantage. It is often very useful to work in a close up view of a section of the project in one pane, while keeping the other pane set to a broader overview as reference.

For this reason then, while the edit properties of each clip in the entire project are always harmonized regardless of whether you modify them in the Storyboard or Timeline, the segment of the project highlighted in one view is not automatically updated in the other pane.

Although the independent views are convenient, at times it is useful to know how to harmonize them:

To display the identical segment of the **Timeline** as represented by the currently selected clip(s) on the Storyboard, double-click in the background of the Timeline. (If no clips are highlighted in the Storyboard view, the Timeline will perform the default 'zoom to fit all.')

Try double-clicking the **Timeline** tab. The Timeline maximizes to occupy the entire SpeedEDIT workspace, usurping the section normally occupied by the **Storyboard**. Do this again to restore the normal dual pane view.

Take a look around the **Timeline**. If you are an editor, you might be spending a lot of time here, so become familiar with the neighborhood.

The Timeline interface is composed of four elements: the **Edit Line**, (the vertical blue line), the **Time Bar**, (the horizontal strip showing timecode at the top of the pane), the **Play Range** bar above that, and the large work area with **Tracks** to hold your clips and other media.

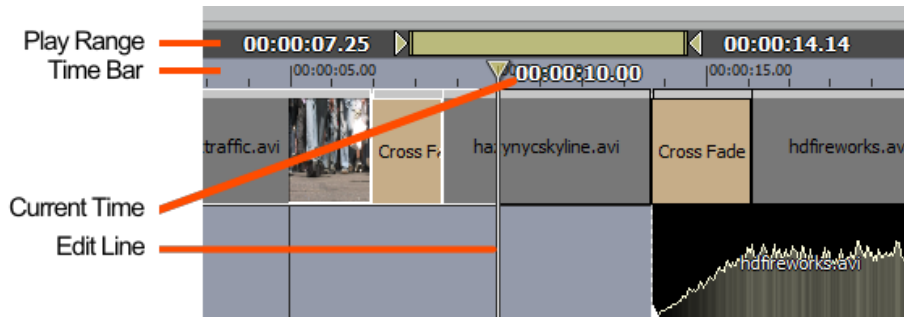


Figure 40

EDIT LINE

The **Edit Line** is an essential tool. Rolling your mouse over it changes the mouse pointer to a double arrowhead. This indicates that you can click and drag left or right to move back and forth through your project. You can watch your progress either in SpeedEDIT **Output** or an external TV monitor. This process is called *scrubbing*.

TIME BAR

On the **Time Bar**, the **Edit Line** also displays the timecode (in white) for the current position. You can move the Edit Line without dragging, by clicking on the Time Bar at any point -- the Edit Line will jump to that spot.

Also, if you double-click anywhere on the **Edit Line**, a little numeric entry field pops up listing the current timecode. If you type a different timecode into the field, the Edit Line will jump to that location. This is very handy when you are working on a long form project .

HINT: Pressing Ctrl + g also displays the "Go to Time" timecode entry field – press Enter after making an entry to perform the jump.

PLAY RANGE

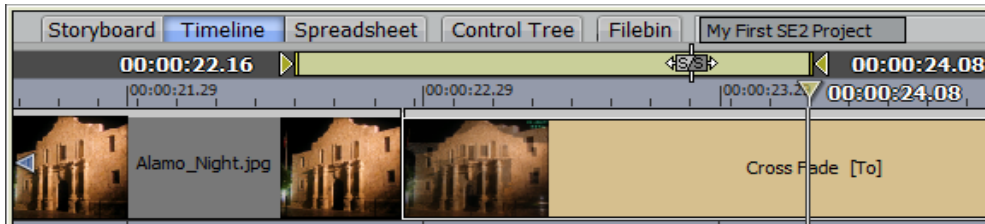


Figure 41

The **Play Range Bar** is situated just above the regular **Time Bar** at the top of SpeedEDIT's main timeline pane. It allows you to mark **Start** and **End Point**, which subsequently limit playback to the corresponding section of the timeline when the feature is enabled.

When no range is *already* set, click and drag in the **Play Range Bar** to establish one. The initial click establishes either the **Start** or **End** for the range, depending which direction you drag afterward – left or right. Releasing the mouse button sets the opposite end of the play range.

The range **Start** and **End** are depicted by (inward-pointing) *drag handles*. Drag the **Start** or **End** handle left or right to adjust the corresponding time value. Drag between the **Start/End** drag handles to slide the entire **Play Range** left or right along the time ruler – the mouse shows an [S/S] pointer. To completely replace the current range with new Start and End points, click and drag outside the current play range (in the Play Range Bar).

Hover the mouse pointer over either handle (for an *active* range) to display its timecode in a small popup (when the mouse is over the play range, both Start and end times are shown).

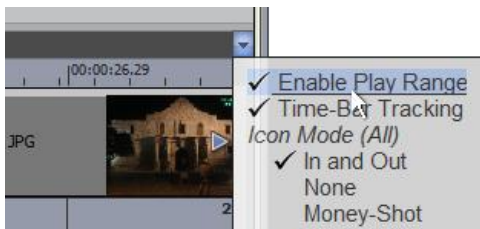


Figure 42

ENABLE/DISABLE RANGE

Use the Enable/Disable Play Range menu entry in the drop-down menu at extreme right to toggle its status. Alternatively, click (the Play Range Bar) while holding the Ctrl key to disable it; simply click it (without Ctrl) to re-enable.

TIMELINE MANAGEMENT

With no clip selected, double-click right on the **Time Bar** to expand the view to fit the project. On the left side of the interface, (to the left of the 00:00:00:00 point on the Time Bar), the tracks are overlaid by diagonal lines. These reference marks indicate time before 00:00:00:00.

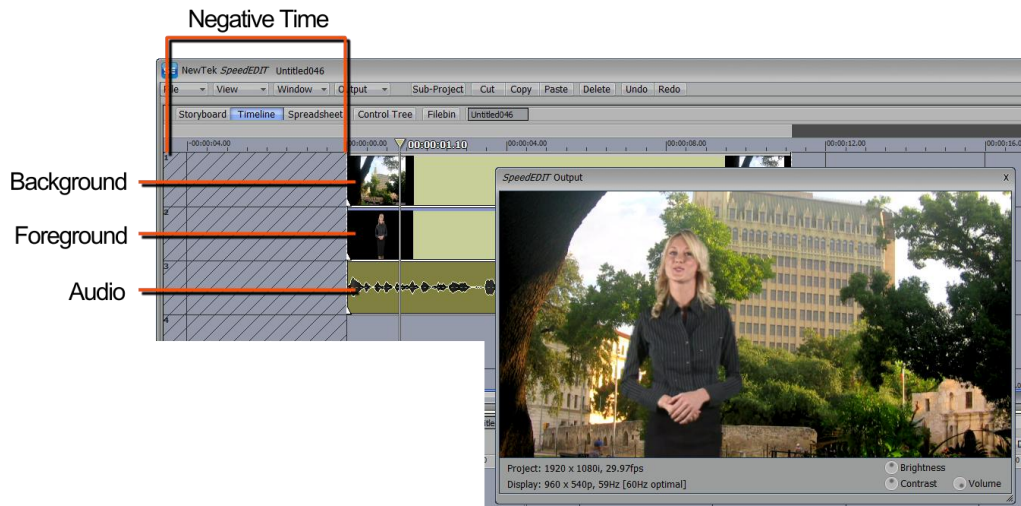


Figure 43

Traditionally, editors begin their programs at 00:00:00:00, but they will often place color bars, slate and countdown in this area. (Of course, if you are feeling rebellious, you are free to lay out your whole project in that negative time zone area.)

The Timeline Tracks, numbered from top to bottom, are references for laying out your clips. Audio and video intermingle on the interface. There are no assigned locations for audio and video, so you can freely move clips up and down tracks. You can effectively load an unlimited number of layers into the Timeline, limited only by your system resources.

Tracks become relevant when you are *layering* clips. SpeedEDIT edits clips are displayed on the **Video Output** according to a specific order. When you want to overlay one clip above another in the Output, the clip you want to appear *foremost* in the result should be placed on a track below the *background* clip. (Overlays will be discussed later.)

3.9.2 ZOOMING AND SCROLLING

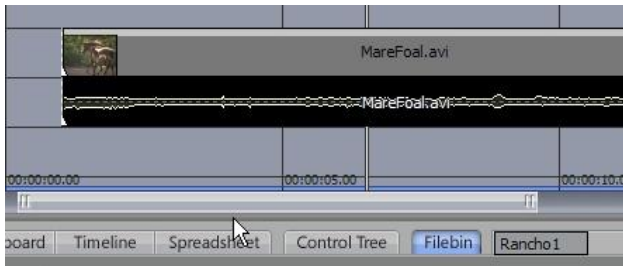


Figure 44

The **Time Bar** depicts major and minor time increments with timecode and tick marks. You can scroll through the Time Bar with the scroll bar at the bottom of the pane. Just click and drag it left or right. Roll your mouse on either end of the scroll bar to zoom in or out. When the cursor says zoom, click and drag your mouse away from the bar to zoom out horizontally, and toward the bar to zoom in horizontally. If you hold the Shift key when you zoom, it constrains the other end of the zoom.

Another convenient way to zoom in on the Time Bar and your clips is to use the *scroll wheel*, if your mouse is so equipped. Using the wheel to zoom your active timeline view will always center the zoom on the location of the **Edit Line**.

NOTE: As you will see in all of the panels, if you press Ctrl while dragging, the operation will be 10 times more precise. This is true for all sliders and twist knobs.

As is so often the case in SpeedEDIT, there are *even more* ways to zoom. If you move your mouse up to the **Time Bar**, with a single click-and-drag operation you can pan horizontally and zoom simultaneously. Right-click on Time Bar, and drag left or right, and the timeline view pans. If you drag up or down, you zoom in or out.

HINT: To quickly see the entire project in the Timeline pane, double-click in an empty area of the Timeline. (This works in either the Storyboard or the Timeline panes, when no clips are highlighted.)

If clips are selected in the Timeline, double-click in the Time Bar, or hold down the Ctrl key and double-click in the background of the workspace to zoom in on your selection.

As for the **Storyboard** view, you can also modify the *height* of the tracks. Click the **magnifying glass** at the bottom of the vertical scroll bar on the right. Pull up to enlarge the tracks and down to shrink them.

CUSTOMIZING TIMELINE CLIP DISPLAY

You can change the look of your clips, transitions, overlays and effects by clicking on the down-arrow on the top of the vertical scroll bar on the right, and selecting a new look from the **Context Menu** that pops up.

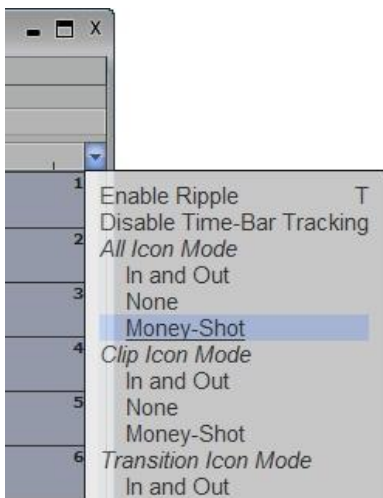


Figure 45

3.9.3 TIMELINE SNAPPING

To move a clip, simply click it and hold, then drag it. Clips in the timeline have a ‘magnetic attraction’ to other items in the Timeline, and tend to ‘snap’ to them. For example, when the bottom or top of a clip approaches a track line, the clip will jump to that spot. The clip also snaps to the vertical lines in the panel. Most importantly, a clip will snap to the **Edit Line**, as well as the **In** or **Out** point of other clips.

This tendency to snap does not prevent you from moving the clip wherever you want on the Timeline (however, clips will insist on sitting on a track line.) You can move multiple clips in the Timeline by selecting them, and then dragging them all at once. When you drag multiple items,

only the first item selected snaps. All other items maintain their relative positions to the first item.

HINT: Occasionally, you will want to move a clip up or down in the Timeline without altering its position horizontally on the Timeline. To constrain your movement to vertical dragging only, hold the v key down.

It's important to press the v key before you click the mouse and drag. To conclude the operation stop dragging wherever you wish, then release first the mouse button, then the v key.

3.9.4 DRAG COPYING

We've mentioned the **Cut**, **Copy** and **Paste** functions above, along with their keystroke equivalents. SpeedEDIT offers another great copying convenience: if you hold down the Ctrl key before you start dragging a clip or selection of timeline items, you make a copy of the object(s) at the location where you release the mouse button. The source items remain in place.

This is a great way to quickly copy a clip ... unless, of course, you just wanted to move it -- if you do this by mistake you'll leave unwanted copies in the wake of your mouse. Remember the earlier hint (from Section 3.5, Cut, Copy, Paste, and Delete) regarding the usefulness of multi-selection copy/paste operations when combined with Inherit – this is a dynamite way to quickly flesh out project 'templates' for regular use.

3.9.5 RIPPLE MODES

Before you start editing **In** and **Out Points** on the **Timeline**, we need to discuss the concept of Rippling. **Ripple** is a factor in the way clips interact in a project. The standard notion of rippling in non-linear editing is that you can put three clips — one right after another — on the Timeline, adjust the middle clip (for example, make it shorter), and the last clip will slide (ripple) as required to maintain the relationship between clips.

If you deleted the middle clip, the last one would ripple to the left – to an earlier point in time -- to take its place. (If you have a lot of clips on the Timeline and adjust the In or Out Point of a clip near the beginning, then the trailing clips appear to move in a rippling manner – hence the name.)

SpeedEDIT provides both a **Storyboard Ripple** and a **Timeline Ripple**. These differ slightly in operation. When Timeline Ripple is enabled, changing the **In** or **Out point** of a clip causes all

subsequent clips to ripple by the same amount. So, if you decrease the length of the clip by two seconds, all the clips after it on the Timeline also adjust to new positions two seconds earlier. Ripple doesn't affect the duration of the affected clips – just where they fall on the Timeline.

Storyboard Ripple works as though you removed the clip, made your adjustments, and then inserted the clip again using the rules of Storyboard operations. Rippling is so intrinsic to this style of editing that Ripple mode *cannot be disabled* at all in the Storyboard interface.



Figure 46

By contrast, **Ripple** is optional for **Timeline** editing. You can turn Ripple off in the Timeline mode by de-selecting the **Timeline Ripple** switch found just about **the Jog/Shuttle** wheel in the lower right section of the SpeedEDIT panel. The keyboard shortcut **t** toggles the Timeline Ripple switch on and off.

NOTE: This shortcut has been modified compared to prior implementations. Previously, Timeline Ripple mode was enabled by pressing t, and disabled by Shift-t. (The latter keystroke combination still works, to accommodate 'old dogs' that have a hard time with 'new tricks'.)

3.9.6 SET IN AND OUT

The **In** and **Out Points** are the frames where your clips begin and end *in the project* when you play it. These frames *may or may not* correspond with the actual first and last frames as recorded in the source file on your hard drive.

NOTE: When you add a clip to SpeedEDIT, you import the whole clip. Although only a portion of it may be in use (and shown along the timeline,) all of it is actually available for insertion

If a clip is fifteen seconds long and you set an In Point at five seconds, you haven't really cut those five seconds off the clip. You are free to return later and change the In Point to two seconds by grabbing the clip's edge and extending it. The 'missing' frames will be restored, referenced from the source file.

If you have been following along, you currently have two clips on the **Timeline**. For now, make sure that **Ripple** is enabled in the Timeline. Let's start by adjusting the **Out Point** of the first clip, so you can see how Ripple works:

To adjust the clip's **Out Point**, roll your mouse over the right edge of the video stream. The cursor will say **Out**. Click and hold, then drag the edge to the right to extend the Out Point, or to the left to contract it. You can see and hear as you scrub. This is one of the advantages of setting your Preferences to A/B track-row editing – you have easy, direct access to your In and Out Points.

Observe that the second clip follows along when you move the **Out Point**— it ripples. Also, note that adjusting *either* the **In** or **Out Point** affects the end of the clip as it lies on the timeline. The point at which the clip starts on the Timeline does not change, although the image displayed at that point may (when you adjust the **In Point**.)

HINT: To repeat, to increase the resolution of mouse operations for precise frame adjustments, hold down the Ctrl key at any time when you are dragging. This refines the accuracy of the operation by 10 times, quite sufficient to provide single frame accuracy.

Here's something else to try: use the method described above to set an **Out Point** later in the clip than you really want. Then use the left arrow key to advance the **Edit Line** frame by frame to the exact spot you intend, and press the o key on your keyboard. (That's o for Out Point and i for In Point.) The Out Point immediately snaps to the Edit Line. (For this to work, the relevant portion of the clip must be in view on the Timeline.)

If you're nimble, you can adjust In and Out Points on the fly -- just click to select your clip, hit the Spacebar to commence playback, then hit i and o as the clip plays (this works with just one clip at a time, mind you.)

Just as in the **Storyboard**, if you hold the Alt key down when you roll over a clip the In Point (if you are nearer to it) or Out Point timecode is displayed.



Figure 47

When you extend an In or Out Point beyond the source file's true first or last frame, you encounter a special case. A little red triangular marker (called a 'bang') appears at the end of the clip in such cases. This indicates that you have overextended the clip. When you play the clip, SpeedEDIT freezes the last frame in the clip, and holds it for the balance of the extended length. The identical thing occurs if you extend the In Point earlier than the first frame of the source file.

3.9.7 SLIP AND SLIDE

When you move an **In** or **Out**, you lengthen or shorten the clip (as played.) If you want to change the In or Out Point without affecting the overall length of the clip on the timeline, you can perform a **Slip and Slide** operation.

For example, suppose you originally had a fifteen-second long clip on the timeline that has the In Point set at five seconds and Out at ten seconds -- resulting in a five second trimmed clip. You require the clip to be five seconds long, but decide that it would be better to start on a different frame --one only three seconds into the original source file.

To change the In point of the clip to start at three seconds without altering the five second play length, depress Shift + Alt as you drag the left edge of the clip. You will see your cursor change to display S/S, and the operation will automatically adjust both the In and Out points simultaneously, retaining the five second play length as desired.

3.9.8 LOCKED A/V

If a clip has audio and video, when you add it to the Timeline separate layer icons (strips) are created and displayed for the video and the audio streams. By default, those streams are locked,

meaning that if you change the In or Out Points of the video, the audio is trimmed to match. If the streams are unlocked, altering the video stream length does not change the audio.

You can lock or unlock streams by right clicking a clip and choosing the option desired, or by toggling the Lock A/V switch in the Trim Bay or Selected Clip Properties (Video tab.)

NOTE: Locked or Unlocked, if you change the audio stream the video will not follow. In SpeedEDIT, "Video always has priority."

3.9.9 TIMELINE MARKERS

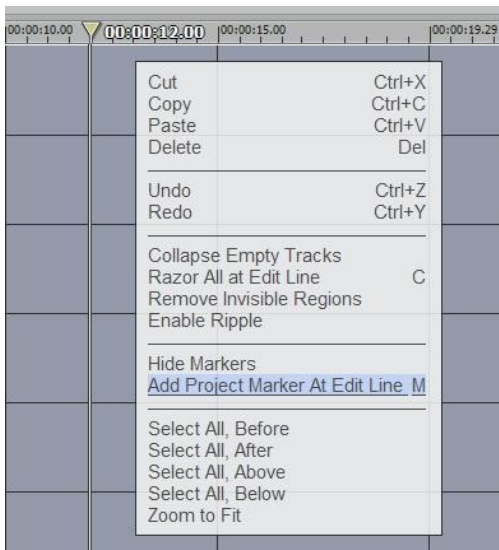
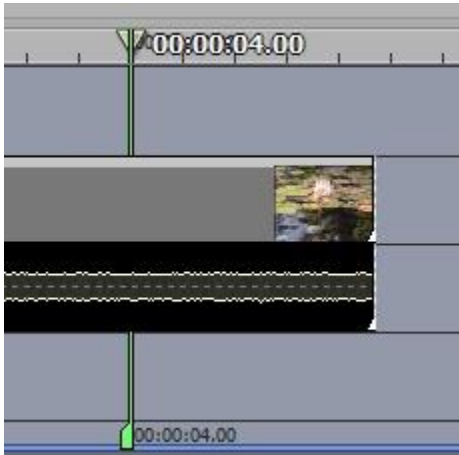


Figure 48

Both types are quite similar as respects their creation, management and basic features. The primary difference between the two is their affinity, if you will.

While both exist within the **Timeline** pane (to the degree that virtual entities enjoy existence), **Project Markers** fulfill their raison d'être by clinging tightly to the global Project time. **Clip Markers** are more free-spirited, happy to accompany the object of their affection wherever it goes.

You can create a **Project Marker** in several ways. With no timeline object – clip, etc. – selected (highlighted) in the project, right-click in the **Timeline** pane’s background. This opens a context menu. If you select **Add Project Marker At Edit Line**, voila – a new marker is created at the current position of the Edit Line. It appears as a distinct thin green vertical line intersecting the Timeline display.



Adjust the current position of the Edit Line, but this time press the m key to create another Project Marker. Now you have two Project Markers.

What’s really wonderful about the keystroke shortcut is that you can use it even while the project is playing back.

This permits you to easily mark visually (or audibly) significant events for later reference, or use them as placeholders for edits you have in mind for later.

Figure 49

NAVIGATING BETWEEN MARKERS

You can quickly force the **Edit Line** to jump from marker to marker in the timeline using the , and . keys (or, if you prefer to think of it that way, the <, and > keys ... *without* Shift, mind you).

MANAGING MARKERS

Suppose you later regret having added that last marker. Right click an individual marker tag and choose **Remove (Clip or Project) Marker**. For wider scope, right-click in the Timeline’s background to open the context menu, and you will see several relevant items as shown.

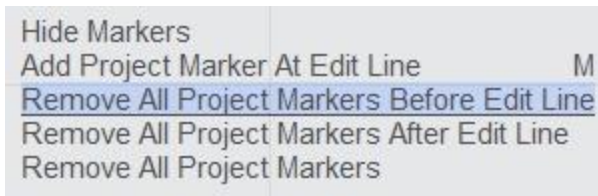


Figure 50

You can also left-click the mouse pointer directly on a marker and drag to the left or right to reposition it more carefully along the Timeline. There's another easy way to precisely re-position a marker described in the next sub-heading, too.

EDITING MARKERS

It gets even better. You can easily edit the appearance of your marker(s), adding useful information at the same time. Double-click the marker directly, and up pops a small inset with three wonderful features (alternatively, right-click a marker tag to select **Edit (Clip/Project) Marker**).

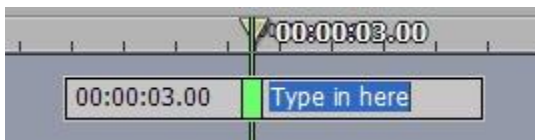


Figure 51

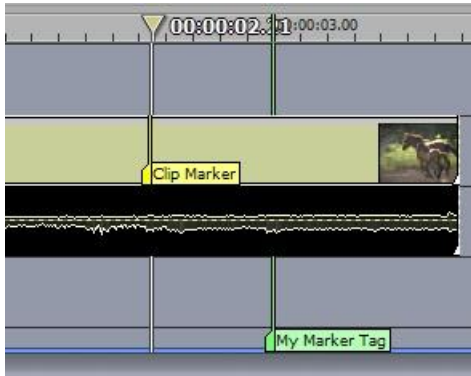
The **Marker Tag** field, shown in blue in the image, is active immediately after double clicking. Use this field to provide brief editing notes for the current time position.

While in Marker Edit mode, you also will see another direct entry field to the left of the marker. Modify the existing timecode value and press Enter on the keyboard -- the Marker will jump to the new position. You can even use this facility before beginning to build your project, adding a bunch of markers immediately and then entering timecode values for significant edit points decided in advance.

HINT: See the Hint in Section 3.13, The Trim Bay regarding timecode entry shortcuts.

Centered right above the Marker is a color swatch. Click it to popup the standard SpeedEDIT Color Picker, and click a new color for your Marker. (You can use colored Markers to signify certain types of events, or simply because you've an over-developed color sense.)

CLIP MARKERS



Let's discuss the other type of Marker – the Clip Marker. **Clip Markers** are identical to Project Markers in every sense, except one.

Whereas **Project Markers** know their place in the grand scheme of things, **Clip Markers** cling limpet-like to their parent objects, such as video and audio clips. Move the clip, and the Clip Marker goes right along for the ride – its timecode is local to the clip.

Figure 52

To create a **Clip Marker**, you need to do only one thing differently – select a clip (or clips) first, before pressing the m key (or using the menu.) In all other respects – naming, coloring, and so on, Clip Markers work just like their cousins.

HINT: Clip Markers serve many purposes, but one great way to use them is to synchronize clips recorded by different cameras in a multi-camera shoot of an event. Play the clips, and watch for a distinctly notable audio or video event (a clapboard is ideal, but a still photographers camera flash often makes a good substitute.)

Hit the m key when the event occurs, then repeat the process marking the same event in the clips recorded by the other cameras. Drag markers as necessary to tweak them (zoom in a lot to get a good view of the audio waveform if using an audio event to place your markers.) Then, arrange the clips one above the other on the timeline using the markers to line them up and your clips are in perfect sync.

SHOW/HIDE

The Show and Hide marker context menu items toggle visibility of the marker *label*.

MAGNETISM

One thing remains to be mentioned – **Markers**, like many **Timeline** objects, have a certain ‘magnetic’ quality. When dragging objects to reposition them on the timeline, they tend to snap to each other – and to markers. This attribute enhances the benefit of Markers as aids in aligning clips, as in the Hint just above.

3.9.10 THE COLOR PICKER

This versatile little panel is opened from the Windows menu. It is not complicated, but has a few features not found in the basic Windows system equivalent. The **Color Picker** is useful in a number of settings within the SpeedEDIT interface, notably when dealing with **Chromakeying**, performing **Color Correction**, or creating CG objects and titles.

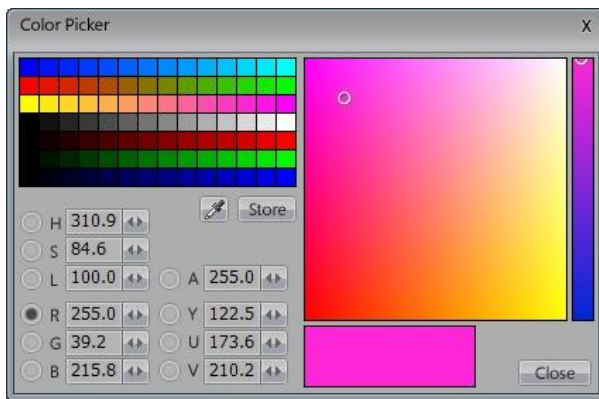


Figure 53

The Color Picker can also be opened by left clicking directly on any color swatch that appears elsewhere in Speed Edit, such as in the Control Tree list or CG design pane.

PICKING COLORS

When you open it from a secondary color swatch, you can quickly assign a new color to the parent swatch simply by clicking a color in the Color Picker's main color palette.

Or, if you opened the Color Picker from the Windows menu, click a color in the palette to refresh the large **Current Color** swatch underneath the spectrum window occupying the right half of the color Picker. Then click and drag from the Current Color swatch onto the target swatch, to change the color of the latter.

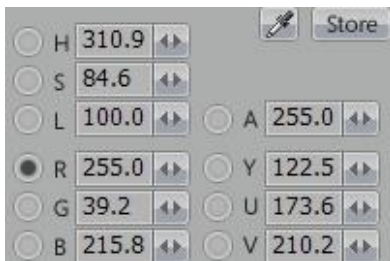


Figure 54

CUSTOM COLORS

Create new custom colors by selecting a **Channel Switch** in one of the three alternative **Color System** sections below the main palette. You can select one channel from any of the **HSL** (Hue, Saturation and Luminance), **RGB** (Red, Green Blue) or **YUV** color systems.

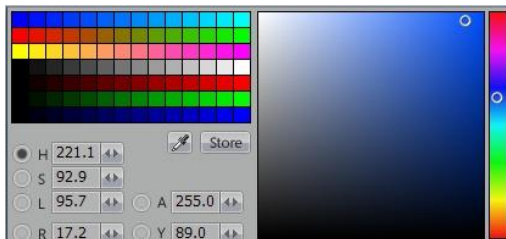


Figure 55

Clicking any of the channel switches updates the vertical stripe at the extreme right side of the panel to display all possible values of that channel based on the Current Color. So, choosing H

(Hue) shows a full spectrum in that stripe, and the large neighboring **Chooser window** shows all Saturation and Luminance values for the current Hue.

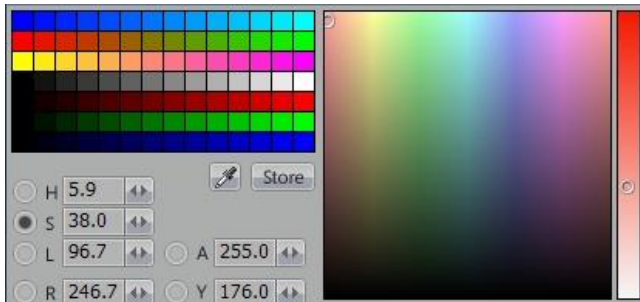


Figure 56

If you select S (Saturation) instead, the vertical display shows the range of saturation values for the **Current Color**, and the **Chooser** displays the full range of spectrum and luminance options instead.

Both the vertical range box and larger **Chooser** window have little circle icons in them denoting the current position in each channel. You can drag these to new position, and watch as the **Current Color** updates as you do so.

HINT: All numeric fields permit direct entry using the keyboard or mini-sliders beside them.

ALPHA

The A (Alpha) switch, when enabled, permits you to modify the transparency level of the **Current Color** between the values of 0 and 255.

THE EYEDROPPER

Click the small eyedropper button to convert the mouse cursor into a color eyedropper. Afterwards, click any color to pick it up, placing it into the large **Current Color** swatch, and updating the custom color controls to reflect the change.

HINT: All color swatches in SpeedEDIT have a 'hidden' eyedropper function. To use it, right click and drag from any swatch – watch as you drag and notice that the selected swatch updates in realtime as you drag.

When you release the mouse button, the currently shown color will be confirmed as the active selection for that item.

DRAG AND DROP

As noted elsewhere, many of SpeedEDIT's user interface panels and even items in the Filebins and editing panels can be tinted, to highlight them for quick identification. Try this:

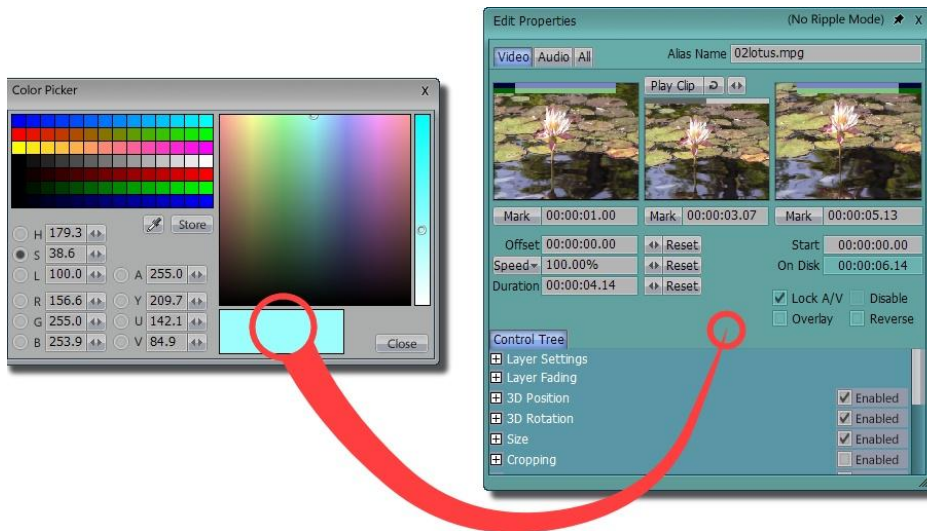


Figure 57

Open the Selected Clip Properties panel

- pick a light blue color from the Color Picker's palette as the **Current Color**
- drag the **Current Color** onto the **Selected Clip Properties** panel

The panel is tinted by the **Current Color**. To restore the original color for the panel, right click on it to open its context menu, and select **Clear Current Shading**.

VIDEO LEGAL COLORS

Video formats have prescribed limitations on the color values that are considered legal for transmission and display. Colors that can be safely viewed on your computer monitor may not fare so well on a television screen. Illegal colors can cause all manner of problems, including chroma-crawl (not a festive swimming event, as you might have assumed), bleeding and smearing.

NOTE: Generally, for NTSC formats, for blacks, avoid "Superblack" (RGB 0, 0, 0) - use RGB 15, 15, 15 instead (equivalent to IRE 7.5, the standard NTSC pedestal value).

Avoid over saturated colors (especially - but not - exclusively reds) like the plague. Try to stick to safer RGB levels of 210 to 215 or less.

3.10 CREATING A STILL FRAME

At times you may want a clip to end with freeze frame, held for a certain length of time. If the end of the clip was previously trimmed on the timeline however, simply extending the **Out point** does not have the result you hoped for. Rather, what occurs (up to the actual end of the file) is that more of the original frames from the source file are brought back into the project.

In such a case, you have several options (how often have we said that already?):

You could use the **HoldStill filter** effect, dropping it onto the timeline just under your clip, at the point where you want the frame to hold still. Then you would stretch this effect to be sustained as required. The disadvantage to this approach is that - as an effect is in use - you cannot apply a transition to the result.

Creating a still image of the desired frame will circumvent this restriction. This image can then be imported into the project, and butted up to the last frame of the clip. The still frame can then be extended to taste, and you can apply DVEs or other effects to it.

To make a still of the entire project display, simply use the **convenient Render Still feature** provided in the **File menu** (see Section 10.6, Render Still.)

3.11 TRANSITIONS & DVES

SpeedEDIT supplies over 500 **DVEs** (Digital Video Effects, found in the DVE's folder) in addition to a growing number of Transitions (located in Effects\Transitions)... though we hope you never use them all — at least not all in a single production!

Traditionally, transitions were usually simple dissolves or wipes. More advanced digital effects that could warp and transform the video picture in various dynamic ways were termed **DVEs**. In SpeedEDIT all transitions are digital, so the distinction is a bit blurred. Although there are subtle differences, for the most part the terms DVE and **Transition** can be considered interchangeable in subsequent discussions.

NOTE: All Transitions in both the DVE and Effects\Transitions folders can serve in both SD and HD projects. Transition effects preserve highest quality irrespective of project resolution.

Most DVE's work very satisfactorily in HD projects too, and special Preferences options are provided to enhance their render quality (or even automatically substitute a Cross Fade Transition) when you feel the need. Please see Section 3.14.6 for more information.

LOCATING THE DVES

DVE's are located in the directory C:\Program Files\NewTek\SpeedEDIT\DVEs. Within that folder are sub-folders for a number of different categories of DVEs, ranging from Curls to Borders. The quickest way to access a DVE, then, is by clicking the DVE Quicktab at the bottom of a Filebin.

HINT: If you have a favorite group of DVEs, you could also add that folder to your QuickTabs. Information on customizing QuickTabs is in Section 3.4.6, Quicktabs .

TRANSITION EFFECTS

The **Transitions** are found in the self-named folder nested within the **Effects** directory – click the latter **Quicktab** to find them. Their application within a project is identical to **DVE** practice.

3.11.1 INSERTING A CROSS FADE

The most common **DVE** is the *dissolve*, or **Cross Fade**. You can easily add a Cross-Fade to your program by selecting a clip (or range of clips) and pressing Alt + f. If you picked just one clip, the Cross Fade automatically connects the end of the selected clip with the beginning of the next (assuming they are contiguous). If you selected a range of clips, Cross Fades are inserted between each of them (this works in both the Storyboard and the Timeline.)

NOTE: If you are very observant, you will notice in the first clip's audio waveform that the track fades down over the duration of the Cross-Fade, and the second clip fades up. (You can change this Auto Fade behavior for individual clips in the Selected Clip Properties panel discussed later.)

INSERTION MODE

When you use Alt + f, look closely at the **Out Point** of the first clip and the **In Point** of the second. By default, SpeedEDIT will extend the first clip forward by 15 frames past the original Out Point and the second clip back by 15 frames from its In Point. You can change this option in the **Preferences panel**, using the item **EDITING: Storyboard Insertion Mode**. When this selection is set to **Non-Insertion**, the second clip is extended back by 30 frames from its original In point. The first clip remains unchanged.

HINT: As usual, there are many ways to add Cross Fades. If you like, you can simply drag and drop one clip on top of another, and SpeedEDIT will automatically insert a Cross Fade where the clips overlap.

3.11.2 WORKING WITH TRANSITIONS

Open the **Filebin** pane to add a different **DVE** or **Transition**, then click either **DVE Quicktab** (or **Effects>Transitions**). Locate and drag the Transition onto the **Storyboard** or **Timeline**. If you are in Storyboard mode, just drop it between the two clips. SpeedEDIT will use the Storyboard Insertion mode described above to join the two clips.

NOTE: The default length for Transitions is also set in the Preferences menu: FILES: Default Transition/DVE Length. If the value is two seconds, when you drop a Transition into your program, its initial length will naturally be two seconds (you can always adjust it later, of course.)

Dropping **Transitions** into the **Timeline** is a more hands-on procedure. If you are not in **Ripple** mode, begin by overlapping the two clips vertically, preferably on different Tracks -- as shown in the accompanying image. Browse to the folder and drag the Transition onto the end of one of the clips. The result should be as shown.

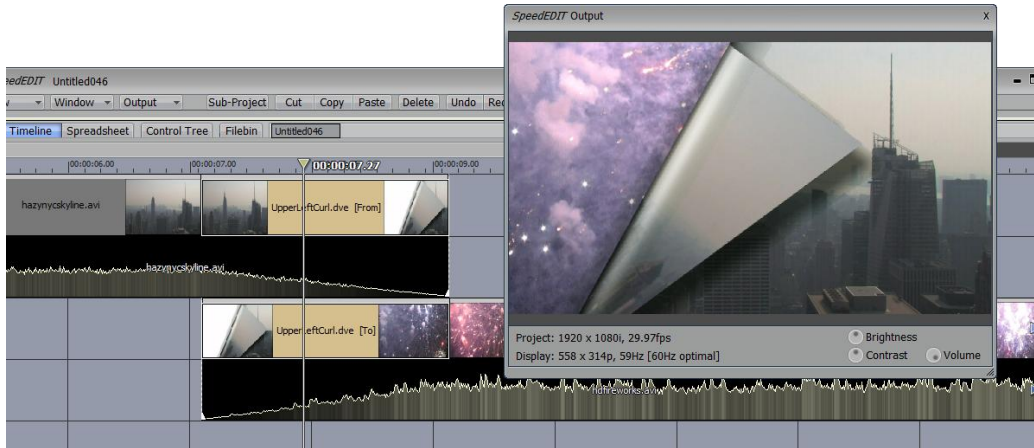


Figure 58

HINT: As mentioned earlier, the New Media item in SpeedEDIT's Windows menu launches a convenient standalone File Requester. Thus you don't need to open the Filebin tab to access files or Transitions. Just click on the Add button in this supplementary file window, and then stretch the Transition out to the desired length.

ADJUSTING TRANSITIONS

When you roll your mouse over the edge of a **DVE** or **Transition**, the cursor changes to a slashed frame icon, which indicates edit mode is active. Click and drag the edge of the Transition to lengthen or shorten it. If the Transition is aligned with a clip, the clip's edge will move to match the Transition as you drag.

INHERIT AND TRANSITIONS

SpeedEDIT's Inherit feature allows you to replace the current **Transition** with another, without losing the established timing and positioning of the one replaced. For example, suppose you

insert 3034_Arc.dve, and adjust its duration to two seconds. You later decide that the timing is fine, but feel the second clip should fly in from the right instead of the left.

Go back to the **DVE** folder in the **Filebin**, and hold down the Alt key while dragging 3036_Arc.dve right on top of 3034_Arc on the Timeline (the cursor hint will say Inherit.) Release the mouse. The new DVE will supplant the one that was there previously, without the need to make subsequent adjustments. (You also can **Inherit** one *clip* for another, retaining all of its **Control Tree** settings.)

HINT: Another speedy way to add Transitions is to use Alt + f to automatically insert Cross-Fades between two or more clips. Then Alt + drag new Transition (s) over the Cross-Fades to Inherit.

ADDING TRANSITIONS FROM THE TOOL SHED

Another way to add Transitions can be found in the **Tool Shed**. Click on the Tool Shed button on top of the SpeedEDIT panel. (The Tool Shed will be described in detail later, but this tool can't wait.)

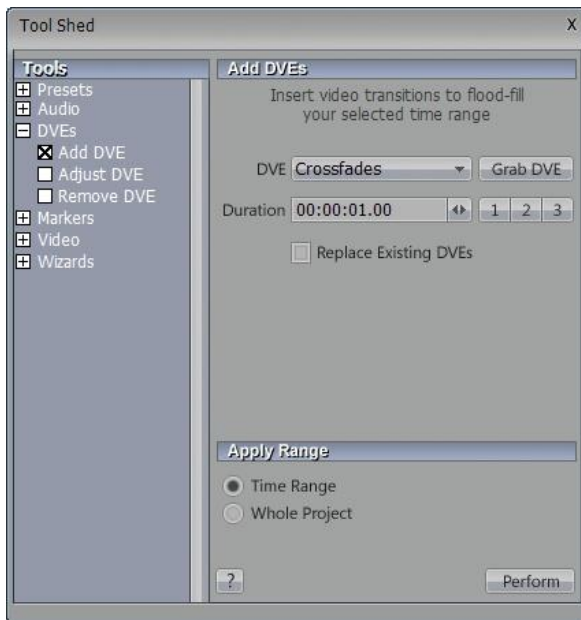


Figure 59

Click on DVEs in the list on the left, and then select Add DVEs. In the panel, you may not find the DVE that you want from the short pull down list; but you can choose any of the 500 DVEs.

If the DVE isn't in the project already, drag it out of its directory and onto the **Timeline**. Be sure it's selected, and then click Grab DVE. The DVE's name and number will be displayed above the DVE box.

Now, you can set the duration for the transition. The 1, 2, and 3 buttons are just fast ways to enter exactly 1, 2, or 3 seconds. Next choose whether the DVE will be added between every clip in the project or only applied to a specific range. Of course, if you pick **Time Range**, you need to go to the Timeline and shift-click a range of clips to mark that range. Then, click on **Perform** and the DVE will be added.

3.12 EFFECTS

This might be a timely point to mention SpeedEDIT's **Effects** folder, which is stuffed full of interesting and useful tidbits.



Figure 60

Click the **Effects** button in the **Quicktab** area at the bottom of the **Filebin**, and you are presented with a series of folders containing various types of Effects (note that Transition effects have been discussed separately in the previous section.)

SETTING UP EFFECTS

Effects are usually added to a project by dragging their thumbnail icon from a folder onto the timeline. Depending on the nature of the specific effect you choose, you may wish to position it

under an audio or video clip, though a few effects (such as **Patterns** or **Solid Colors**) can be placed anywhere you like.

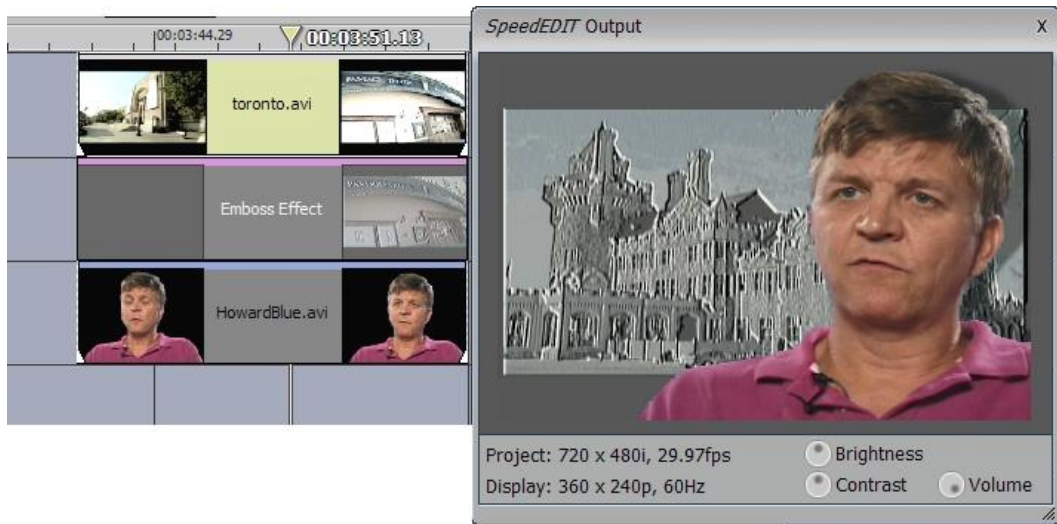


Figure 61

In most cases, **Effects** operate on all clips in layers above themselves in the timeline, rather than locally affecting only the object in the layer directly above.

Effects can perform many different functions – **Sepia** and **Emboss** are typical examples of Video Effects.

You will also discover valuable utility functions, such as **Timecode** (which overlays a project or local time display on your scene) and **Force Render** (used to bypass the background render defaults settings in **Preferences**, providing spot control for demanding multi-layer sections of your project.)

Audio Effects come in two varieties – native SpeedEDIT filters, such as the **Compress/Expand** effect, and *plugins* conforming to the popular **VST** format.

VST AUDIO PLUG-INS

SpeedEDIT includes 12 cool free VST plug-ins from Voxengo. These include delays, guitar amp, beeper copy protection, EQs, reverb, tube amp, and spectrum analyzer.



Figure 62

To add more great audio plug-ins, here is the drill:

- Download some VST's.
- Unzip them to a folder somewhere (such as C:\VST).

Set the VST plug-in path in Preferences to match (SE also checks the registry for a plug-in path, if one already exists from installed VST plug-ins.) or you could add to SpeedEDIT's own VST directory – *VSTPlugins*.

Drag the VST effect onto the timeline from the Effects\Audio Effects directory (using SpeedEDIT's Filebin) just as you would any other effect

The **Control Tree** for the VST effect has an **[S]** button (setup or select.) Click this button to display a list of all VST plugins available, and choose one.

Adjust or keyframe the settings as you usually would, using the **Control Tree** options or the in the interactive graph in the **Splines** tab at right (the Custom tab allows direct access to custom interfaces for plugins sporting them.)

Some VST plug-ins have convenient presets – access these from the drop-down **Program Presets** menu in the **Control Tree**. You may also drag copies of the effect back to a Filebin to save your effect with custom settings for easy recall.

NOTE: SpeedEDIT does not support MIDI functionality, hence VST-I MIDI plug-ins are incompatible.

3.13 THE TRIM BAY

The **Trim Bay** is the panel at the bottom left of the SpeedEDIT panel to perform basic editing operations, like setting **In** and **Out Points**. This tool works with both clips and **DVEs**.

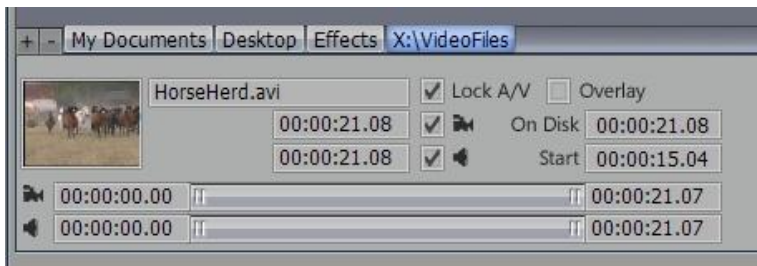


Figure 63

Load a video clip on to the **Timeline**. In the **Trim Bay**, the clip's information and icon are displayed. Along the top are four boxes. The first three deal with a clip's audio and video streams.



Figure 64

ENABLING OR DISABLING VIDEO OR AUDIO STREAM

If you checkmark the first box, the one with the little camera icon (or, if your mind bends that way, a bit like the Little Engine That Could), the video stream is activated. By default, this box and the next one are check-marked.

The second box (the one with the speaker icon) controls the audio stream. Occasionally, you will just want to see the video and not hear the audio, or vice versa. You control that by marking these boxes to suit.

NOTE: You cannot disable both video and audio -- one or the other must be checked. When you disable one, the box on the other is ghosted. Also the disabled portion of the clip will disappear from the Timeline (never fear ... it will re-appear instantly if you checkmark the box again.)

LOCK/UNLOCK STREAMS

In the third box, you can either lock or unlock your audio and video. As described above, the streams are locked by default, meaning if you change the **In** or **Out Points** of the video, the audio will follow along (as noted previously the converse is not true, to permit audio trimming without the need to unlock the streams.) If the streams are unlocked, then altering the video stream does not change the audio.

OVERLAY

If the fourth box is checked, then the clip becomes an **Overlay**, such as might be used variously for a picture-in-picture or perhaps a graphic or title. Overlays are discussed in detail later. By default, this box is unchecked.

VIDEO DURATION

This field displays the length of the trimmed clip in the project. You can type a new time into this box; and the clip will lengthen or shorten (by keeping the same **In Point**, and adjusting the **Out Point**).

AUDIO DURATION

This works just like Video Duration: If the streams are locked, any change you make in either field will be reflected in the other. If the streams are unlocked, then the two fields work independently.

HINT: You can enter new values in a timecode field (like Video Duration) one of two ways. Traditionally, you would click and drag to highlight the numbers that you need to change, and then you would type in the new data (you also can double click to select the complete timecode.) Now, if you type 12 and hit Enter, the new timecode would be 00:00:00:12. If you type 2212, the timecode would be 00:00:22:12.

So you don't need to type the colons or the leading zeros. If you want a duration of 1 minute, 22 seconds and 12 frames, you would type 12212 and hit Enter. The display will update to read 00:01:22:12. The other way is to type a space for any leading 0. For example, 00:01:01:01, could be entered as 1 1 1.

ON DISK

This value indicates the length of the clip as it is on the hard drive. As such, the value doesn't change. It serves as a guide of how long you can make your **Video Duration**.

START

This value indicates where the clip starts in the project. You cannot enter data directly in this field, but it will change when you move the clip on the Timeline.

VIDEO TRIMMER

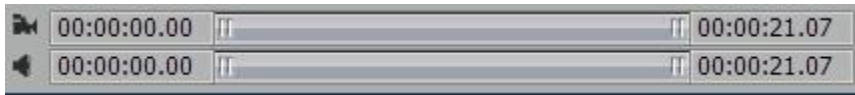


Figure 65

With this tool you can either use the slider to set **In** or **Out Points**, or type in a specific timecode. If the streams are locked, then the changes will be reflected in the **Audio Trimmer**.

To adjust the **In Point**, roll your mouse over the ridged left end of the slider, and the cursor will say **In**. Click and drag the slider. You can see your changes in real-time on your monitor. Also, the timecode in the window on the left will update in real-time. The end of the clip on the Timeline will adjust to the new In Point after you release the mouse. To set the **Out Point**, you move the right end of the slider.

HINT: Once again, for single frame accuracy in moving the slider, hold down the Ctrl key at any time when you are dragging the slider. To Slip and Slide, simply grab the slider in the middle and move it left or right. The In and Out Points change while the duration of the clip is maintained.

If you are numerically oriented (or perhaps you are working with someone's timecode log), you can type in timecode for the In and Out Points. Obviously, the timecode displayed in the fields to the left of the slider is the In Point; to the right is the Out Point.

AUDIO TRIMMER

The Audio Trimmer works exactly like the Video Trimmer. In this panel, if the streams are locked, when you move the Audio Trimmer, Video will mirror the change. You need to **Unlock** the streams for the Audio Trimmer to work independently from the Video Trimmer.

TRIMMING DVES

Trimming DVEs is really a special case. Usually, you just want to change the duration of the transition. For example, you want to make a Page Curl DVE last for two seconds instead of the default of one. To do that, you simply select the DVE; and in the **Trim Bay**, you enter that value in the **Video Duration** field.

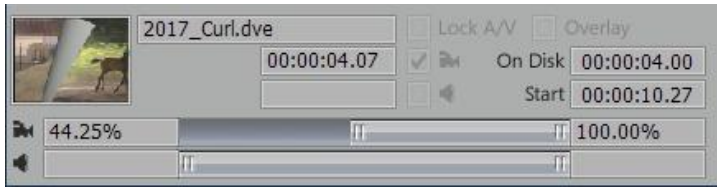


Figure 66

Suppose you want to start a transition in the middle, for a special effect. Then you would adjust the **Video** slider below **Audio Duration**

HINT: For DVEs, the slider has percentages instead of timecode.

If you set the slider on the left to 30%, then the DVE will start at its 30% spot. If you move the slider on the right to 80%, then the DVE will end at its normal 80% spot. The thumbnail icon in the Trim bay updates to show the appearance of the DVE as you adjustment the slider.

Considering it's generally desirable for DVEs to make a smooth transition from one clip to the next, modified settings could be a bit abrupt. Try it with the Alien Hand DVE, 7075. (The Audio slider for DVE's is non-functional.)

NOTE: An errant mouse can accidentally change these percentages from their defaults. If your DVE doesn't look right when played, make sure you didn't slip here in the heat of the edit.

3.14 RENDER

The file menu's Render item is a vital tool, and a very flexible one. Its primary purpose is to allow you to easily create a single master file from your finished project. In turn, this file can be digitally copied (using Send to Tape) to an external device such as a VCR. Or, you might use Render to create a file suitable for use with your DVD authoring software and DVD burner.



Figure 67

SpeedEDIT's powerful format and file conversion options also make it easy to use Render to convert content of entire projects between various video standards and file formats. Let's consider an example, to illustrate its potential.

NOTE: Two special features are worth mentioning here, as in many cases they may mean you don't need to even render a file. Please see Section 10.1.1, SaveAs – AVI for information on SpeedEDIT's powerful "AVI wrapper", and Section 10.2, TMPGenc Support for help using SpeedEDIT with this popular third-party compression tool.

3.14.1 FORMAT CONVERSIONS

Suppose you have edited a project using HD 720p format footage supplied by a client, doing so in a project set up using the native attributes for that standard. Subsequently, the client informs you that he needs you to supply him with versions of the result to for various markets...

In addition to the original format, he also needs HDV 1080i, and Standard definition DV in both 16:9 and 4:3 letterbox formats! What a nightmare; never fear though, SpeedEDIT is ready to come to the rescue.



Figure 68

Here's our original, 16:9 format 720p imagery. Use the file menu to open the **Render** panel, shown here. It defaulted to the preset matching the project format, in this case NTSC HDV 720p.

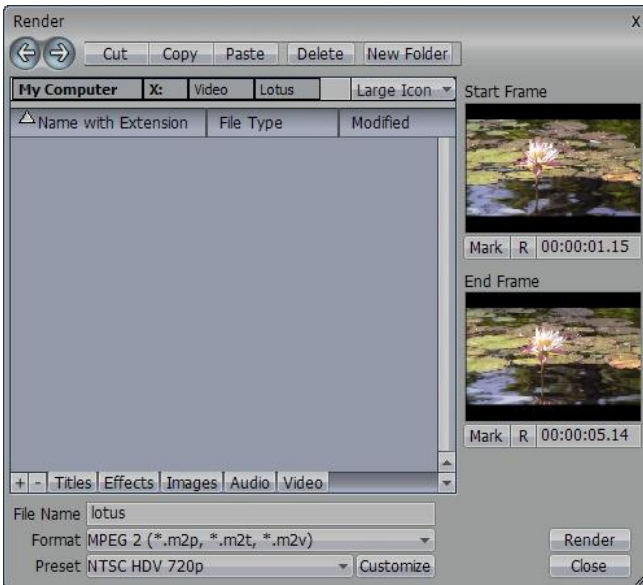


Figure 69

Let's do the conversion to HD 1080i first. This is really quite easy thanks to the clever preset system. Simply choose NTSC HDV 1080i from the Preset menu at the bottom of the Render panel. This preset contains everything you need to set up for this particular conversion job.

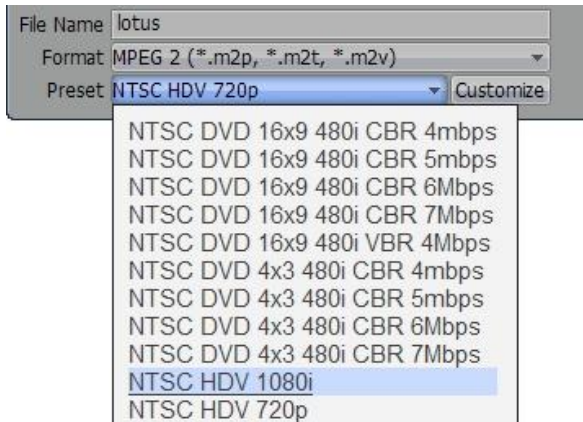


Figure 70

Having done that, you can provide a **File Name** in the space supplied, and use the standard SpeedEDIT Filebin tools in the upper part of the panel to designate a location for the rendered file. Use the **Mark In/Out** thumbnail windows at the right to select a range to export, if you like, and then click the **Render** button to create the file.

HINT: The functionality of the In/Out thumbnails is similar to the corresponding feature described in the Selected Clip Properties discussion, coming up in the next chapter

Let's proceed to the next format conversion on our client's list, NTSC DV 16:9. Open the Render panel again. Checking the **Preset** list, we are momentarily nonplussed to find there is no corresponding preset. That's because by definition DV is not an MPEG 2 compressed file format.

Use the down arrow next to Format to switch the Format setting to Video for windows (*.avi), and then check the available presets again. Now you should find NTSC DV Type2 16X9 listed, just what you need.

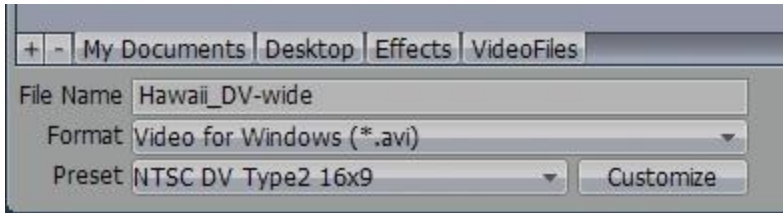


Figure 71

Go ahead and render again, using a different filename of course, and then let's dig a little deeper into the power of the Render panel to handle the next conversion.

This time, we are asked to render to the DV 4:3 format, scaling the 16:9 image down so it fits into the smaller frame with 'letterboxing' above and below. Locate the NTSC DV Type2 4:3 preset, then click the Customize button to gain access to some more options.

The Customize Preset options panel will appear, chock-full of useful settings. Among other things, this panel has Preset Name, Save and Delete buttons to permit you to set up and manage your own personal presets, perfectly suited to any purpose you might need from time to time.

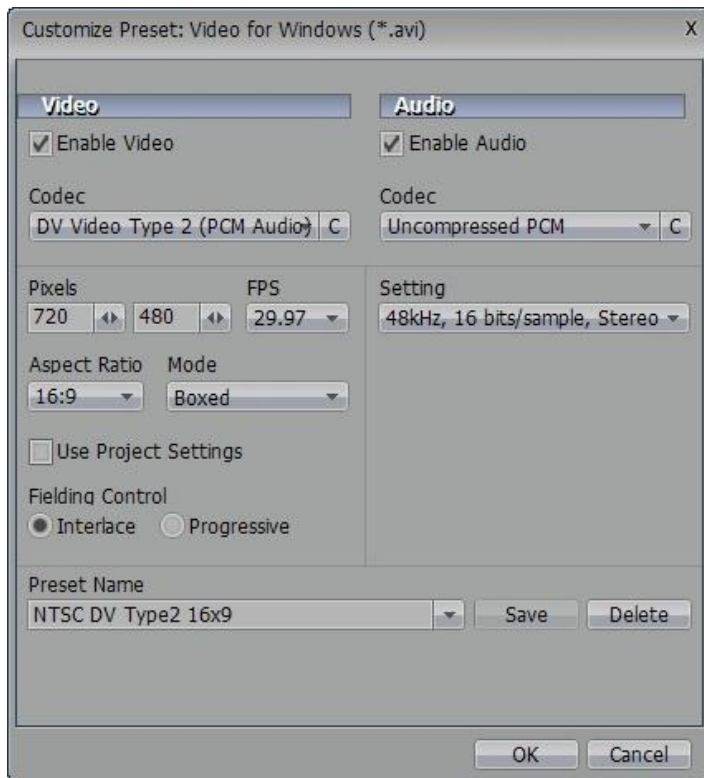


Figure 72

At the moment, our goal is to make sure that our 16:9 video is scaled down to fit within the smaller 4:3 frame of a standard definition television set. The **Mode** switch in the **Custom Preset** panel will assist us here:

Select **Boxed** from the three **Mode** options.

(In the current example, **Stretch** would fill the frame disregarding image aspect, resulting in distortion. **Crop** would retain image aspect by cutting an equal amount from the left and right margins of the entire frame, resulting in a full-frame 4:3 cropped image.)



Figure 73



Figure 74

The result is just as you see here, and just what we wanted.

3.14.2 SPEEDHQ CODEC

Your SpeedEDIT installation includes NewTek's superb SpeedHQ codec. You will find it listed in the Render Presets and among the AVI family of codecs. SpeedHQ represents an excellent file format alternative, with compression levels similar to DV25, but better color sampling (4:2:2.)

Naturally, SpeedHQ is capable of handling high-resolution formats, and it has the advantage of an embedded alpha channel. Given its very modest system demands, you may want to use it as your weapon of choice.

3.14.3 MORE RENDER OPTIONS

Let's take a little tour of the other options provided when you open the Customize Preset panel.

The Use Project Settings switch forces the Render module to automatically update the Resolution, Aspect, and Framerate settings to match the current Project. This is particularly convenient for defining render presets that will serve without fuss regardless of project size (such as might be the case for still image grabs.)

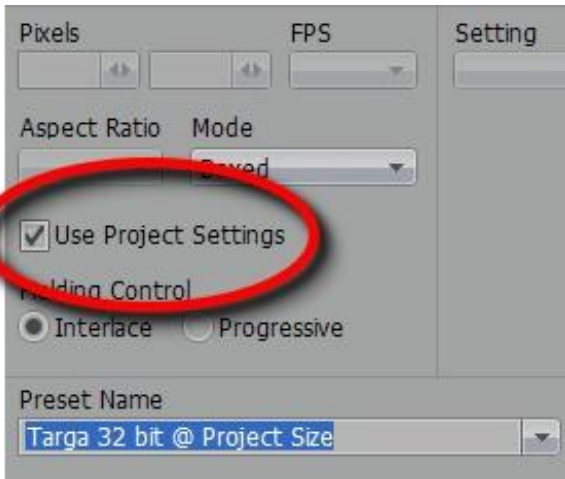


Figure 75

Depending on which Format was selected when you opened the panel, the Codec menus for both video and Audio will show a list of related codecs for your use, including selections installed on your system and others provided by SpeedEDIT.

The small **[C]** button to the right of the codec menu gives access to deeper *configuration* options provided in many of these – more on this in a moment.

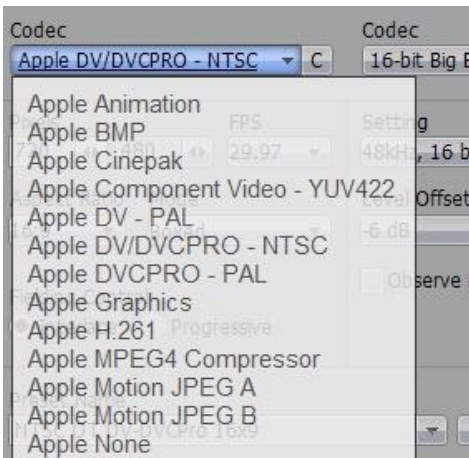


Figure 76

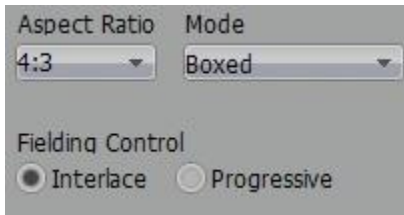


Figure 77

At times, the image aspect of the working project may not match that of the output mode we are aiming for. This was the case in one of our earlier examples, so we used the **Mode** menu in the **Aspect** section to adjust the way the frame was placed into the new format. The **Aspect Ratio** menu to the left of Mode establishes the base image aspect, while the **Fielding Control** section provides the tools to handle conversion between **Progressive** and **Interlace** options.

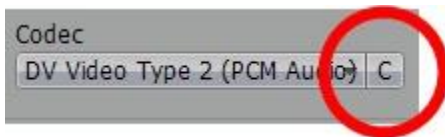


Figure 78

There is a small but important button right next to the codec selected in the **Customize Preset** panel – it looks like a **[C]**. This is the **Configuration** button, which provides access to any internal configuration options the particular codec may supply.

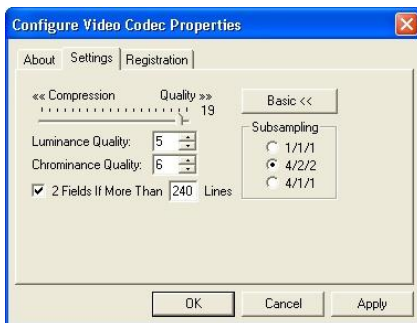


Figure 79

The panel that appears is specific to the codec selected. In certain cases, nothing may appear at all, the **Configuration** button may not do anything at all. The button may also present a panel designed by the developer of a third-party code, as shown above.

Clicking the **Configuration** button for certain internal codecs (like the MPEG encoder used for HDV file rendering) opens SpeedEDIT's own Advanced Video Codec Configuration panel. This is a tabbed panel hosting a deep array of user options (enough to keep the geekiest tweaker busy for weeks.)

Among its prominent options is the important 2-pass switch, which can result in a substantial leap in the quality of certain file formats for a given final file size.

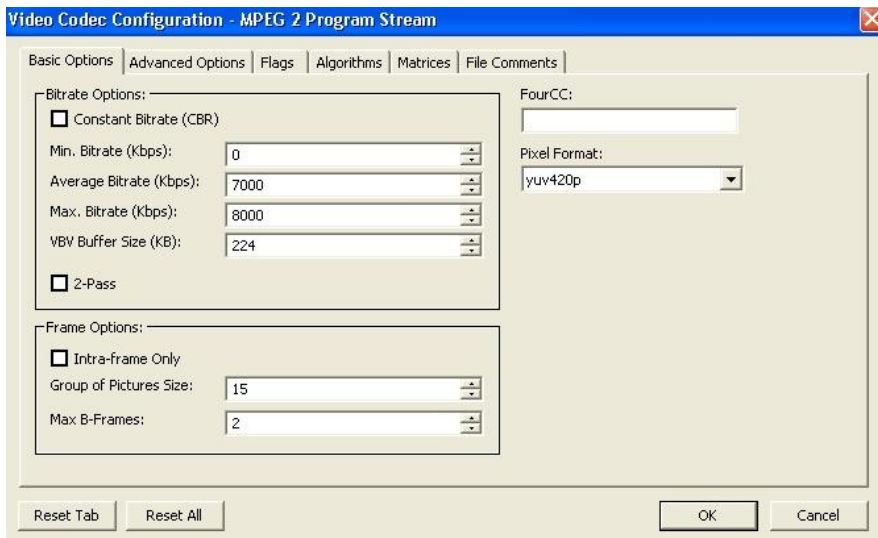


Figure 80

NOTE: For more detailed information pertaining to the innumerable options found in the Advanced Video Codec Configuration, please see Appendix B.

3.14.4 DVDS AND RENDERING

Rendering a file comprising the entire output of your finished project for use in your favorite DVD authoring application is no different than any other render.

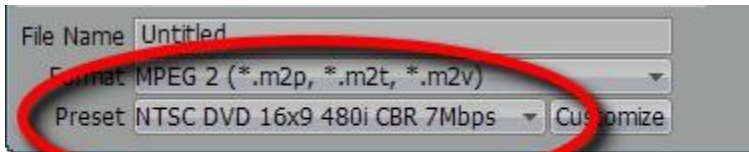


Figure 81

Most DVDs are created using the MPEG2 format. Simply select that option in the format menu to update the Presets list just below. Select the correct DVD Preset for the type of disk you plan on authoring (Standard Definition 4:3 or 16:9, High Definition, NTSC or PAL) from the Preset list and you're all set.

NOTE: In some cases, the information discussed earlier under Format Conversions will help you to ensure your project conforms to the screen your viewers will have.

After rendering, you can load the resulting file into your authoring application, and then proceed as you normally would to prepare menus, and so on.

I-FRAMES AND CSV CHAPTER FILES

One special feature of the Advanced Video Codec Configuration option is worth noting in this context.

There are times when you want to create a DVD chapter at a specific frame in the production. However, DVD chapters must always begin at an *I-frame* (a particular sort of frame in certain compressed file systems, including MPEG2)

SpeedEDIT allows you to optionally force the renderer to insert I-frames at any and all project markers for numerous file formats (including Flash, AVI, MPEG1, MPEG2, and MPEG 4.)

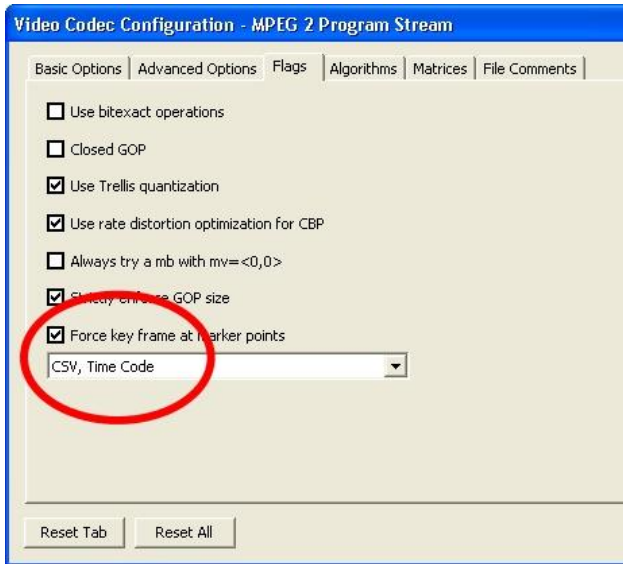


Figure 82

When **Force key frames at marker points** is enabled, SpeedEDIT also creates a text file containing the times and names of the project markers.

For example, if you enable this option and render to “MyDVD.m2p,” a file named “MyDVD-MarkerPoints.txt” will be produced in the same directory. The text file can subsequently be imported into several DVD authoring applications as a DVD chapter point list.

3.14.5 RENDERING WHILE MINIMIZED

You may decide to minimize SpeedEDIT during the course of a lengthy render. When you do so, a convenient progress indicator showing the percentage of completion for the render is displayed in the Windows taskbar.

3.14.6 SD/HD DVES - SPECIAL CONSIDERATIONS

DVEs are rendered at SD (standard definition), but stand up quite well in HD projects too. When a DVE is detected during a Render operation in an HD project, SpeedEDIT can optionally automatically apply extra care in rendering, or substitute a (resolution independent) Cross Fade

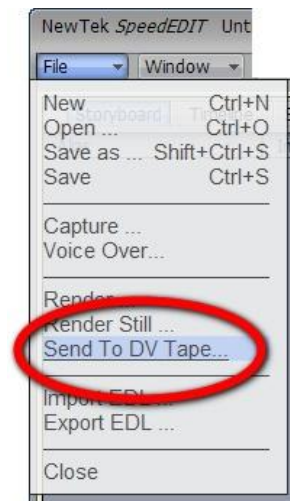
Transition. This optional behavior and the manner of its implementation is governed by three **Preferences** settings.

By default, the **Preferences>File Rendering** group item labeled **Prompt when rendering to non-SD resolutions using SD-only DVEs** is set to **Yes**. The prompt allows you to retain the DVE, or replace it with a Cross Fade Transition (in the rendered output only.)

The second Preference item in this group is Rendering of SD-only DVEs to non-SD resolutions. The options available are Multi-pass render of SD-only DVEs and Highest Quality (Substitute crossfades for SD-only DVEs. Your selection here determines what takes place if you disabled the prompt discussed above.

(The last item in this Preferences group controls the corresponding SD/HD behavior for the File menu item Render Still.)

3.15 IEEE 1394 OUTPUT



SpeedEDIT offers two output alternatives that operate in similar fashion – they even sound alike. “Send to Tape” and “Send to DV Tape” each use an IEEE1394 connection to export your video. Nevertheless, they are not exactly the same. Appropriately they are found in different locations in the program. Let’s discuss the differences:

3.15.1 SEND TO DV TAPE

In SpeedEDIT’s main File menu, you will find the entry Send to DV Tape. This feature uses the IEEE 1394 Preview to send the current project to a DV device. To take advantage of this method of export, your system hardware must be adequate to provide glitch free realtime playback of the project.

Figure 83

Send to DV Tape and **Send to DV**, discussed next, both employ the same control panel (the only difference being that in the first case the **Project Name** is displayed, while in the second a filename is shown.)

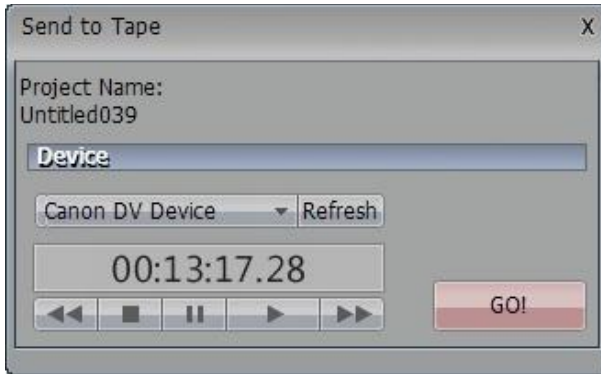


Figure 84

Deck controls are provided in this panel to assist you in locating the desired point on the tape. You need not, however, initiate tape play beforehand. Recording is begun immediately on clicking the **Go** button. During recording to tape, SpeedEDIT's interface is locked (apart from the Cancel button.)

NOTE: When you capture or send to tape, the IEEE 1394 Preview is temporarily disabled, then re-enabled afterward.

3.16 SEND TO TAPE

This function is provided for use when you wish to export a file to an external IEEE 1394 device. It is useful when you wish to export a (previously rendered) file, rather than a project, or perhaps when you are not certain that your hardware can support flawless realtime performance for a given project.

In a **Filebin** or **Media** window, right-click on a clip icon (this file might be the product of a File menu Render operation) to open the file's context menu. Select the item **Send to Tape**.



Figure 85

NOTE: This option is only available for m2t and DV .avi files.

The **Send to Tape** panel discussed earlier opens. In the **Device** menu, you will find a list of connected and active devices. (If your target output device is not listed, click **Refresh**. If this still fails, check your connection, device power on status, and so on.)

PART II (ADVANCED)

An examination of the deeper aspects of SpeedEDIT, including many advanced operations and features...

4 PROJECT SETTINGS



SpeedEDIT provides extremely versatile handling of the diverse video and audio formats in popular use today.

This chapter provides an understanding of the various attributes you involved in SpeedEDIT project creation and management. These topics will assist you to combine dissimilar elements seamlessly for best results.

“The nicest thing about standards is that there are so many of them to choose from.”
Andres S. Tannenbaum

It’s not every day I get to use the word “plethora” in a sentence ... ready? To state that a video editor is faced with a plethora of video standards is akin to observing that several languages are spoken on earth. It’s a curse of Biblical proportions, there’s no other way to look at it – a modern day Babel of formats of all dimensions, framerates, image aspects, pixel aspects, raster lines and interlace options.

Fortunately, SpeedEDIT comes to us from NewTek, digital video pioneers. SpeedEDIT knows all about these matters, and is sufficiently clever to relieve you of much of the tedium of dealing them. It frees you to produce work in any of the popular formats, or even define your own.

Further, you may convert your productions from one standard to another, and even mix them up together all within a single project when it suits your need.

We’ll begin our exploration of video formats here with a discussion of the custom project settings. Many of these matters will arise again, when we discuss the Layer Settings and Size options found in the Control Tree in Chapter 4 as they affect imported clips and imagery.

Related issues will also arise in the context of the Render panel, touched on earlier but covered in more depth later in this Chapter.



Figure 86

The panel shown here is the first thing seen when you launch SpeedEDIT. As you create and Save your own productions, their project files (with the filename suffix .VTP) will appear in the left-hand pane for convenient reloading (complete with the Undo Stack for the selected project.)

Alternatively, you can use the presets listed in the right-hand pane to create a new, empty project, all ready for your clips. You want to select the appropriate format for your target device, whether standard definition television or something more up to date. You can even use the **Custom** entry at the bottom of the list to accommodate special needs.

4.1 RESOLUTION

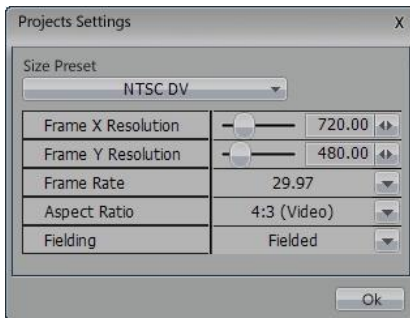


Figure 87

Let's review the details some of the presets, with a view to understanding the basic differences that distinguish each.

Pictured here are the settings of the NTSC DV preset. This arguably represents the video format in widest use in North America at the moment. Nevertheless, SpeedEDIT being for all intents and purposes format-independent, we use it here to highlight certain attributes that define any video format.

Two major elements comprising a digital video standard are of course its Width (X Resolution) and Height (Y Resolution.) These values are defined in pixels, a compound word derived from the phrase “picture elements”, referring to the tiny spots of color information forming the image.

NOTE: The word resolution in this context is justifiable, as these values directly impact the image detail the format is capable of resolving. The resolution of photographs shot on film by analog cameras is measurable. In the latter case, resolving power was in large measure a factor of lens quality, film size, and film grain density. For digital imagery, apart from lens quality, resolving power is entirely a factor of the X (horizontal) and Y (vertical) dimensions of the format.

4.2 ASPECT RATIOS

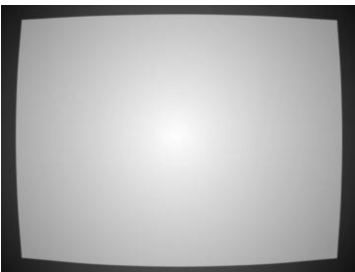


Figure 88

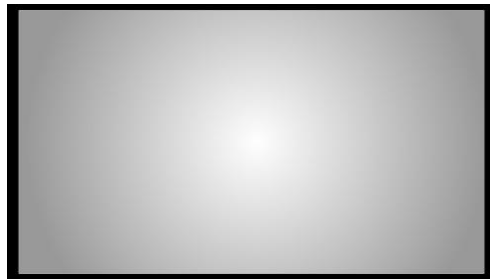


Figure 89

We note that the resolution of the NTSC DV format then, is 720 x 480. A little further down on the panel, we note a field labeled **Aspect Ratio**. The value for the NTSC DV format is shown as 4:3. What does this mean? It's simple really – the familiar cathode ray tube television screen of from the 1950's until the new millennium had a width to height ratio of 4:3, an image slightly fatter than it is tall.

Now take a look at the **Aspect Ratio** of the less common NTSC DV 16:9 format. As you might expect, the dramatic rise in the relative width indicates a much wider image, hence the common sobriquet 'widescreen.' This aspect ratio (16:9) is by far the most common widescreen format, and is the most common standard for the variety of formats lumped together under the heading **High Definition** (or HD.)

4.3 PIXEL ASPECT

But here's a curious thing -- looking back at the so-called 4:3 standard, we note an anomaly. If we convert that aspect to decimal form, it becomes 1.33. The image is defined as 480 pixels high. All else being equal, for the image aspect to really be 4:3, the width value should then be 480×1.33 , or 638 pixels – not 720. What's going on?

The trick here is that 'all else is not equal' – specifically, one pixel *can* differ from another, and that is the case here. The pixels of the NTSC 4:3 format are not *square* – they are actually slightly taller than they are wide, introducing another variable – the **Pixel Aspect Ratio**.

Pixel Aspect Ratio is handled automatically in SpeedEDIT's Project Settings panel, so the value is not displayed -- but it will help you to know what's going on 'under the hood.' When the pixel aspect is considered, a matrix comprised of 720 x 480 'tall' pixels form the familiar 4x3 rectangular image.

NOTE: To play with this a little more, the pixel aspect for NTSC is .9. The full-frame height of NTSC D1 format is 486 pixels. Multiplying that by the Pixel Aspect (.9) results in 540. 720×540 is a 4:3 image aspect ratio (1.333), proving that the whole thing works as planned.

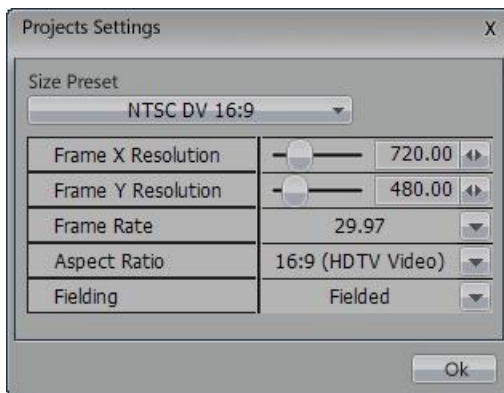


Figure 90

Let's take a more extreme example – the (so-called) *anamorphic* widescreen of the NTSC DV 16:9 format. The first thing to notice is that the resolution of this much wider display remains unchanged from the NTSC DV standard of 720x480. By now, though, you know why don't you?

This image for this format is composed of very 'fat' pixels – the pixel aspect is actually 1.2. In most other respects, the file format settings duplicate those of its 4:3 sibling.

(Similar 4:3 formats exist in the PAL video standard widely used in Europe and elsewhere, but with different resolutions and framerates.)

HIGH DEFINITION AND HDV

With the advent of High Definition television, you'd have thought that we'd escape the confusion by a welter of formats using non-square pixels. And we almost did.

High Definition formats fall into two broad camps, divided by resolution. While both have image aspects corresponding to the 16:9 definition, one family is 720 pixels high and the other is a bit taller, at 1080 pixels.

In both cases, the pixel aspect is usually 1.0 – a perfect square. Thus, with a bit of basic math we can correctly conclude that the resolution of the former is 1280 X 720, and the taller family member is 1920x1080.

Naturally, there is a 'black sheep' in the family (both North American and overseas branches, as it happens.) In the interest of squeezing more data onto the recording medium, the *prosumer* class HDV format reverts to the age-old practice of 'fat' pixels to get its 16:9 image ratio. This results in dimensions of just 1440 X 1080 pixels for HDV.

Esoterica: Another way to grasp the relationships between image aspect, pixel aspect, and resolution is to consider image aspect to be king. After all, the shape of the picture when displayed is really 'the ten ton gorilla' ... every other attribute simply must conform to it. Each video standard has a defined height and image aspect.

For example - HD 1080i is 1080 pixels high and (being an HD format) has an image aspect of 16:9. When displayed, the width simply must equal 16/9 the height. Now, you could do that with just one very fat pixel, but the result wouldn't present a very pretty picture.

Dividing the rows into many square pixels will improve things. If we use 1920 pixels (as the HD 1080i format does, in fact), we'd have a very nice image with perfectly matched vertical and horizontal resolving power. Or we could use just 1440 slightly fatter pixels instead; the image would be only marginally softer laterally, and we'd have met the specification for HDV 1080.

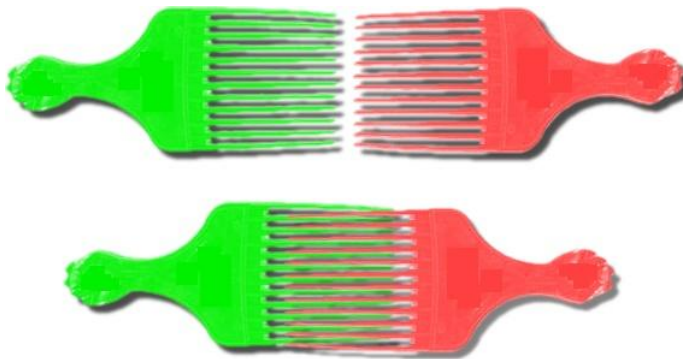
4.4 FIELDING AND FRAMERATES

We'll touch only lightly here on the subject of interlacing (a.k.a., fielding.) Video images do not instantaneously appear on display screens as discreet images. Rather, each frame is painstakingly displayed as a composite of lines, each progressively painted horizontally by the device. Taking advantage of the persistence of both human vision and the display hardware, the full picture is composed in our mind's eye ignoring the miniscule delays involved in each line's appearance on the screen.

For reasons too arcane to bother with here (and full of contradictions, compromises, politics, commercial interests and local exceptions) there are many regional variations in the specifics of these operations.

Our life would be simpler, too, if the video image on television screens the world over systematically started at the top of the screen, then painted each video line onto it one after the other. Again, decades ago engineering compromise dictated another approach. Even today, in most of the world and on the majority of television screens, the image is subdivided into two portions called fields.

The image is not simply divided in half, however – or at least not in the manner you might expect. Each video field is composed of the image information from alternating lines of the whole. One field contains lines 1, 3, 5 and so on, and the other field contains lines 2, 4, 6, etc.



The device scans across the screen to display one line, then skips one, passing on to create the following one and so on, until one field is displayed. Then, in less than the blink of an eye, the intervening lines are also painted one after another.

Figure 91

The two fields fit together rather like the tines of two pocket combs might when pushed into each other. The net result is that the information from all lines of both fields forms a complete image for the viewer.

The process is often referred to as “fielding”, but “interlacing” is also used to describe the way the lines are effectively laced together on the screen. There are several variations as well having to do with the order in which the lines are painted, whether the upper field (the top line and its brethren) or the lower field is completed first. Upper and lower fields are also referred to by some as the A and B fields, or with somewhat less precision, the odd and even fields (as some define the uppermost line as line 0, and other refer to it as line 1, the latter nomenclature allows room for dispute).

NOTE: With the bloom of the High Definition, hope briefly flared that interlacing would soon join the technical scrap heap. Alas, it has quietly crept back into use (a bit like a Tyrannosaurus in the basement) and examples of interlaced HD formats are not uncommon.

The framerates of the various formats vary internationally as well. These are shown in the **Project Setting panel**, and can be modified if necessary.

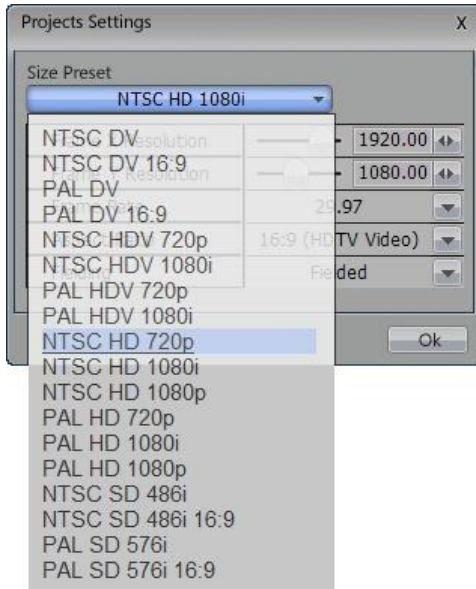


Figure 92

4.5 USING PROJECT PRESETS

Generally, SpeedEDIT's well thought out presets and internal routines take care all of these matters for you. In most cases, sufficient information about the content of a file can be derived from the file header.

Once you have know the project format employed by your devices (or client needs), you can simply select the corresponding preset and you're ready to edit.

NOTE: Some file formats fail to supply information about file aspect and framerate in the file header. For the most part, SpeedEDIT is capable of making an 'educated guess' on your behalf, you may occasionally need to monitor and manage personally.

The tools in the Control Tree permit you to make the necessary adjustments when the need arises as you work with media that does not match the project format. These matters will be explored in the upcoming discussion of the Control Tree, under Layer Settings.

4.5.1 THE GOOD NEWS

So, having discussed all of this just in case you ever need to know, here's what you really need to know to succeed with SpeedEDIT:

- Your project **Image Aspect** is a known constant
- SpeedEDIT intuitively recognizes the correct aspect of most files you will use
- And (this is the good part) automatically conforms them properly to your project

So you can effectively forget about image and pixel aspect, interlacing, all manner of other headaches (until such time as a special need drives you to this chapter and the Aspirin bottle).

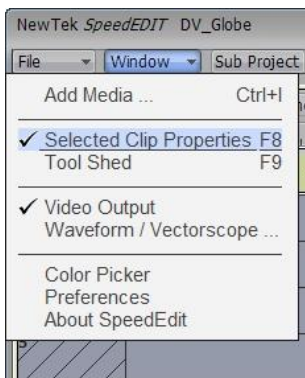
5 CLIP PROPERTIES AND INHERIT



While control over clip attributes can often be left to SpeedEDIT's automated functions, there are times when you will want to delve deeper.

The Clip Properties panel provides both corrective and creative opportunities. We'll also re-visit the Inherit feature, which can be a real time saver.

5.1 CLIP PROPERTIES PANEL



An important module in the SpeedEDIT suite is the **Selected Clip Properties** panel.

To open it, select a clip or DVE, and choose Selected Clip Properties from SpeedEDIT's **Windows** menu (or use the keyboard shortcut, F8).

Figure 93

This panel contains a wide variety of tools you can use to tweak and refine your clips. Some of them have already been touched on earlier, and others will be described later (some duplicate options also found in the **Control Tree**, so we'll just discuss them in that context). For now, features unique to **Selected Clip Properties** will be covered.

If you have selected a clip with both audio and video, then on the top left of the Selected Clip Properties panels three tabs will be visible: **Video**, **Audio** and **All** (the Video tab will not appear for audio-only clips.) Clicking on any tab reveals a sub-panel with corresponding tools and options.

5.2 THE VIDEO TAB

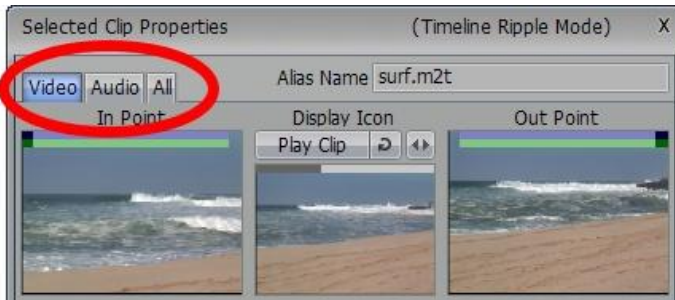


Figure 94

5.2.1 ALIAS NAMES

To the right of the main tabs is the **Alias Name** field. An Alias can be considered sort of a nickname for a clip, a short convenient nametag for use within SpeedEDIT.

If you have previously assigned an Alias to a file using the **File Properties** panel (opened from the context menu that appears when you right-click on a file in the **Filebin** or **New Media** windows), it will appear here. Otherwise, the name that pops up in the Alias field is the original file name.

Now — and this is the tricky bit — even if the clip already has a (**File Properties**) Alias, you can give the clip a second Alias! To assign a 'local Alias', double-click in the **Alias Name** field and type in a new moniker. This new Alias name does *not* replace an Alias created in the File Properties panel. The local Alias applies only within your *current* project.

HINT: Why use so many different Aliases? Suppose you are editing the Garner wedding. You name a clip Kissing the Bride. Later, when you are producing your wedding demo tape, you decide to use six clips all with the name, Kissing the Bride? The local Alias feature allows you to assign a project-specific Alias, like Garner Kiss, etc.

5.2.2 RIPPLE MODES

At the very top of the panel, on the right, you will see the current **Ripple** status for **Clip Properties** displayed in parentheses. Right-click on this text to reveal a special drop-down Ripple menu illustrated here.

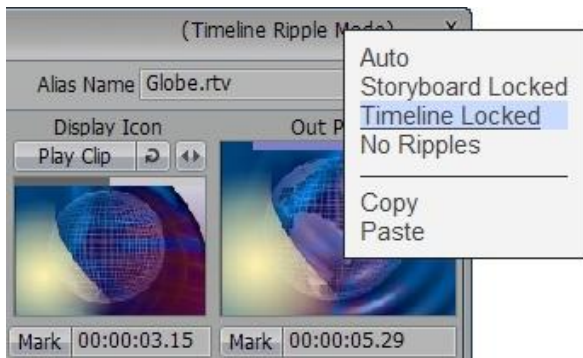


Figure 95

Most controls in **Clip Properties** affect the selected clip's own properties. For example, reducing the **Audio** level immediately changes the attributes of the clip.

The **Ripple** menu in Edit Properties is different. (It may help to think of this as a convenient 'local preferences' setting.)

Ripple menu selections in **Clip Properties** (other than **Auto**) override SpeedEDIT's established **Storyboard** and **Timeline** ripple modes -- but *only* for ripple operations resulting from trimming performed in Clip Properties (operations performed directly in the Storyboard or Timeline are unaffected by this setting.) And just like any other preference setting, your choice remains active afterward -- *even when you select another clip* or close the panel.

Normally, **Ripple** operations conform to the established mode for either the **Timeline** or **Storyboard**. (SpeedEDIT's Ripple modes were discussed earlier.) Unless you have a specific reason to override the Ripple Mode, it's best to leave the mode set to **Auto**.

You have four Ripple Mode choices:

- **Auto** basically respects the global Ripple setting established for either the Storyboard or Timeline, whichever you might use. When you choose it, the currently valid setting is displayed
- **Storyboard Locked** overrides the current (Storyboard or Timeline) Ripple mode and enforces Storyboard mode rippling
- **Timeline Locked** overrides the current (Storyboard or Timeline) Ripple mode and enforces Timeline mode rippling
- **No Ripples** disengages Ripple mode

5.2.3 ADJUSTING IN AND OUT POINTS

The **Selected Clip Properties** panel is one more place where you can set your **In** and **Out Points** (it wouldn't be SpeedEDIT if you couldn't set the In and Out points in a variety of ways.)

Click on the **Video** tab to set the Video's In and Out. (If the streams are locked, it will adjust both audio and video.) The left window of the panel shows the frame for the **In Point**; and the right window shows the frame for the **Out Point**. The blue bar at the top of the frame represents the video track, while the green is audio. The middle window shows your **Money Shot**, which is the frame that serves as the thumbnail in the icon. You easily can change the Money Shot, too.



Figure 96

INTERACTIVE ADJUSTMENT METHODS

Roll your mouse into the **In Point** window (the cursor turns to a bi-directional arrow). Click and drag to the right to move the In Point later, or drag left and move your In Point to an earlier frame.

If you try to drag the **In Point** beyond the beginning of the clip, the frame in the window may stutter and not let you move any further. Just release the mouse, then click and drag again; you will be able to set the In Point where you want. SpeedEDIT will then hold the first frame of the clip to cover the extended duration. Notice that if you do this, the bars at the top of the frame turn red as a warning.

You can also just click and hold on the window, and the frames will advance automatically. When you click and hold on the left portion of the window, and the frames will play backward, setting your In Point nearer to the beginning of the clip. Click and hold on the right, and the clip will play forward. When you see your In Point, release the mouse.

You also can single click repeatedly on the clip to move the In or Out Point one frame at a time. As before, clicking on the left part of the appropriate window moves it closer to the beginning. Clicking on the right moves the point farther into the clip.

NOTE: Hold the Ctrl key to adjust only audio in icons with audio/video. Even if the streams are Locked, using the Ctrl key will move the Audio In and Out independently of the Video. The audio's waveform also will be displayed.

MARK

If you like push-button operations, then click the **Play Clip** button that's above the middle screen. As the clip is playing, click **Mark** below the **In Point** window to set the In Point; and click Mark below the **Out Point** window to set the Out Point. If you need to fine-tune the spots, use the previous method or the one below.

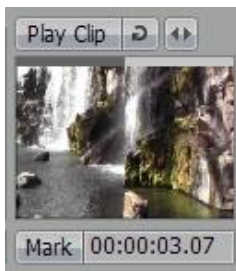


Figure 97

DIRECT TIMECODE ENTRY

Next to the **Mark** buttons are timecode displays for the **In** and **Out Points**. You can click in either one to enter the desired timecode for the In or Out Point. (See the Hint about on Entering Timecode in the documentation for the Trim Bay.)

THE MONEY SHOT

By default the **Money Shot** uses the middle frame between your **In and Out points** to represent your icon. When you adjust the Money Shot, you simply change which frame represents the clip. You can pick your Money Shot frame with the same methods as setting In and Outs.

PLAY CLIP

To play the clip from the **Selected Clip Properties** panel, click the **Play Clip** button on top of the **Money Shot** window. To **loop** the clip, click on the curved arrow button to the left of Play Clip. To *scrub* through the clip, click and drag the bi-directional arrow next to the loop button.

AUDIO IN AND OUT POINTS

As was mentioned much earlier, you can set the In and Out Points for the audio stream from the Video tab by clicking on Ctrl while scrubbing. (Setting them in the windows in the Audio tab does not require you to hold down Ctrl, of course)

5.2.4 GENERAL TIMING CONTROLS

Below the In and Out windows, a few general options are available with any stream that you choose (hence, they are visible to you in all three tab panels.)

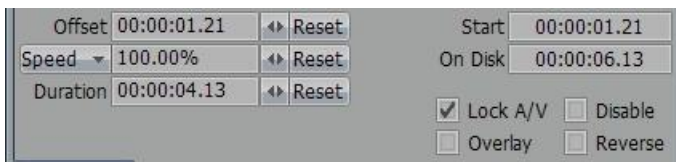


Figure 98

OFFSET

The Offset field lets you enter the amount of time that offsets the clip from the adjacent clip preceding it in the Project. You may type in a time, or click and drag the bi-directional arrow key.

Often this setting remains at zero, as project play moves directly from one clip to the next in order. Any other Offset value thus indicates a gap between the currently highlighted clip and the

previous one, then. Thus direct entry permits insert gaps without leaving the Storyboard interface. Offsets are represented on the Storyboard by a black icon between the two clips.

Offset uses the video stream Out point as the reference. You can also apply Offset to the audio stream using the Offset controls under the Audio tab. You could do this, for example, if you had sync problems between the audio and video. Of course, if you have an independent audio clip, you can offset that audio clip in relation to the clip before it. The **Reset** button lets you restore a zero Offset value.

SPEED

You can adjust the playback speed of your clip to play faster or slower than the established framerate. Values less than 100% result in slow motion playback. Those above 100% yield faster playback. Naturally, when you change the Speed you also change the Duration of the video. For example, if you enter a slow motion value of 50%, the Duration doubles.

In the Timeline, select a clip with obvious motion, and shorten it to five seconds duration. In the **Selected Clip Properties** panel, change **Speed** to 25%. Notice the **Duration** updates to show it is now 20 seconds, and of course it plays at one quarter of the normal rate.

Clicking the down arrow next to **Speed** allows you to adjust speed using alternative calibration options. The choices are Speed (% of normal playback rate), Scale (.5 halves playback duration, and is the equivalent of a 200% Speed setting) or FPS (frames per second) settings.

Note: the Slow Motion Quality setting in the Control Tree's Layer Settings group affects the method of interpolation used for Speed adjustments.

DURATION

The **Duration** field tells you how long your video clip is on the timeline. You change the clip's **Out Point** by direct entry. A Duration value resulting in a clip length longer than the actual length of the source file will produce a red band as a warning. The last frame of the video will be held when you extend it past the natural length (the entire clip is not stretched.) To stretch the clip, use Speed. Reset brings the Duration back to the total length of the clip.

START

The Start time shows the timecode where your selected clip starts in the overall project. It does not permit direct entry. Moving your clip horizontally along the timeline pane updates the display.

LOCK A/V STREAMS

Lock A/V Streams is a toggle control that you can use to separate or synchronize the audio and video streams of an audio/video icon. By default, the control is ON, so the streams are locked.

When the streams are locked, any changes you make to the Video stream— moving, trimming, deleting, and so on — affect the Audio as well. You can make changes to the streams independently when the Lock is not check-marked (this feature is disabled when the clip is not an A/V clip).

5.2.5 OVERLAY

You activate the **Overlay** option when you want to overlay one video on top of another. This feature is discussed later. By default, this box is un-checked.

5.2.6 REVERSE

The Reverse option lets you run the selected clip in reverse. The feature is set to Off by default.



Figure 99

5.3 VIDEO CONTROL TREE

The **Control Tree** tab at the bottom of the Video panel provides extensive (and keyframe-able) control over a wide array of your clip’s parameters. As these controls can also be accessed from the tab by the same name in the main SpeedEDIT panel, we will discuss its features in that context shortly.

5.4 THE AUDIO TAB

Click on the Audio tab to bring up the Audio panel. The top half is very similar to the Video panel but, as you would expect, these controls and settings only affect the audio track. You can also zoom into the waveforms: right-click in the In or Out Point window and drag right or left to zoom in or out (you also can view and zoom the audio waveforms in the windows in All tabbed panel.)

Most of the controls and settings here correspond to those just discussed in the Video panel. If you adjust the audio in time here, however, even with the A/V streams locked you create a “split-edit” – the video and audio tracks will no longer share common In (or Out) points.

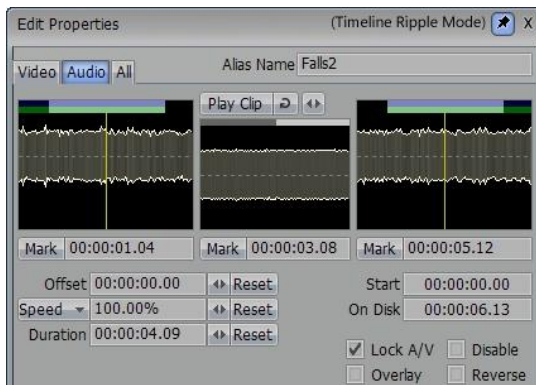


Figure 100

Again there is a **Control Tree** in the lower half of the panel. This time though, the tree provides only audio controls. To briefly explore this area, select a clip in your editor that has an associated audio clip. In the **Selected Clip Properties** panel, click the **Audio** tab if it isn’t already selected (It may be necessary to scroll down or stretch the panel vertically to see all of the options discussed below.)

Near the bottom, click on the + sign beside **Audio** in the **Control Tree** (or double-click on the word Audio). Basic controls such as **Master Volume** are listed right at the top. The **Advanced** group expands to show a longer list of adjustable settings, discussed briefly next.

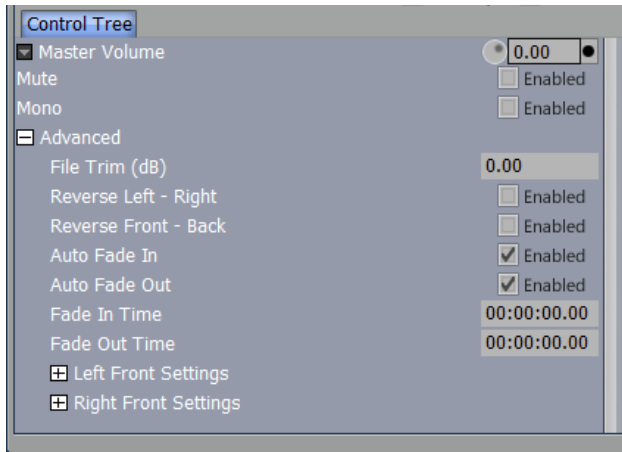


Figure 101

MASTER VOLUME

Often you want to modify the level of all audio tracks on your clip together. The first volume control in the control tree does just that by acting as a Master Volume for all channels. The value is shown in decibels. Drag left on the control knob to decrease volume; drag to the right to increase it. The default setting of 0 dB, will play your clip at the volume established when it was originally captured.

HINT: Double clicking on the knob is a convenient way to reset the value to the default, 0 dB.

Adjusting audio is a combination of listening closely (so you can judge which parts of the clip require more or less volume), while monitoring the **VU meters** (to give you an objective guide to the consistency of volume between clips). Also, the VU meters will help you take steps to avoid problematic over-modulation.

Check-marking **Mono** mixes the clip's channels down into a single source that is fed out equally through all channels. If you watch the VU meters, you can see the difference when turning Mono On or Off. Enable **Mute** to turn off the volume for the whole clip.

KEYFRAMING AUDIO

You can set different keyframes along the path of the audio track by clicking on the icon next to the left of the **Master Volume** label. That pops up a **Spline** interface.

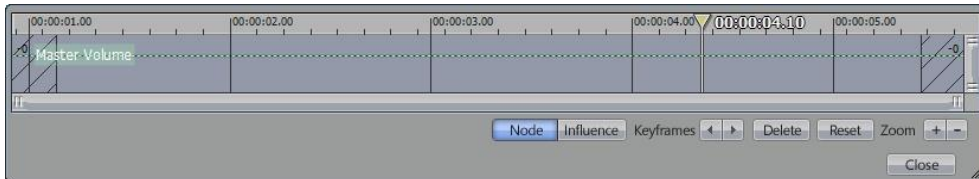


Figure 102

We'll discuss keyframing and the **Spline** graph in detail shortly, in the main section discussing SpeedEDIT's **Control Tree**. Before moving on though, notice that the graph window you just opened is not restricted to the default width. You can stretch it horizontally for easier visualization, as shown above. For now, however, click on the little icon next to the **Master Volume** again to close that panel.

GRAPHIC EQUALIZER

An 8-band **Graphic Equalizer** is located right below **Mono**. Clicking the arrow at left expands the **Control Tree** to display the controls for each frequency. These controls work much like the volume control knob discussed above, and also just as before, the levels you choose can be keyframed. This is a master equalizer for all channels.

BALANCE LEFT-RIGHT

This is pretty much self-explanatory – a global left to right balance control. More flexible controls including individual *pan* and *EQ* are located in the **Advanced** section.

ADVANCED

Expand the **Advanced** section of the Control Tree. Along with other controls, you will see more sets of individual controls for the various channels, including separate **Spline** controls. For

example, here you have a **Graphic EQ** for each individual channel. More discussion of these is coming up in the **Control Tree** section of the manual, but for now let's consider one detail.



Figure 103

AUTOMATICALLY FADING AUDIO

To create a simple fade at the beginning or end of an audio track, you can use the Fade In and Fade Out controls after clicking on Advanced. By default, the Auto button is activated. When it is, the Fade In & Fade Out fields use the timing from a transition or DVE to fade audio in and out.

For example, if you have inserted a one-second Page Curl between two clips, the audio on the first clip will begin fading out as soon as the DVE starts; and at the end of the transition, it will be totally faded out. The audio from the second clip will fade in from silence to full volume during the one-second transition. To set your fades manually, you need to turn off the Auto button. (Click it so it isn't highlighted.) Then type in a time that specifies the amount of time to either fade up from silence, or to fade out to silence.

HINT: If you don't want your audio track to fade during a transition, turn off the Auto button and leave the Fade In and Fade Out boxes at 0.

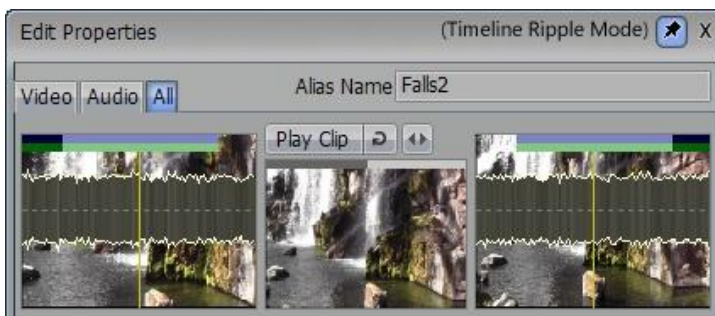


Figure 104

5.5 THE ALL TAB

The third tab in the **Selected Clip Properties** panel is labeled **All**. The only difference between the upper section of the All panel and the other two tabbed panels is this: in All, the **In Point** and **Out Point** windows overlay the audio waveform on top of the video.

In the bottom half of the All panel are another three tabs: **Comments**, **Instant Assets**, and **File Assets**.

SpeedEDIT has an underlying database structure to its file system that you can see and manipulate from the Spreadsheet module of SpeedEDIT (discussed later). These three tabs expose part of that structure, and permit you to add or modify selected entries.

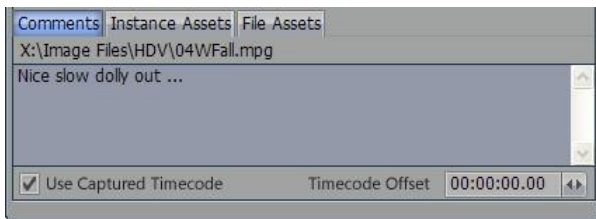


Figure 105

5.5.1 COMMENTS

The **Comments** panel lets you read and add notes to your file. Click to enter notes in the blank field. You can also add and view Comments in the Spreadsheet pane in the main SpeedEDIT interface.

NOTE: Text entered in the Comment field is only relevant within the active project. That is to say, it is lost if the current project is deleted, nor does it accompany the file if it is used in another concurrent project.

USE CAPTURED TIMECODE

This checkbox lets you choose whether to base the clip's In and Out Points using the original, captured timecode (when available.)

TIMECODE OFFSET

Regardless of whether you use **Captured Timecode** or not, you can enter an extra **Timecode Offset** for the clip. This is a handy way to set similar timecode to two different clips, for multi-cam editing.

5.5.2 INSTANCE ASSETS

To begin, you must click **Add** and choose a category from the drop down list.

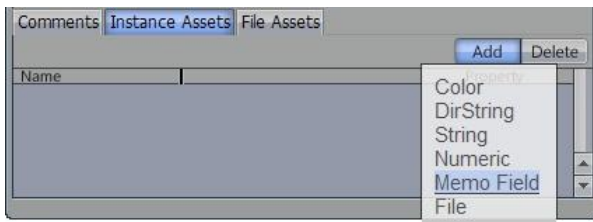


Figure 106

For example, **Add a Memo Field**, name it **Ranch**, and in the field, type in **Early Morning**. Then, in the main **Spreadsheet** pane, you could sort files by the **Memo Field**. Again, the information added here is only accessed within the project. Of course, you could name the Memo Field anything (like “Shot Location” or “Color Temperature.”)

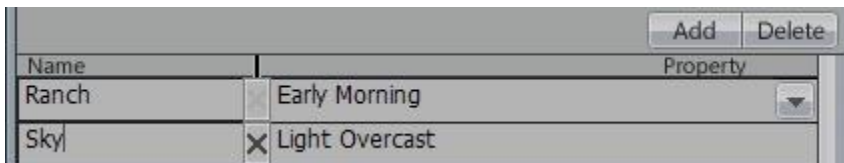


Figure 107

HINT: If you add some fields, then later wish to Delete them, click on the X in the narrow column between the field label and its associated value for the ones you no longer want, and then click the Delete button.

5.5.3 FILE ASSETS

This panel displays the same file information that you would see if you opened a file's **Properties** panel in the **Filebin**.

5.6 INHERIT

Occasionally you will make changes to a clip, (for example, shorten it or resize it), then later decide that you need to replace it in the **Timeline** or **Storyboard** with another clip. With the Inherit feature, when you drop the replacement clip on top of the original, the second clip acquires the properties of the original.

Inherit also makes it easy to drop in placeholder clips for scenes that you have not shot yet. You set the timing, position, or other options on the placeholder clip and continue editing. When the replacement shot is ready, you just hold down the Alt key and drag and drop it onto the placeholder to inherit the placeholder's settings. (This is also a great way to modify just those parts of a frequently used composition of graphic elements and video clips, maintaining a common theme throughout your productions.)

5.6.1 TO INHERIT SETTINGS

1. Click to select the replacement clip.
2. Hold the Alt key as you drag and drop it onto the original clip.

The original clip disappears as the new clip replaces it.

NOTE: Inherit works best with clips that are the same format. For example, most AVIs inherit well from other AVIs. Some incompatible clip properties may evaporate when you Inherit across types, for example, RTVs inheriting from AVIs, a video clip inheriting from a still image, or from a clip that conforms to a different video standard.

As with any bequest, Inheritance can be tricky. It involves a comprehensive transfer of properties. For example, if you have set In Point and Out Points on the original clip, the Inherited clip takes those settings. This is a good thing and works as it should, but if they differ in length, perhaps, some tweaking may be required after the Inherit operation.

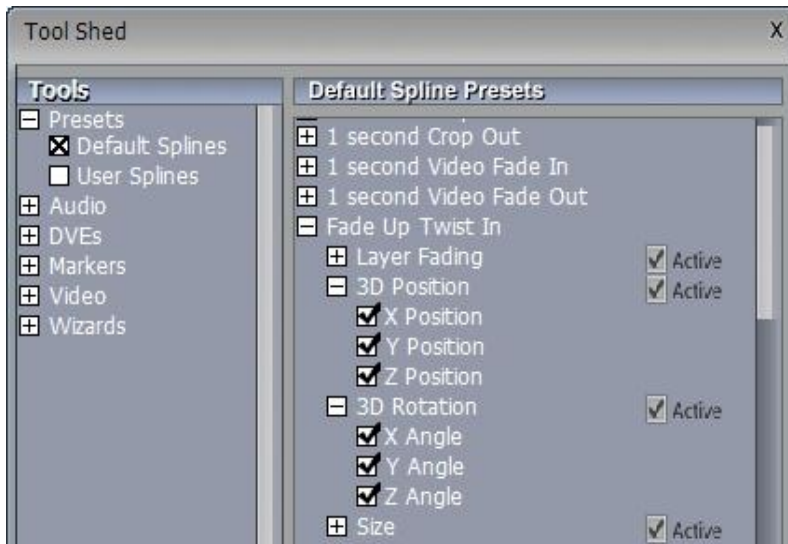


Figure 108

HINT: If you want to Inherit just some of the motion or color processing characteristics of the original, you can do that too – the Tool Shed offers individual control. The application of Individual attributes from its Default or User Presets can be toggled on or off at will prior to applying them to objects in your project. (More information on Spline Presets and the Tool Shed is coming up.)



The Tool Shed is a magical storehouse of practical editing tools.

Tool Shed functions are diverse and powerful, and you can add even extend the base set with creations of your own. This chapter introduces a sampling of some of its tools.

There are many repetitive tasks when creating a video, and if you find yourself drifting from the fun of creation and getting burdened by click...drag, click...drag, it's time for a trip to the **Tool Shed**. This collection of ready-to-use tools will help you create faster, with more effort spent on telling the story, and less time devoted to wondering how to do it.

This is something that merits exploration, and should prove to be quite fun. Better yet, there is an assistant just a button away. If you would like more information on any of the tools, select that tool and click the **Help** button.

Most **Tool Shed** functions follow a very simple recipe: Select a clip (or a series of clips) choose a tool and click **Perform**. There are far too many tools in the **Tool Shed** to explain all of them. Fortunately, most are self-explanatory, and so simple to use that you'll want to make sure the client isn't peeking over your shoulder when you click.

The Tool Shed is accessed by selecting the listing by that name in SpeedEDIT's **Windows menu**, or pressing F9 on the keyboard. The individual tools are quite diverse, and as we mentioned, you can even add your own.

DEFAULT PRESETS

Open the **Tool Shed**, and then click the [+] button to the left of the label **Presets** in the lower section of the panel to reveal two options: **Default Presets** and **User Presets**. Choose **Default Presets**, by clicking on it, and the upper panel will fill to overflowing with a list of tools you can use. Roughly half the entries in this group are **Color Filters**.

To demonstrate, highlight a clip in the editor, and click the **Color Filter - Sepia** entry. Click the **Perform** button and your selection is instantly applied.

Other tools in the **Default Preset** listing perform elaborate wipes, as well as various common scaling routines (the latter are great time savers when you have to modify many clips at once).



Figure 109

The **Start** and **End** menus permit you to process just part of the clip. **Mode** is relevant for **Tool Shed** effects that have changing values over time, controlled by keyframes. If your current clip is longer or shorter than allowed for in the original effect, you can **Preserve** the original timing from the start of the clip, or at its end – but more often than not you may want to **Scale** the keyframes to perfectly match the new duration.

USER PRESETS

The User Preset section is worth its weight in gold (using the heaviest pixels you can find). It works like this: Select a clip, and use the **Controls** pane to do anything you like to it – set up custom color correction, transparency, a 3D rotation ... anything you can think of!

Click **User Presets** in the **Tool Shed**, and then click the **New** button. Supply a name in the text field that pops up, and press Enter on the keyboard. Your new custom preset is added, and can be used over and over again, or be applied to many clips at once -- just like the **Default Presets**.

Note: in both sections (Default and User), you can selectively enable or disable specific attributes in the effect settings. Click the [+] button next to an item (such as Layer Settings) to toggle its application in the current effect. It's useful to know, too, that you can create presets retaining only user-modified attributes by first holding down the Shift key when you press New.)

MARKERS

Timeline markers (discussed earlier in Section 3.9.9, Timeline Markers) serve many purposes. The tools in this section permit you to add, edit and quantize marker positions in various convenient ways.

DVES

The DVEs group in the Tool Shed lets you add transitions to a few clips or you entire project at once. You can also adjust the timing of existing transitions, or replace them with a different one. The options are easy to understand, and **Help** provides reminders if necessary.

6.1 TOOL SHED EXAMPLES

VIDEO

The Video group provides some wonderful tool. You can reset clips to news lengths, **Stabilize** shaky video, and much more.

Let's consider an example using the **Match Colors** wizard.

In this case, we have two similar clips, but one was underexposed.

To correct the problem, we select the correctly lit shot, and click **Learn**.

Then select the second clip (the poorly lit one) and click **Perform**. It's that easy!

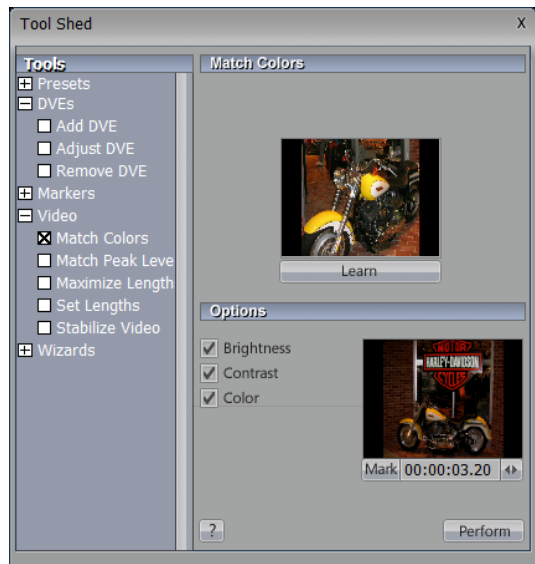


Figure 110

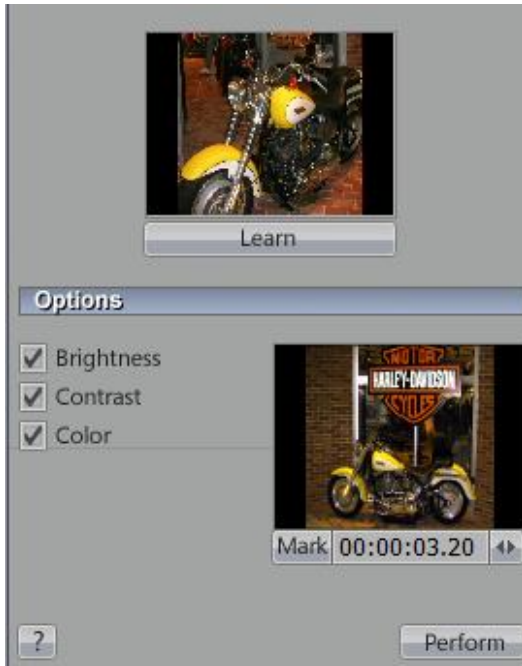


Figure 111

Figure 111 shows the result. In the **Options** section of the panel, you can individually toggle the effect's operation on **Brightness, Contrast and Color**.

6.1.1 SETTING MARKERS

Actually, for the exercise we have in mind, we need to do a little preparation before letting the Tool Shed do its magic. Markers are handy little green gadgets that you can place anywhere on a clip to indicate things like possible edit points. You usually insert Markers by selecting and playing a clip, and hitting the m key every time you want to add a Marker. Markers and music are a great mix. Try this for some fun:

1. Load a music clip onto your Timeline. Then, double-click the music to play it.
2. While it's playing, place Markers by tapping m to the beat.



Figure 112

3. Afterward, to move a Marker just roll your mouse over its chubby bottom and the cursor will become an M. This indicates that you can click and drag the Marker.
4. To delete a Marker, move the **Edit Line** over it, right-click on it, and then select **Remove clip marker** (at Edit Line.)

HINT: If your music has an even beat, and you don't have naturally perfect rhythm, open the Tool Shed and expand the Marker section. Open Quantize and follow the instructions (for more information, click on the ? button).

If the Markers don't hit the beat exactly where you'd like, go back to the Timeline, select them all and nudge them to match.

5. Now that your beats are even, expand the Wizard listing in the Tool Shed's left pane, and select **Cut to Music**.



Figure 113

This magical little tool can cut clips to music faster than you can say Hogwarts.

6. If you selected a music clip over 30 seconds long, you probably need at least ten clips. (If you don't have any handy just yet, you can find some default clips by opening the Filebin, and choosing the **Effects** Quicktab.
7. Then open the **Solid Colors** folder. Inside are a bunch of Technicolor stills waiting to tango. Pick more than you expect to need, and drag them onto the Timeline.)

HINT: Remember if you Ctrl + click, you can select the order that the clips load into the Timeline and Storyboard.

8. Now, select the music clip and hit **Perform**. Abracadabra. The clips jump to the Markers.

If you loaded too many clips, select the extras and delete them. But wait, there's one more rabbit to pull out of the hat.

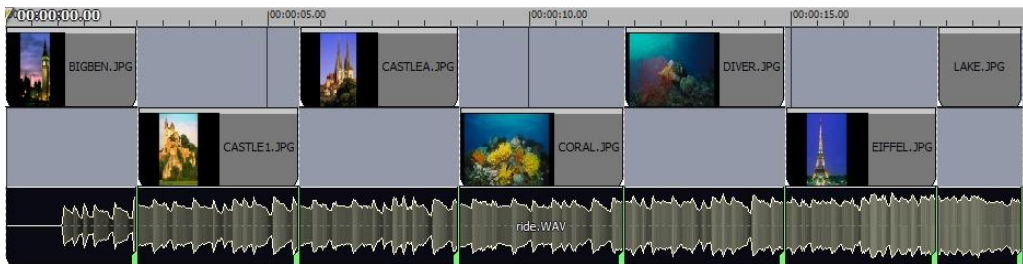


Figure 114

9. In the Tool Shed, go to the **DVEs** section and click **Add DVEs**.
10. This tool will add a DVE between every clip that you select in your project. So, back to the Quicktab, open your DVE Folder and pick a favorite transition. Pick one appropriate to the music, and drag it onto an empty spot on the Timeline. Perhaps choose something as subtle as DVE_7075.
11. Select the DVE, then – back in the Tool Shed – hit the **Grab DVE** button. The DVE's name should be displayed in the panel.
12. Enter a **Duration** if you want some time other than the default.

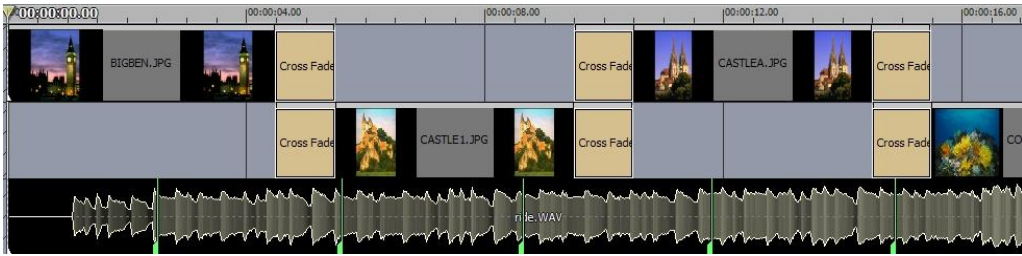


Figure 115

13. Under **Apply Range**, pick **Whole Project** and hit **Perform**.

Play the sequence and sing-along. If you don't like the DVE, pick another one; and in the **Add DVE** panel, make sure you check **Replace Existing DVEs**.

NOTE: More information about the Tool Shed is found in Section 12.24.4, Spline Presets.

6.1.2 PROJECT BACKUP



Figure 116

Another very useful **Tool Shed** function is **Project Backup**. Expand the Wizards group in the Tools lost by clicking the + sign, and click on Project Backup to access it.

Click the three-dotted button (...) near the bottom of the lower right panel to set a location for the backup files – making sure, of course, that there is ample room on the target disk.

Then click **Perform** to create an archive with all of the assets for your project copied to the specified location.

The resulting files are neatly organized into **Audio**, **Video**, **Stills**, **CG**, and **Miscellaneous** folders. As well, a new project file is created in the backup destination with all file references mapped to the new file paths.

7 SUB-PROJECTS



A Sub-Project is essentially a ‘project within a project.’ This is a great way to organize your more complex productions into manageable segments.

When you create a Sub-Project, SpeedEDIT collapses the selection into one icon or timeline object. This chapter discusses some of the ways this feature is invaluable to you in your SpeedEDIT projects.

Sub-projects are a wonderful organizational and creative tool. This is how SpeedEDIT permits you to deal with complex sections of your project as through it were a single entity. Anything you could do with a single clip can be done to an entire sub-project.

7.1 CREATING A SUB-PROJECT

First, you need to select the clips that will comprise the subproject. Perhaps the easiest way to select the clips is to click on the **Timeline** with your mouse and drag out a box around them. (Of course, they have to be adjacent to one another or nearby overlay clips.)

Then, click the **Sub Project** button on the top left of the SpeedEDIT panel, or right-click anywhere on your selection to open the context menu and choose **Create Sub-Project**. The **Storyboard** subsequently displays a Sub-Project icon. The **Timeline** view shows a separate segment labeled Sub Project (you can assign an **Alias** to the Sub Project by in **the Trim Bay** or **Selected Clip Properties** panel.)

HINT: You can also make Sub-Projects within Sub-Projects.

7.2 SUB-PROJECTS IN THE STORYBOARD

In Storyboard view, your **Sub-Project** appears as a separate icon with a + in the corner. To show (and edit) the contents of a Sub-Project, click on the + and you the icons inside are revealed in the storyboard, nestled between two sub project icon that serves as ‘book-ends.’

The Sub-Project icons now display a – sign in the corner. To collapse the Sub-Project again, click on the - sign.



Figure 117

When you reveal the **Sub-Project** in the **Storyboard** in this manner, you can still see the icons for the rest of your project -- however, the icons representing Sub-Projects scenes are smaller.

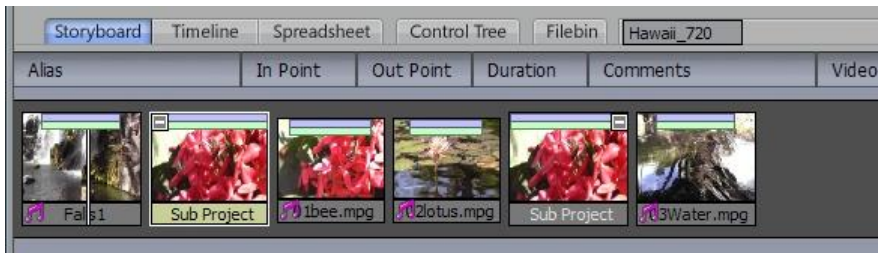


Figure 118

Your project view can become rather cluttered, so SpeedEDIT provides the option of **Drilling** into the Sub-Project, instead of expanding it (right-click on the icon and select **Drill into Sub-Project**).

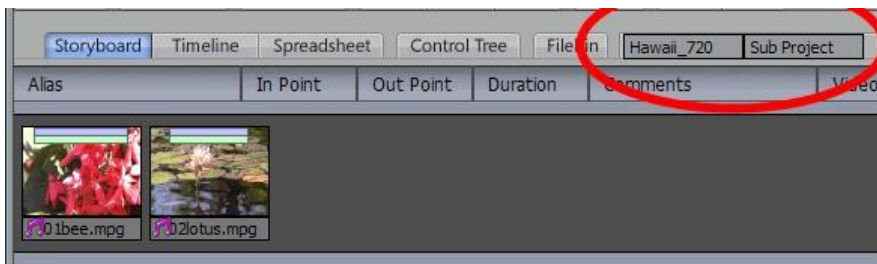


Figure 119

When you **Drill**, you limit the **Storyboard** view to show only the scenes contained in the Sub-Project. The **Path** display beside the SpeedEDIT tabs shows your location in the project tree.

Drilling is the same as moving around a file directory: think of each Sub-Project as a folder within a folder.

HINT: Another way to drill into a Sub-Project is to Shift + double-click on the icon. To back out of the Sub Project only view, click on the name of the Sub Project in the Path display. SpeedEDIT will collapse the Sub Project and display the icons for the entire project (or the next level up in the case of nested sub projects.)

7.3 SUB-PROJECTS IN THE TIMELINE

In Timeline view, **Sub Projects** appear as though they were a single video clip (with audio waveform, when appropriate).

You can move sub-projects around, and even trim or *slo-mo* them just like a normal clip. To work on component scenes individually however, you must **Drill** into the Sub-Project. The process to drill into a Sub-Project on the Timeline is the same as for the Storyboard.

NOTE: For both Storyboard and Timeline views, and unlike Drill, the context menu item Expand Sub-Project actually deconstructs the Sub Project, restoring the component clips back to normal status in the main project (or in another sub-project, if they were nested within it at the time of expansion.)

7.3.1 GLOBAL CHANGES TO A SUB-PROJECT

One of the big advantages to working with Sub-Projects is that you can apply **Color Correction** or **Audio** tweaks to the entire Sub-Project as a discreet unit. When you select a Sub-Project and open up the **Control Tree** or the **Selected Clip Properties** panel, you can see the Color Correction (and Audio tools) available. You even can scrub through a Sub-Project setting keyframes along the way, then use the **Spline Editor** to adjust the splines.

7.3.2 INSERTING CLIPS INTO A SUB-PROJECT

This is not complicated – just **Drill** into the **Sub-Project**, then copy or drag the new material into it as you normally would.

7.3.3 FOLDERS AND SUB-PROJECTS

If you drag and drop a whole folder onto the **Storyboard** or **Timeline**, SpeedEDIT automatically creates a **Sub-Project** of all of the files in alphabetical order.

This can be a great way to quickly structure a project using a pre-designed structure of nested sub-folders. The folder will load onto the **Storyboard** as one **Sub-Project** icon. To see the individual clips, right-click on the Sub Project icon and select **Expand Sub-Project**. Or you can just double-click on the sub-project icon to play it.

8 ASSET INSTANCES



A file Instance is a marvelous thing, a huge time saver as well as a means to ensure consistency between your productions, enabling you to easily maintain a characteristic style.

This chapter will provide some practical examples of using instances creatively to simplify repetitive editing tasks.

Basically, an **Instance** is a small file that you can store on your hard drive, independent from any project. The Instance file references another file – perhaps a video clip, audio sample, still image, effect, or even a sub-project.

In many respects, dragging an Instance into a project is no different than dragging the original file (or files, in the case of sub-projects). However Instance files store any attributes you may have given the original in the Timeline or Storyboard.

8.1 PRACTICAL INSTANCING

Let's consider an example. Perhaps you regularly produce "The Antique Highwayman" (a derivative of another popular program with a similar name, but featuring a cat burglar.) Your graphic designer has created some nice template CG artwork for your use, including some lower third overlays as Targa files.



Figure 120

Countless times for each episode, you need to use this graphic, sliding it in from the left as a backdrop for new titles and then fading it out to fully reveal the clip behind.

It only takes a moment to drag the lower third file onto the timeline, but each time you do so, you need to re-size it, and set up left to right motion and the fade. Ho-hum ... Instances are about to revolutionize your life (what you do with the spare time is up to you.)

Our example lower third is a 32bit Targa file, with the upper section transparent. Overlay is enabled in the **Trim Bay** to permit the timeline clip above to show through the transparent zone.

Here's what you would normally have to do each time:

- Drag the Targa file onto the timeline.
- Put the background graphic clip (the lamp) above the lower third background clip.
- Enable Overlay (in the Trim Bay) for the lower layer.
- Stretch them each to a suitable duration.
- Set up the in-motion for the lower clip, sliding in from the left (using the Control Tree's Positioner tab (discussed shortly).
- Add the title graphic clip below the lower third one.
- Roll the mouse over the small triangle at the lower right end of the Targa clip and title until the cursor changes to Fd (Fade) – drag left to set a fade out period.

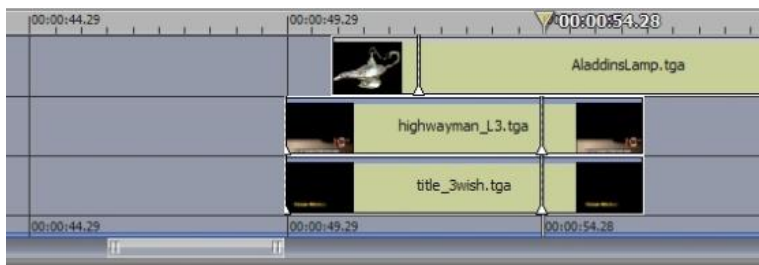


Figure 121

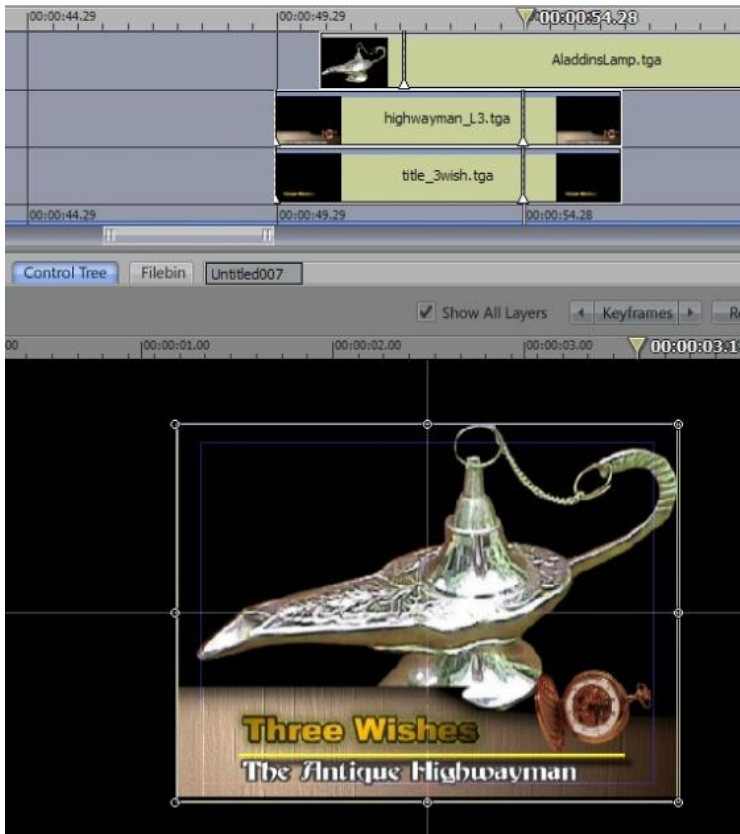


Figure 122

Finally – you would create a suitable title to display over the lower third (setting it up just above the yellow line in our example) to introduce this segment.

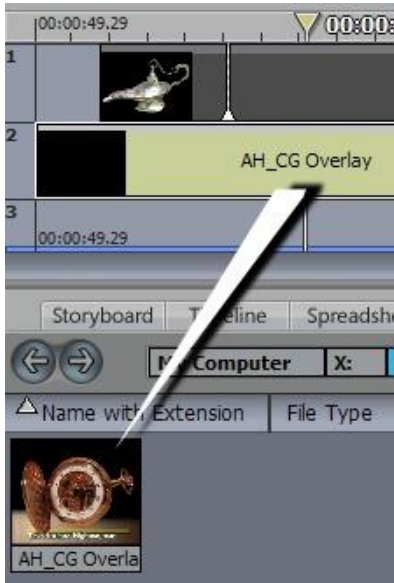
But now need to do this 30 more times ... just for this episode!

You might recall that SpeedEDIT offers some shortcuts. For example, you could select the lower third clip along with the title clip, then down CTRL and drag to create an exact copy of all three elsewhere on the timeline. Then you could use Inherit to drop a new title in place of the one already positioned in this multi-layer composite. But that's only good for this one episode.

Creating an instance of the overlay is the best answer.

8.1.1 CREATING AN INSTANCE FILE

First, for our example, it would be best to turn the whole assembly (including the placeholder title) into a **Sub Project Instance**.



Multi-select the component clips in the **Timeline**, then click **Sub Project**. Use the **Name** field in the **Trim Bay** to supply a suitable **Alias** (such as AH_CG Overlay.) Click the **Filebin** tab for SpeedEDIT's lower pane.

Use the **Filebin** to create a suitable folder to store the CG elements for this series. Click and *drag* the **Sub-Project** you made into the Filebin window.

That's all you need to do. From now on, you can completely re-create your lovely lower third, complete with motion and dissolve, by simply reversing this action: that is, by dragging the **Instance** file from the **Filebin** onto the **Timeline**.

Figure 123

As this example involved a **Sub-Project**, you can drill into the clip on the Timeline using a Shift-double click on it. Then **Inherit** the appropriate replacement title over the placeholder, back out of the Sub-Project, 'rinse and repeat.'

This makes another great way to store and re-apply complex custom title motions, PiP elements, custom color processing settings -- the list goes on.

NOTE: See also Section 3.4.4, Locate Camera Files for another valuable application of instances.

9 SPREADSHEET



Just the name can send cold shivers through the artist in you. And at first glance, the Spreadsheet panel loaded with a long project looks like something only an accountant could love.

But if you inspect it more closely, you'll see that it is chock full of information about your clips and the project as a whole.

One main tab in the SpeedEDIT panel not yet discussed is the **Spreadsheet**. The Spreadsheet is actually another view of your project, with more in common with the **Storyboard** or **Timeline** view than a **Filebin** set to **Details Icon** view, although it somewhat resembles the latter.

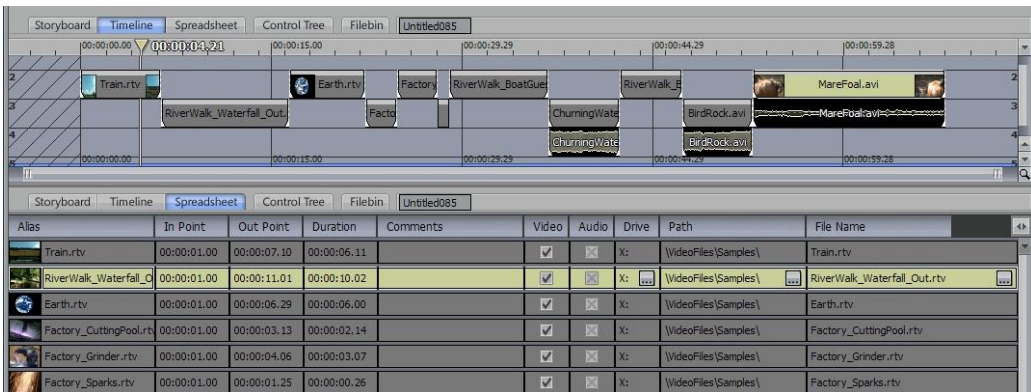


Figure 124

You can select and move clips or DVEs up or down the list, just like you would in the Storyboard. You can edit **In** and **Out Points** too, just as you might do in the Trim Bay. Although it lacks the creative spontaneity of the other project views, it can often be a huge timesaver.

Suppose you are working on a deposition project, and the lawyers gave you instructions for cutting the video to timecode. The **Spreadsheet** method could well be the quickest way of editing the clips.

Storyboard Timeline Spreadsheet Control Tree Filebin Untitled085					
Alias	In Point	Out Point	Duration	Comments	Video
Train.rtv	00:00:01.00	00:00:07.10	00:00:06.11		<input checked="" type="checkbox"/>
RiverWalk_Waterfall_O	00:00:01.00	00:00:11.01	00:00:10.02		<input checked="" type="checkbox"/>
Earth.rtv	00:00:01.00	00:00:06.29	00:00:06.00		<input checked="" type="checkbox"/>
Factory_CuttingPool.rtv	00:00:01.00	00:00:03.13	00:00:02.14		<input checked="" type="checkbox"/>
Factory_Grinder.rtv	00:00:01.00	00:00:04.06	00:00:03.07		<input checked="" type="checkbox"/>
Factory_Sparks.rtv	00:00:01.00	00:00:01.25	00:00:00.26		<input checked="" type="checkbox"/>

Figure 125

The real power of the **Spreadsheet** is in its ability to manage file details, and do so in bulk at times.

For example, suppose you finished a project and cleared your hard drives of all the clips. Then six months later your client returns wanting some changes (oh joy). You can recapture the project clips, but suppose this time the clips wind up on your V drive rather than where they were originally. You can simply reload the project and open the **Spreadsheet**. Select the entries for all clips that you need to relocate and right-click on the first clip in the **Drive** column.

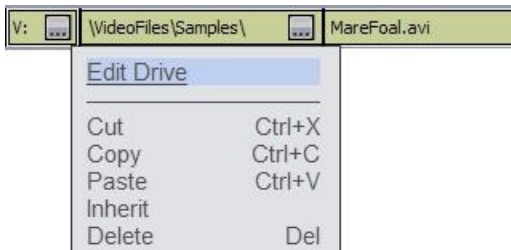


Figure 126

In the **Context Menu**, choose **Edit Drive** and enter V (if that's where the clips are). When you press **Enter**, all the clips that you have selected will change their path to V. Now, what do you think of the lowly Spreadsheet?

HINT: To browse to a clip location, click in the Drive or Path column and a three-dotted button will appear. Click on it to open a standalone Filebin. You also can modify the look of a Spreadsheet as you can a Filebin.

10 FILE MENU

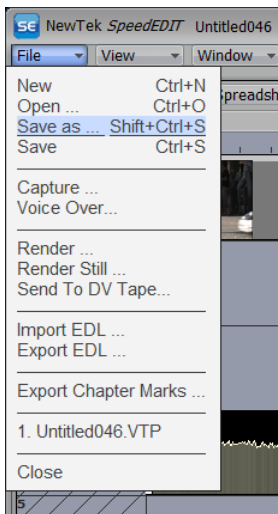


The File Menu may raise your adrenalin levels about as much as the Spreadsheet we just reviewed, but the unembroidered fact is that it is even more essential.

Features and options in the file menu will allow you to work with a sense of assurance that your hard work is safely stored, as well as allowing you to produce versions of your masterpieces in multiple formats for various purposes.

The unassuming **File Menu** is home to some important project management features. (Remember too, that in addition to the **Save** functions listed here, there is a very useful **Project Backup** function in the **Tool Shed** – see Section 6.1.2, Project Backup).

10.1 SAVE AND SAVE AS



These two menu points are similar to those in every other program you may be familiar with, but there are a few unique aspects.

UNDO/REDO FILES

First, when you **Save** a project file using either menu item, you are asked about **Undo/Redo Stacks**. In this manner, SpeedEDIT remembers everything you did in your project, storing it in a small file on your hard drive.

This means you can shut down SpeedEDIT, return the next day (or six months later) and *undo* an action, or several of them – up to the limit you set in **Preferences** under **EDITING, Maximum Number of Undos**.

Undo/Redo Stacks are also helpful if you ever suffer a system crash.

Figure 127

The stacks for a project automatically are stored in a folder with your project's name. That folder is in the same Projects folder that contains the SpeedEDIT project file (these files have the filename suffix .vtp).

Since each **Undo/Redo Stack** has a *time and date*, you can manually load a particular Undo/Redo Stack to look at the state of the project at that time. Undo/Redo Stacks load into SpeedEDIT just like a project file.

Having done that, it's rather like you've gone back in time. You could perform a **SaveAs** of this historic piece of work, giving it a new name, and then branch out to create a new version of your production – all without damaging the original project.

The **Undo** and **Redo** buttons in SpeedEDIT make editing a lot simpler because they allow you to rectify your mistakes; and more importantly, you can experiment with your project. Click the Undo button if you move an item by mistake or if you just want to eliminate changes that you made. (The common keyboard shortcuts for Undo, Ctrl + z, and Redo, Ctrl + y, work in every SpeedEDIT module.)

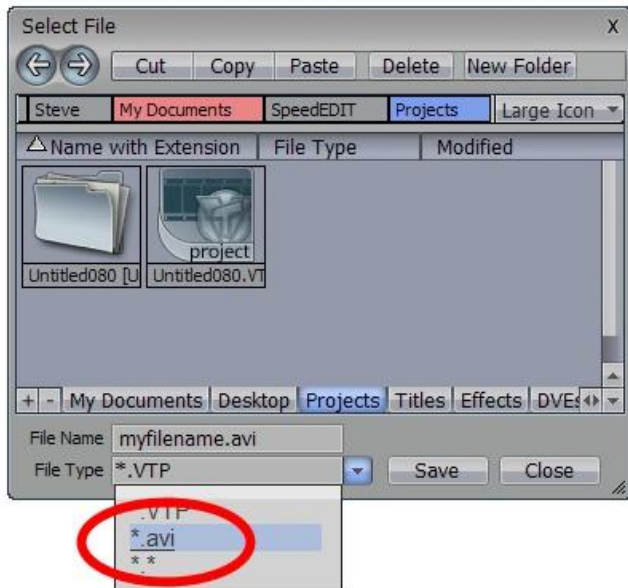
Redo will redo what you undid – so if you hit **Undo**, but then decide that you actually prefer to keep the change you erased, you can hit Redo. Note that Redo works only when you do not make new changes after you hit Undo (to paraphrase Cole Porter, 'Who do the redo you undo so well?')

NOTE: You can hit Undo as many times as necessary to return to the status before your changes. You set the Undo number in SpeedEDIT in the Preferences panel under EDITING: Maximum Number of Undos. The default is 100, but you can set it to Infinity if you plan on editing that long.

10.1.1 SAVEAS – AVI

Another useful feature is provided in the **Save As** file window. SpeedEDIT is capable of creating a small *wrapper* file which presents your entire video project to external applications as though it were a single Windows™ AVI file.

This pseudo-AVI file is very small, and takes only moments to create. In many cases, it can serve as a surrogate for use in other applications, saving a great deal of time that might otherwise be required to render out the entire project in a different format.



When you click **File>Save As**, the file window shown here is presented.

Use the down-arrow to the right of the **File Type** field to reveal a drop-down menu with both *.VTP and *.avi options.

Normally, you would select *.VTP, supply a **File Name** above, and click **Save** to re-save the SpeedEDIT project file under a new name.

Figure 128

If you select ***.avi** instead, a .VTP project is still generated, but a supplementary file with the same name and the .avi file extension is also created. The process takes only a few seconds.

In this latter case, when you subsequently access the AVI file from another application, in turn it will refer to the corresponding VTP file for its image and audio data!

IMPORTANT NOTE: DVEs are best suited to SD (standard definition) projects. For best quality, the AVI file created by SaveAs automatically substitutes a (resolution independent) Cross Fade Transition for all DVEs. If you prefer to preserve the DVEs, use SpeedEDIT's Render function to create an avi file instead of using SaveAs>AVI.

10.2 TMPGENC SUPPORT

SpeedEDIT provides special support for the popular Tsunami MPEG encoder (a.k.a. "TMPGenc"), a third-party compression tool.

If you have TMPGenc installed, locate the plugin named *VTTMPEGEncProjectPlugin.vfp* in your SpeedEDIT installation's "3rd Party" folder. Copy this file into the director where the TMPGenc

executable file is on your system. This provides TMPGenc the ability to directly load VTP project files. This can be a great timesaver.

NOTE: This VTP loader works in the same manner described earlier in connection with the SaveAs>AVI feature – that is, if DVEs are detected in an HD project, a (resolution independent) Cross Fade Transition is automatically substituted (this does not occur when you use a Transition rather than a DVE). To deliberately embed DVEs, use the Render function instead.

10.3 CAPTURE

Please review Section 3.7 , Capturing Clips, for details of this function.

10.4 VOICE OVER



Figure 129

This convenient **File menu** utility allows you to record voiceovers using your system sound card inputs. If **Play On Record** is switched on, your SpeedEDIT project will be previewed as you do so (starting from the current **Edit Line** position.)

Enabling the **Insert Into Timeline** switch places the newly recorded audio sample into your project at the time position where you began play. Note that the **VU meters** peak at 0dB, and when audio exceeds this level it will result in clipping.

10.5 RENDER

This option was covered in depth earlier – please see Section 3.14, Render.

10.6 RENDER STILL

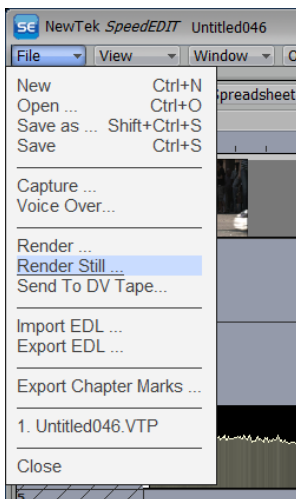


Figure 130

Selecting this item presents a panel that permits you to select a file path, supply a filename, and choose a **File Type**. Scrub to the desired frame, click the **Save** button and you're done (please read Section 3.14.6 - SD/HD DVEs - Special Considerations for information on a related Preferences option.)

HINT: The keyboard shortcut for this feature is Ctrl+Shft_m.

10.7 IMPORT EDL

If you or a client has generated an EDL (Edit Decision List) from another editing application, you can import it into SpeedEDIT by selecting **Import EDL** from the **File menu**. From the dialog box that pops up, you choose what type of file that you want to import using the **File Type** filter menu. Your choices are **.EDL** (Edit Decision List), **.CSV** (a comma separated spreadsheet), **.txt** (Text) or **.log** file type.

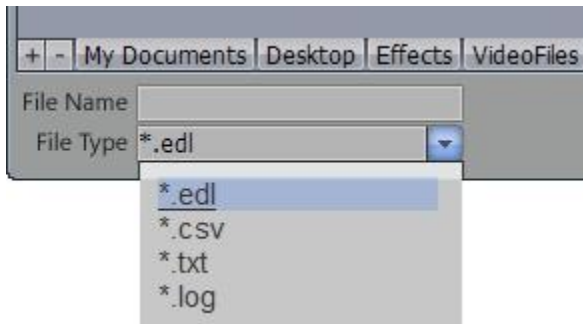


Figure 131

Your EDL file may import onto the **Timeline** as one big **Sub-Project**, requiring you to drill into it to open it up for editing. (See the discussion on Sub-Projects in Chapter 7). Then, open the **Spreadsheet** panel and examine the EDL. If you have the video and audio clips on your system, you may still have to use the Spreadsheet to update the location of those clips on your own system. Simply click on the **Path** column for the file and a three-dotted icon will appear. Click on it and a File Requester will open. Browse to the file and click **Select**.

10.8 EXPORT EDL

You can also *export* your project to either an **.edl** listing (a “cleaned” Edit Decision List format), or as a **CSV** (comma separated) for use in spreadsheets, or as a **text** file. With CSV and txt formats, you have the choice of exporting your whole project, or a “cleaned” list, closer to a true edl.

Some sample files in the different formats follow, to help you choose the right type for your needs.

10.8.1 EDL FORMAT

TITLE: EDLProject

FCM: DROP

REM LIST: Cleaned list

REM Destination Framerate: 29.970030 fps

REM Source Framerate: 29.970030 fps

REM EDIT LIST...

001 9999 V C 00:00:01:00 00:00:05:27 00:00:00:00 00:00:04:27

REM FROM CLIP NAME: V:\Media\RTVs\DogCU2.rtv

REM Clip above had NO Captured Timecode or Tape Name

002 9999 V C 00:00:01:00 00:00:07:21 00:00:04:27 00:00:11:18

REM FROM CLIP NAME: V:\Media\RTVs\DogWide2.rtv

REM Clip above had NO Captured Timecode or Tape Name

003 9999 V C 00:00:01:00 00:00:03:16 00:00:11:18 00:00:14:04

REM FROM CLIP NAME: V:\Media\RTVs\GhostBlast.rtv

REM Clip above had NO Captured Timecode or Tape Name

004 9999 V C 00:00:00:00 00:00:02:00 00:00:14:04 00:00:16:04

REM FROM CLIP NAME: V:\Media\RTVs\Corvette.rtv

REM Clip above had NO Captured Timecode or Tape Name

* REEL LIST...

REEL 9999 AA/V 00:00:00.00 00:00:02.00 V:\Media\RTVs\Corvette.rtv

REEL 9999 AA/V 00:00:01.00 00:00:05.27 V:\Media\RTVs\DogCU2.rtv

REEL 9999 AA/V 00:00:01.00 00:00:07.21 V:\Media\RTVs\DogWide2.rtv

REEL 9999 AA/V 00:00:01.00 00:00:03.16 V:\Media\RTVs\GhostBlast.rtv

* Note: clips without a tape name were named 9999

10.8.2 CSV FORMAT

TITLE: EDLProject

FCM: DROP

REM LIST: Cleaned List

REM Destination Framerate: 29.970030 fps

REM Source Framerate: 29.970030 fps

COLUMN	TAPE	CHANNELS	TYPE	RCIN	SRCOUT	DESTIN	DESTOUT	DURATION
--------	------	----------	------	------	--------	--------	---------	----------

1	9999	V	Video	00:00:01.00	00:00:05.27	00:00:0.00	00:00:04.27	00:00:04.27
---	------	---	-------	-------------	-------------	------------	-------------	-------------

2	9999	V	Video	00:00:01.00	00:00:07.21	00:00:4.27	00:00:11.18	00:00:06.21
---	------	---	-------	-------------	-------------	------------	-------------	-------------

10.8.3 TXT FORMAT

TITLE: EDLProject

FCM: DROP

REM LIST: Cleaned list

REM Destination Framerate: 29.970030 fps

REM Source Framerate: 29.970030 fps

=====

EVENT: 0001

TYPE: Video

FILE: V:\Media\RTVs\DogCU2.rtv

TIMECODE: Clip had no captured timecode

TAPE: Clip had no tape name

CHANNELS: V

TRACKV: 1

SRCIN: 00:00:01:00

SRCOUT: 00:00:05:27

DESTIN: 00:00:00:00

DESTOUT: 00:00:04:27

DURATION: 00:00:04:27

=====

EVENT: 0002

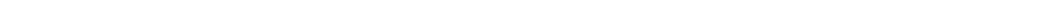
TYPE: Video

FILE: V:\Media\RTVs\DogWide2.rtv

TIMECODE: Clip had no captured timecode

TAPE: Clip had no tape name

CHANNELS: V



TRACKV: 3

SRCIN: 00:00:01:00

SRCOUT: 00:00:07:21

DESTIN: 00:00:04:27

DESTOUT: 00:00:11:18

DURATION: 00:00:06:21

TITLE: EDLProject

FCM: DROP

REM LIST: Cleaned list

REM Destination Framerate: 29.970030 fps

REM Source Framerate: 29.970030 fps

COLUMN: TAPE CHANNELS TYPE SRCIN SRCOUT DESTIN DESTOUT DURATION EVENT

1 9999 V Video 00:00:01:00 00:00:05:27 00:00:00:00 00:00:04:27 00:00:04:27

2 9999 V Video 00:00:01:00 00:00:07:21 00:00:04:27 00:00:11:18 00:00:06:21

3 9999 V Video 00:00:01:00 00:00:03:16 00:00:11:18 00:00:14:04 00:00:02:16

4 9999 V Video 00:00:00:00 00:00:02:00 00:00:14:04 00:00:16:04 00:00:02:00

10.9 EXPORT CHAPTER MARKS

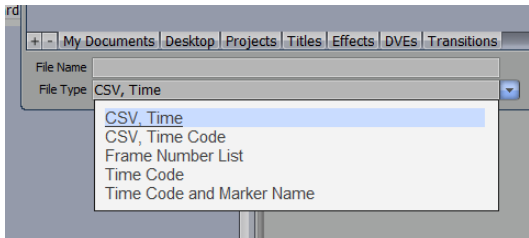


Figure 132

The final File Menu option is **Export Chapter Marks**. This allows you to store values associated with SpeedEDIT project markers (only) in an external file (suitable for use with DVD authoring applications, or for other purposes). Various useful file formats are available in the **File Type** drop down.

11 WINDOWS, VIEW AND OUTPUT



The Windows menu provides one way to quickly access a number of the major components of SpeedEDIT that feature independent panels.

View provides convenient control over SpeedEDIT's desktop options, while Output allows you to select between different output devices you may have at your disposal.

HINT: A few items you might expect to find here but which are not are the Capture and Render panels. These can be found in the File menu, as mentioned earlier, since they deal with file creation and management.

11.1 WINDOWS MENU

11.1.1 ADD MEDIA

Add Media windows were discussed earlier, in Section 3.4.8 -- Add Media.

11.1.2 SELECTED CLIP PROPERTIES

The **Selected Clip Properties** panel was discussed earlier, in Section 5.1 -- the Clip Properties Panel.

11.1.3 TOOL SHED

The Tool Shed was discussed earlier, in Chapter 6 -- Tool Shed.

11.1.4 VIDEO OUTPUT

The **Video Output** pane (first mentioned in Section 3.3.1) comes in two principal flavors. The reason for this is to accommodate users having less-powerful graphics display hardware mounted in their systems.

Thus you will find a **Video Window Output Quality** settings in **Preferences**.



Figure 133

If your **Output Window** image is corrupt, or does not display video at all, choose **the Low Quality** option (changing this setting requires that you restart SpeedEDIT.) Low Quality works much better with some hardware, but lacks certain optional features of the **High Quality** display.

Both **Output Window** styles feature further options, chosen from a context menu that opens when you right-click on the Output Window. We'll discuss these settings below (features that are unavailable in **Low Quality** mode are listed with an asterisk).

NOTE: For Low and High Quality windows, you can resize the borders of the Output window by dragging the resize gadget at the lower right corner.

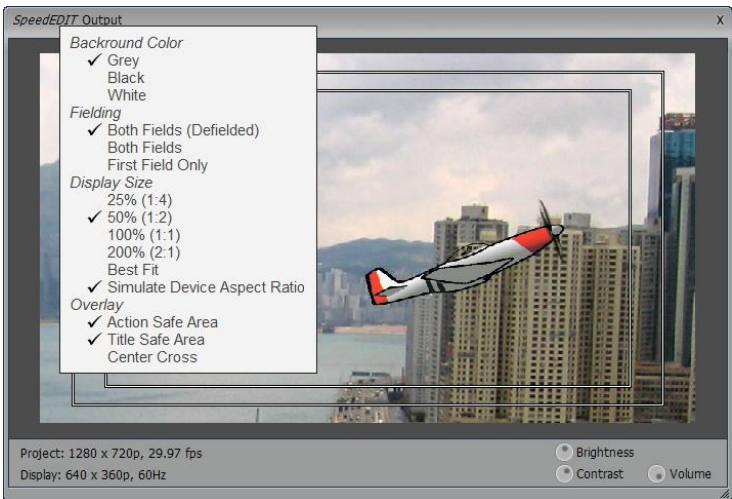


Figure 134

NOTE: Also, High and Low Quality do not completely tell the story – having selected one of these two alternatives, SpeedEDIT evaluates the abilities of the display card, and provides appropriate controls. Thus certain optional features (such as the brightness/contrast controls) may not appear when a less powerful card is detected, despite your having opted for High Quality in Preferences.

BACKGROUND COLOR

Select between Grey, Black or White to be used to fill blank areas outside of the image display in the Output window.

FIELDING

Generally, interlaced project formats (such as SD in both PAL and NTSC) flicker on computer monitors. These options permit you to determine how you wish to deal with this when it arises. You may choose to show both fields, both fields with de-interlacing* applied (Defielded), or First Field only (the latter option is recommended.)

DISPLAY SIZE AND REFRESH RATE*

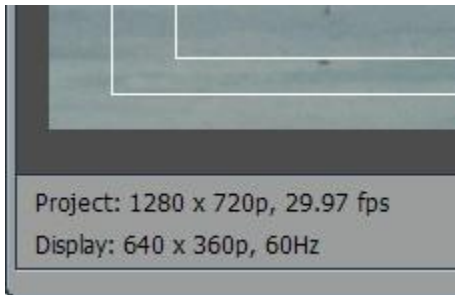


Figure 135

The lower left corner of the **Output** window shows the actual project resolution and framerate. It also lists the actual Output window Display size (taking into account the settings discussed next.)

The monitor *refresh rate*, listed in the **Display** section, may be taken as a recommendation. It is suggested that (where possible) you adjust the vertical refresh rate for your computer monitor (as set in your graphics card driver settings) to the suggested setting. This can reduce display issues (such as tearing) that may occur when the project framerate and interlace options do not correspond well with your current settings. (For example, 60hz is best for most NTSC projects.)

In **High Quality** mode, the **Output Window** context menu lists preset size ratios for the display surface, from 25-200%. **Best Fit** scales the output image to fit the current size, while retaining image aspect. The **Low Quality** option does not have size options. Rather, it is always in Best Fit mode.)

SIMULATE DEVICE ASPECT RATIO

When Simulate Device Aspect Ratio is disabled, every pixel is displayed on the computer monitor 'as-is'; that is, without respect to the project pixel aspect settings that result in correct image proportions on the *final* target display.

For example: suppose your project is ultimately intended to be displayed on a traditional (4:3 image aspect) standard definition TV set. If you have a circular object in your video clip, with **Simulate Device Aspect** ratio off, each pixel of the clip will be show up in **Output**, but the circle appears to be an oval, because pixel aspect was not accounted for.

On the other hand, if this option is enabled, the display will be scaled horizontally to produce a properly proportioned image.

NOTE: Simulate Device Aspect has no effect whatever on the actual output from the project.

OVERLAY*

Typical SD television display devices *crop* the displayed image somewhat. The **Action Safe Area** and **Title Safe Area** options, when enabled, result in rectangular overlays that help you visualize where important features of your production will appear onscreen taking into account this factor

The **Center Cross** setting subdivides your image into quadrants to further assist with composition.

OUTPUT VOLUME CONTROL

The volume control on the Output window has no effect whatsoever on the actual project levels (appropriately then, it likewise has no impact on the VU meter readings.)

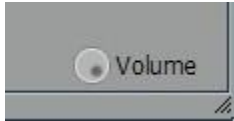


Figure 136

Rather, it allows you to adjust the sound level sent to your speaker system for comfortable, undistorted audio monitoring during playback and editing operations.

NOTE: The maximum Output Volume control set does not permit gain to exceed Project levels; it can only throttle volume downward. So an improper setting of this control cannot be responsible for induced distortion. That said, you can still boost your sound card settings or speaker amplification up sufficiently to cause distortion ("Remember, only you can prevent hearing loss.")

BRIGHTNESS AND CONTRAST*

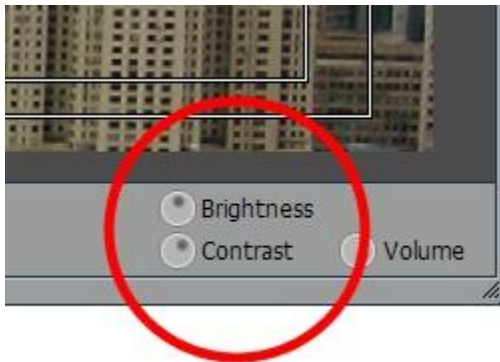


Figure 137

In similar fashion to the **Volume** control just discussed, the knobs for **Brightness** and **Contrast** controls on the Output window have no effect on either rendered files or output signal (when a live DV/HDV preview is active.)

HINT: To modify the actual image characteristics, use the numerous color control options in SpeedEDIT's Control Tree.

These controls offer some ability to customize your project display *as viewed on your computer's monitor*. Critical color and image judgments should always be made using properly calibrated display and metric devices. This brings us to...

11.1.5 WAVEFORM/VECTORSCOPE

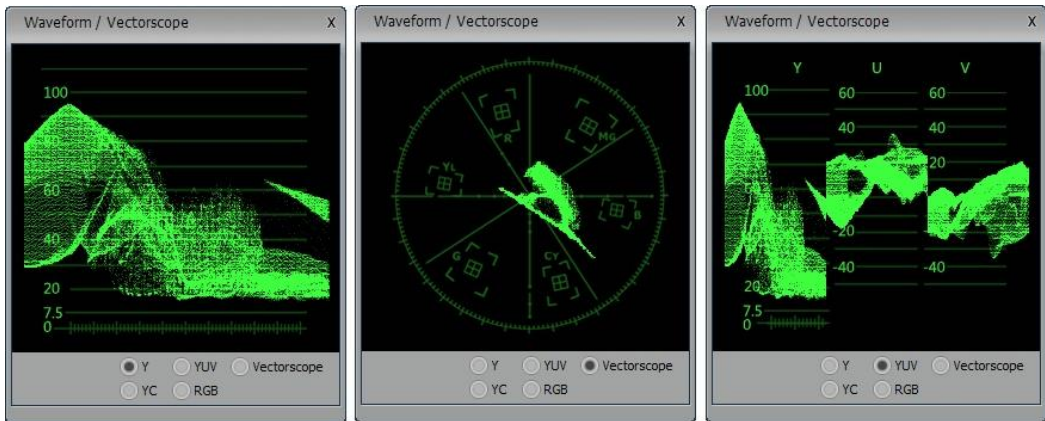


Figure 138

Pictured here are three variations of the primary **Waveform/Vectorscope** provided in SpeedEDIT.

To open one (or more) of these for precision monitoring of the signal characteristics of your video in realtime, use the SpeedEDIT's **Windows menu** item **Waveform/Vectorscope**.

Switches permit each open module to be configured to show variously a full **YUV** or **RGB Waveform** monitor, just **Y** or **YC**, or a standard **Vectorscope**.

It goes beyond the scope of this manual to delve into explanations of video signal metrics. For those interested in the nitty-gritty of these matters, abundant reference material is available both online and in print (such as "Introduction to Video Measurement," by Peter Hodges.)

NOTE: The scopes discussed here are informational only, and provide no mechanism to modify the video characteristics. However similar Waveform/Vectorscope modules appearing in the Color Correction sections of the Control Tree are in fact interactive, permitting precise control over the various attributes of your imagery.

11.1.6 COLOR PICKER

The Color Picker was discussed earlier, in Section 3.9.10, The Color Picker.

11.1.7 PREFERENCES

Many items in the **Preferences** panel are self-explanatory, but a few are noteworthy. We'll detail a few momentarily, but first please note that a number have been discussed in specific contexts elsewhere in the manual. Notably, you will find the following references useful:

- User Interface Colors -- Section 3.2.2
- DV/HDV IEEE1394 Preview -- Section 3.3.2
- Rollover Animated Previews -- Section 3.4.1
- Track Clip -- Section 3.6
- Timeline A/B track editing -- Section 3.8
- Automatic In/Out Offsets -- Section 3.8.2
- Storyboard Insertion Mode -- Section 3.11.1
- Default Transition/DVE Length -- Section 3.11.2
- Maximum Number of Undos -- Section 10.1
- Video Window Output Quality -- Section 11.1.4

BACKGROUND RENDERING PROFILES

To provide the most fluid editing experience possible, SpeedEDIT uses highly optimized background rendering routines. Background rendering is very unobtrusive while you are working with SpeedEDIT.

As the throughput and processing requirements for SD (Standard Definition) and HD (High Definition) projects differ quite a bit, separate BG Rendering Profile entries are listed for each type of project. Look for these in the **Background Rendering** section of **Preferences**.

Realtime performance will vary somewhat according to the complexity and format of your project, and of course your system’s hardware specifications play a big part too.

BACKGROUND RENDERING	
SpeedEDIT cache path	X:\Cache
BG Rendering Profile (SD)	Render All Overlays
BG Rendering Profile (HD)	(Default) Render DVEs and Overlays
Cache quality	<ul style="list-style-type: none"> Render All Render All Overlays Render All Transitions Render All Video Streams Render HD Streams Render more than 1 (Any) Render more than 1 Overlay Render more than 1 SD and all HD Streams Render more than 2 (Any) Render more than 2 Overlays Render more than 2 SD and all HD streams Render more than 3 (Any) Render more than 3 Overlays Render more than 3 SD or 1 HD stream Render more than 4 (Any) Render more than 4 Overlays Render more than 4 SD or 2 HD streams Render more than 5 (Any) Render more than 5 Overlays Force Render Only

Figure 139

The drop-down menu for **BG Render Profile (SD and HD)** provides a profuse set of optional criteria, which you can use to customize this feature to suit your hardware and taste.

Naturally, the demands placed on system resources are a good deal lighter for SD projects. With many host systems, SD projects will require very little background rendering at all. While the defaults should perform nicely, with a little trial and error testing you may find settings that work best on your hardware for both HD and SD.

SPEEDIT CACHE PATH

SpeedEDIT maintains a *cache* file for material that has been rendered by the **BG Render** process.

On installation, this is assigned to your personal *Temp* folder. For smooth playback, this data should ideally be located on the fastest storage volume available on your system. Use this option in the **Background Rendering** section of **Preferences** to specify a suitable location for the cache

file. Click the little [...] gadget at the right-hand end of the row to open a file explorer for this purpose, or simply type a valid path into the adjacent field.

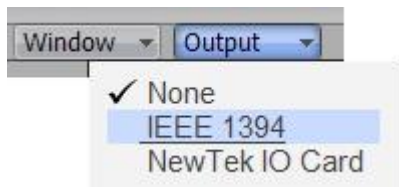
11.1.8 ABOUT SPEEDEDIT

This menu point identifies the *version* of SpeedEDIT you have installed, as well as listing just a few of the many wonderful people involved in bringing it to you.

11.2 VIEW MENU

The **View** menu allows you to select between the primary SpeedEDIT Desktop modes (horizontal or vertical), as well as to designate how time values should be displayed – whether as **Timecode** (the standard choice for editors), or a **Frame Count** (popular with animators).

11.3 OUTPUT MENU



The entries in this menu allow you to enable project preview output via an installed **NewTek IO** card, supported third-party card, or a DV (or HDV) device connected to your computer by **IEEE 1394**.

Figure 140

Using the **IEEE 1394** connection for **Capture** or **Send to Tape** operations will temporarily disable video preview via IEEE 1394. (This preview option is not presented when SpeedEDIT detects the presence of a NewTek HD output card on the system.)

HINT: Reducing the size of the Video Output window lowers demand on system resources during play, and can help when striving for glitch free playback of HD projects.

If you opt to display an HD project using the (standard definition) **NewTek IO** card option, the output is scaled so that the entire image area is shown on devices connected to the card.

NOTE: If you are using an external HDV device for preview, please use the Preference window item Output>HDV Preview format to set the correct standard for your locale (not necessary for standard definition DV devices.)

12 THE CONTROL TREE



Did you ever see a movie where the action takes place in a giant central command post?

Dozens of technicians jump to the command of the officer in charge. Large tactical displays provide realtime updates in graphical, text and audio/video form. This nexus simultaneously provides oversight and control over every asset and aspect of the situation.

In SpeedEDIT, the “command and control” center is called the Control Tree.

“Tree” is a fitting term, because the structure of SpeedEDIT’s **Control Tree** is hierarchical. Related settings and options for a given project asset – audio or video clip, DVE, or Effect (including CG objects and their motion paths) – are all nicely grouped under a master command structure.

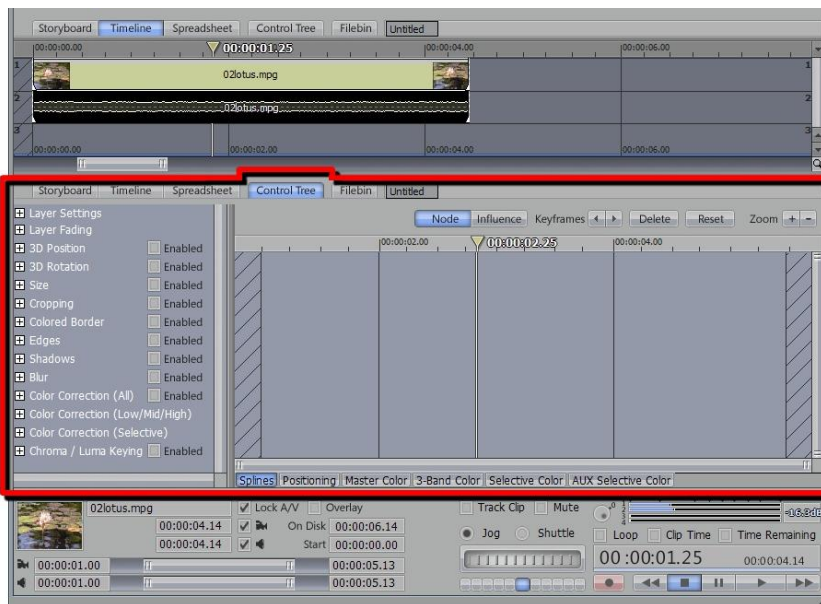


Figure 141

Take a moment to set up your SpeedEDIT view like the one illustrated here. To do so, add at least one video short clip to your project, then click the **Control Tree** tab for the lower pane.

Drag the *divider* between the two panes up, to provide more room for the lower section (you can restore it to whatever position you like later.) Click the video clip to refresh the **Control Tree** below, displaying the current settings for the selected clip.

12.1 OVERVIEW

It's tempting to think of the long list of settings that appears in the left-hand column as "the Control Tree." Fight that temptation off. A deep list of adjustable settings is a nice start, but there's a lot more to it, especially when you recognize that in addition to establishing useful settings, you need to be able to modify them thoughtfully over time. Thus, to the right of the Control Tree's list column we find a large pane that (by default) is dedicated to SpeedEDIT's Graph Editor.

Take a look around the Control Tree pane:

- On the left are individual settings and options.
- To the right is the large **Work Area**. This larger section has a row of tabs of its own running along the bottom left of the window. Each tab opens a specific control module, each of which will be discussed in turn shortly.

For the moment, click the **Positioning** tab in the **Work Area**. You may be tempted to dive right into the Positioning panel features. Just now though, let's start our exploration of the Control Tree in an orderly progression, starting at the top of the Control Tree settings list at left, and working our way down.

NOTE: A boxed + icon next to a category means that there are more items nested inside. Click on the icon to expand the category.

12.2 LAYER SETTINGS

At the top of the list, click the + at left to expand **Layer Settings**.

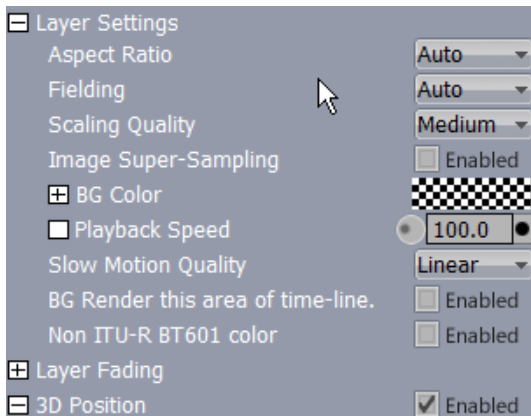


Figure 142

12.2.1 ASPECT RATIO

The **Aspect Ratio** menu provides a large array of Image Aspect presets. By default, it is set to **Auto**. The Auto mode essentially instructs SpeedEDIT to examine the current clip, and conform it to the project Image Aspect, without sacrificing its own proportions.

For example, in **Auto** mode SpeedEDIT (usually) recognizes that the Standard Definition 4:3 video clip you just loaded into your High Definition 16:9 project needs to be scaled up, but that you do not intend the image to be distorted. So in this case, **Aspect** and **Size** are automatically balanced, with the result that the clip is correctly displayed with *pillar-boxing*.

HINT: If you wish to override this default Auto decision, you could simply raise the automatically chosen Size value until the clip fills the frame horizontally, up-scaling even further to produce a cropped, full-frame 16:9 view on the Output.

In certain cases, the file format of the clip may lack sufficient information for SpeedEDIT to correctly discern its Image Aspect. In such cases, you can manually select something suitable from the long list of presets provided.

12.2.2 FIELDING

Normally, the default Auto selection for fielding will work just fine, but if it should happen that SpeedEDIT is unable to correctly determine the nature of a file, you can manually select between **Progressive**, **Field 1 above Field 2**, and **Field 2 above Field 1** in this menu.

12.2.3 SCALING QUALITY

When you are positioning and/or scaling an image asset, this setting permits you to raise the quality of the algorithm applied when you see a need to do so. In **High Quality**, full interpolation and sub-pixel correction is performed (taking about 30% more CPU power than low quality.)

HINT: To increase the ability of SpeedEDIT to render a very large number of overlays or clips, use High Quality sparingly. The result often looks just fine, especially when a clip has not had its position animated.

12.2.4 IMAGE SUPER-SAMPLING

ISS maximizes image fidelity during scaling, and is off by default because of the increased processing it demands. Enable it only if you notice any minor problems at the edge of clips (CG objects in particular) when the source is being dramatically scaled (ISS has no effect on clips sized at 100%).

12.2.5 BG COLOR

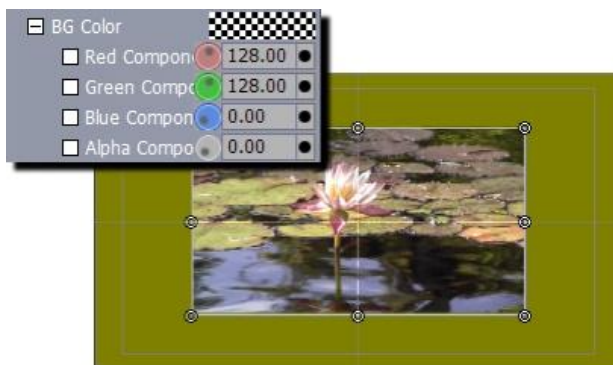


Figure 143

If the clip is displayed at less than project size (because you have scaled it down using Size, or because its **Image Aspect** does not match the project, the default background in non-image areas of the Output is black. **BG Color** allows you to specify another color (a useful ability when producing a photomontage, for example.)

Click the (checked by default) color swatch next to **BG Color** to open SpeedEDIT's **Color Picker**, or use the **RGB** knobs or *direct entry fields* to set the BG color. You can also right-click in the box to activate the **Eyedropper** tool, and then select a color from anywhere on the desktop.

HINT: When you right click and drag from the color swatch to anywhere in the SpeedEDIT interface, the color in the swatch updates as you move the cursor. The actual color selection is only made when you release the mouse button.

Before trying this, use the Control Tree's **Size** tool, to change the clip Size to 70%, so you can view the results of your experiments.

HINT: Remember that holding the Ctrl key when you twist knobs or drag sliders enables 10X accuracy.

Like most **Control Tree** options, these color settings can be keyframed over the duration of the clip. So you could start out with a white frame, turn it to red in the middle of the clip, and by the end, make it green. (More about keyframing later ...)

12.2.6 PLAYBACK SPEED

This tool will be discussed in detail in the **Playback Speed** heading a bit later. It's important to draw a distinction between this option, which (like all of the **Control Tree** items) also exists in **Selected Clip Properties**, and the clip **Speed** setting at the top of that latter panel.

For now, suffice to say that the **Playback Speed** value, being keyframe-able, provides the ability to ramp the speed up or down over time. For example, you can start a clip playing at full speed, gradually slow it down to the mid-point, then ramp it up to full speed again at the end. The **Speed** setting in the **Selected Clip Properties** panel is a constant. If you set the speed at 50%, the whole clip plays at that speed.

12.2.7 SLOW MOTION QUALITY

Three possibilities are offered for Slow Motion Quality:

- **None:** the display of video fields or frames is simply extended as required to accomplish the speed change
- **Linear:** a very smooth, even interpolation between fields/frames
- **Hybrid:** the interpolation is gently biased toward image sharpness (versus smoothness).

12.2.8 BG RENDER

The BG Render switch forces SpeedEDIT to background render the section of the timeline occupied by this clip.

12.2.9 NON ITU-R BT601 COLOR

This is a per-clip control for modifying the default pedestal setting from the project standard.

12.3 LAYER FADING

Here are all the alpha controls affecting your clip's transparency. Enable or disable **Fade In** and **Fade Out**, and enter the time for each (it isn't necessary to use a Cross Fade DVE to achieve a simple fade.)

12.3.1 ALPHA

Alpha controls the transparency level of the clip (but not of the background color, mentioned earlier). The range is from 0 to 255. 255 makes the clip totally opaque, 0 turns it completely transparent. When used with Overlay, Alpha sets the level of transparency of the current clip over image content behind it in the Project (that is, above it on the Timeline.)

HINT: To display the impact of modifications to Alpha in the Positioner window, enable the Show All Layers switch.

12.3.2 ADVANCED ALPHA

The Top Left, Top Right, Bottom Left and Bottom Right knobs control the clip's alpha radiating inward toward its center, from the designated corner. Their values are additive to the overall Alpha. The accompanying image shows the result of both Bottom Left and Bottom Right alpha set to a 0 value when combined with a white BG color.

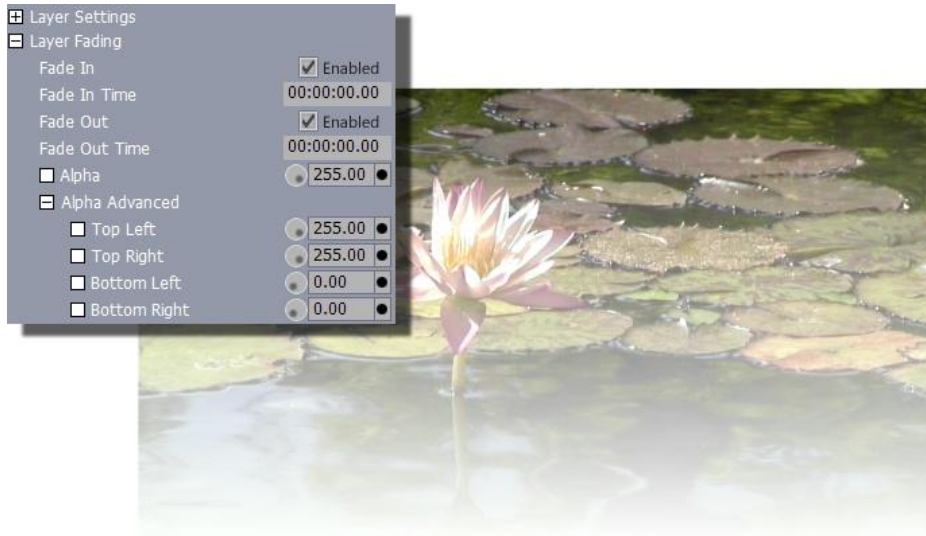


Figure 144

HINT: If you have changed a setting and want to return to the default, then double-click on the knob.

12.4 3D POSITION

Now the real fun begins. With the 3D tools, you can fly your clips around the screen, rotating them every which way. When you click on the 3D Position box, you reveal three tools, which work on the same Cartesian system used in LightWave 3D.

12.4.1 X POSITION

Adjusting the **X Position** moves the clip to the left or right. Distance is measured in pixels. You can type in values. Negative numbers will move the clip to the left.

Click and drag left on the circle in the square icon to move the image left.

Click and drag right on the circle in the square icon to move the image right.

NOTE: If you look closely, you'll see that the circle in the square icon will display graphically the status of your movement.

12.4.2 Y POSITION

Adjusting the **Y Position** moves the clip up or down. In this instance, negative numbers move the clip up.

Click and drag left on the circle in the square icon to move the image up.

Click and drag right on the circle in the square icon to move the image down.

12.4.3 Z POSITION

Adjusting the **Z Position** moves the clip back or forwards. Positive numbers move the clip back. Z Position is not measured in pixels. A setting of 0 is the normal default. If you move Z to 1 the clip will be exactly 50% size.

Click and drag left on the circle in the square icon to move the image forward (larger).

Click and drag right on the circle in the square icon to move the image backward (smaller).

12.5 3D ROTATION

When you are rotating a clip in 3D space in the **Control Tree**, imagine three rods going through the clip. The X rod bisects the clip horizontally, the Y bisects vertically, and the Z goes right through the middle from front to back ('into the monitor', so to speak). So when you adjust the Angles, the clip rotates around those rods.

For example, when you adjust the X Angle, the clip is rotating around that horizontal rod. The rotation angle is measured in degrees. 360 degrees = one full rotation.

12.5.1 X ANGLE

Click and drag left on the circle in the square icon to bring the bottom of the clip forward.

Click and drag right on the circle in the square icon to bring the top of the clip forward.

12.5.2 Y ANGLE

Click and drag left on the circle in the square icon to bring the left side of the clip forward.

Click and drag right on the circle in the square icon to bring the right side of the clip forward.

12.5.3 Z ANGLE

Click and drag left on the circle in the square icon to bring the left side of the clip down.

Click and drag right on the circle in the square icon to bring the right side of the clip down.

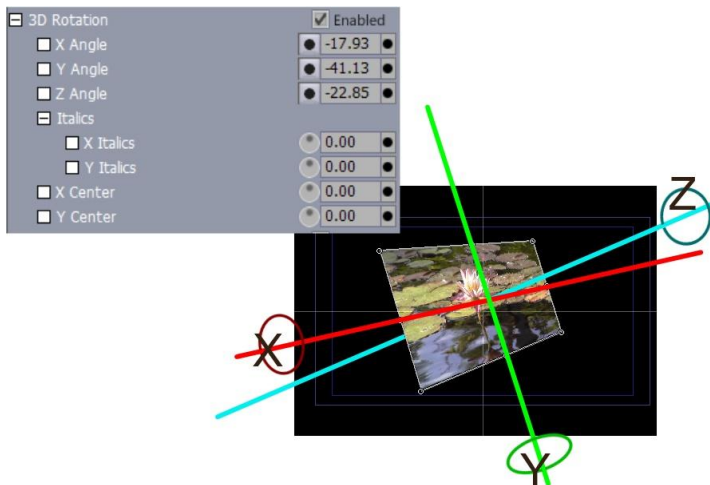


Figure 145

NOTE: These descriptions for Angle rotations are based on rotating one angle when the other two are at their defaults. The directions can seem wrong if you are adjusting all three at once, especially if you have flipped one 180 degrees.

If you want to rotate the clip around a pivot point that is somewhere other than the middle of the clip, you can adjust the X and Y Center values.

Let's go back to the rods. The point where the X rod intersects the Y rod on the clip has a value of 0 on the X (horizontal) and 0 on the Y (vertical).

If you move the **X Center**, then the Y rod moves to that point on the clip; and when you adjust **Y Angle**, the clip now will rotate around that spot. So changing the X Center affects the Y Angle, and changing the **Y Center** affects the **X Angle**. Distance from center is measured in pixels, and is based on the full-sized clip. So, for a 720 pixel wide clip, to rotate the Y Angle from the left edge of the clip, you would set the X Center to -360 .

12.5.4 X CENTER

Click and drag left on the circle in the square icon to move the X Center left.

Click and drag right on the circle in the square icon to move the X Center right.

12.5.5 Y CENTER

Click and drag left on the circle in the square icon to move the X Center up.

Click and drag right on the circle in the square icon to move the X Center down.

NOTE: You also can flip an image by specifying a negative value in Size (% , X, or Y). Remember, too, that all these tools can be keyframed over the duration of the clip.

12.5.6 SHEAR

Adjusting X Shear slants the clip in the display. Positive values offset the top of the clip to the right relative to its bottom, which shears to the left.

Likewise, a positive Y Shear raises the right side of the clip, and lowers the left.

12.6 SIZE

When you load a clip or an image into SpeedEDIT, by default, it is sized automatically according based on a comparison of the clip's own size and image aspect to those of the project. For still images (such as scanned photos) the process involves making the entire image visible on screen without altering image aspect. At times, even when **Aspect** is correct, you will wish to change the clip's size in some manner.

HINT: There can be various reasons for doing this. You could want to 'squash' the last clip of a production on the horizontal axis, making room to scroll some titles to one side of the frame at the same time.

Or, perhaps you want to set keyframes to pan a larger-than-project-size scanned photo slowly across the video frame. In this case, you would need to scale the source image up well beyond the normal size of your project (try to beware of going much larger than the image's native size in pixels, to avoid seeing individual pixels greatly magnified in the result.)

12.6.1 SIZE %

This tool reduces or enlarges the image or clip by the percentage that you enter.

Click and drag left on the circle in the square icon to reduce the size of the image.

Click and drag right on the circle in the square icon to increase the size of the image.

HINT: Many common reformatting operations are included as Spline Presets in the Tool Shed.

12.6.2 X SIZE

This tool reduces or enlarges the width of the clip. The values are in pixels. By default the value is the original width of the clip (or image) when it was loaded into SpeedEDIT. Notice that as you change X Size, the oval in the circle will reshape to reflect the new values.

Click and drag left on the circle in the square icon to reduce the width of the image.

Click and drag right on the circle in the square icon to increase the width of the image.

12.6.3 Y SIZE

This tool reduces or enlarges the height of the clip. The values are in pixels. By default the value is the original height of the clip or image when it was loaded into SpeedEDIT.

Click and drag left on the circle in the square icon to reduce the height of the image.

Click and drag right on the circle in the square icon to increase the height of the image.

12.7 CROPPING

When you crop a clip, you are cutting off portions of the image.

12.7.1 CROP %

This tool takes an equal percentage from each side of the clip, which can be useful if you want to trim off unwanted borders. Negative values have no effect. A 10% crop will take 5% of the clip's width off the left edge and 5% off the right. It will take 5% of the height off the top and 5% off the bottom.

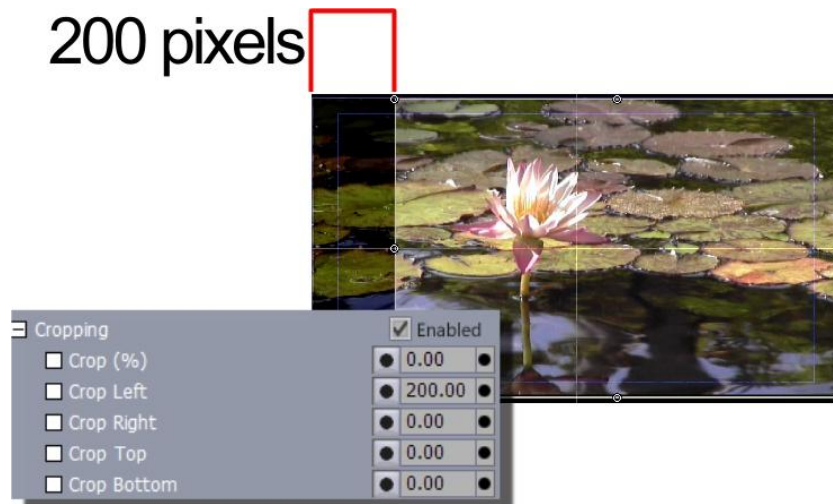


Figure 146

12.7.2 CROP LEFT

This tool trims off the left edge of the clip. The measurement is in pixels. Negative values have an effect when the clip has been cropped already with the **Crop %** tool. For example, if a 720 x 480 clip has been trimmed 20%, then a Crop Left of -72 pixels will return the left edge to its original state (a negative value beyond -72 will have no additional effect.)

12.7.3 CROP RIGHT

This tool trims off the right edge of the clip.

12.7.4 CROP TOP

This tool trims off the top edge of the clip.

12.7.5 CROP BOTTOM

This tool trims off the bottom edge of the clip.

HINT: Shaving about 3% with the Crop % tool removes unwanted black edges sometimes found in DV footage.

12.8 COLORED BORDER

This tool will make a border around your clip. Think of it as framing a picture. You can pick the width and the inside and outside colors of the border.

The tool's countless refinements make for an inexhaustible number of variations. Truly, it almost defies description how varied the possibilities are!

12.8.1 INSIDE & OUTSIDE

These tools work in tandem to define the Border width combinations. They can shift positions with certain settings, so don't worry if the Inside becomes the outside part of the border. These settings have no connection in determining the Inside and Outside Border Colors. If you want the border to begin at the edge of the clip, then one of the two needs to be set to 0. Negative values

will extend the border outside the edge of the clip. Positive numbers move the border inside the edge of the clip.



Figure 147

12.8.2 NUMBER OF SIDES

Want to play around? Try these next few controls. With these advanced border controls you can change the number of sides for your border, creating stars, ovals, circles and pentagons.

12.8.3 ROTATION

This will swing your border around your image, rotating away to any angle. This can be a cool effect to animate.

12.8.4 RADIUS MULTIPLIERS

This provides separate controls to distort the **Even** and **Odd** numbered sides. Experiment with this to see what you like.

12.8.5 SMOOTHNESS

Here are two more inside and outside controls, to smooth the edges beautifully.

12.8.6 INSIDE & OUTSIDE COLOR

You can pick two colors and a gradient will be made between them that will color the border. The colors are specific. No matter which way you adjust Inside and Outside width settings, Inside Color will always be the inside color of the border. Of course, if you make the Inside Color and Outside Color the same, you will create a solid border. Both tools have their drop down Red, Blue, Green and Alpha Components.

HINT: If the inside of the border is inside the edge of the clip, the clip edge will be visible through the gradient when it is partially transparent.

12.8.7 BRIGHTNESS

You can apply a radial brightness gradient to any of the four corners of the border. The gradient emanates from the corner, and values over 1 make the border brighter; numbers between 1 and 0 make it darker. The effective range is from 0 to 2.

12.9 EDGES

You can apply a transparency gradient to the edges of your clip or image. This basically replicates the Alpha Advanced settings discussed earlier, but operates on the four margins on the clip, rather than being applied radially from its corners.

SMOOTH (%)

To create a consistent gradient around all the edges, drag Smooth (%) to the right. The larger the number, (up to 100), the more of the clip is used to make the gradient.

12.9.1 ADVANCED

You can adjust the extent of the gradient on each edge of the border separately. These four tools use pixels as the unit of measurement. If you have set Smooth (%), then these controls adjust from that point. Negative numbers push the Smoothness out to the edge; positive ones move it into the middle.

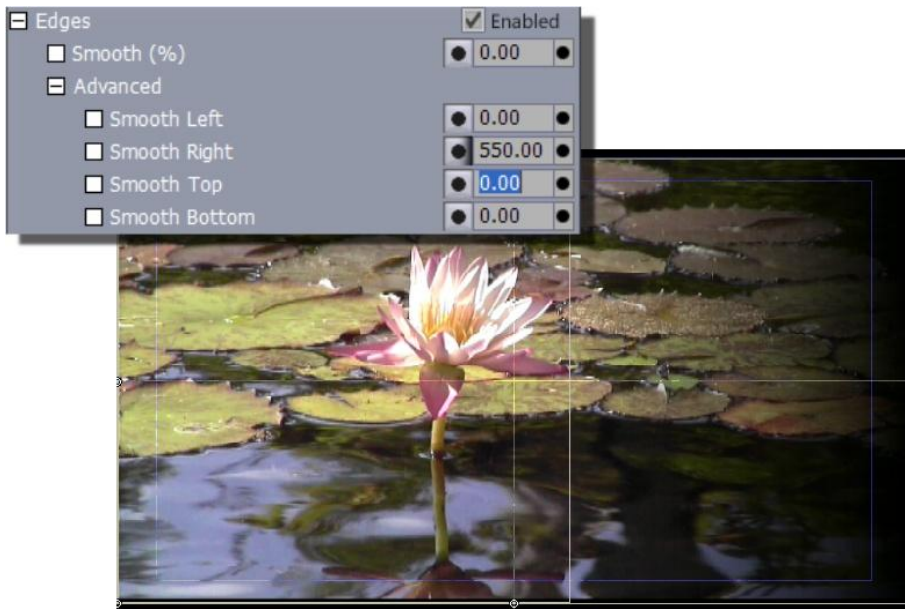


Figure 148

12.10 SHADOWS

In the Control Tree, a **Shadow** is basically a background that is locked to the clip. A Shadow will inherit the clip's **Size**, **Position**, **Rotation**, **Cropping** and **Edges**; but you can make the Shadow any color or transparency you wish.

NOTE: If Shadows are enabled, then Borders also will cast a shadow, but you cannot control its softness with the Shadows tools. The only way to soften the outside shadow edge of a Border is to make the Border's Outside Color transparent.

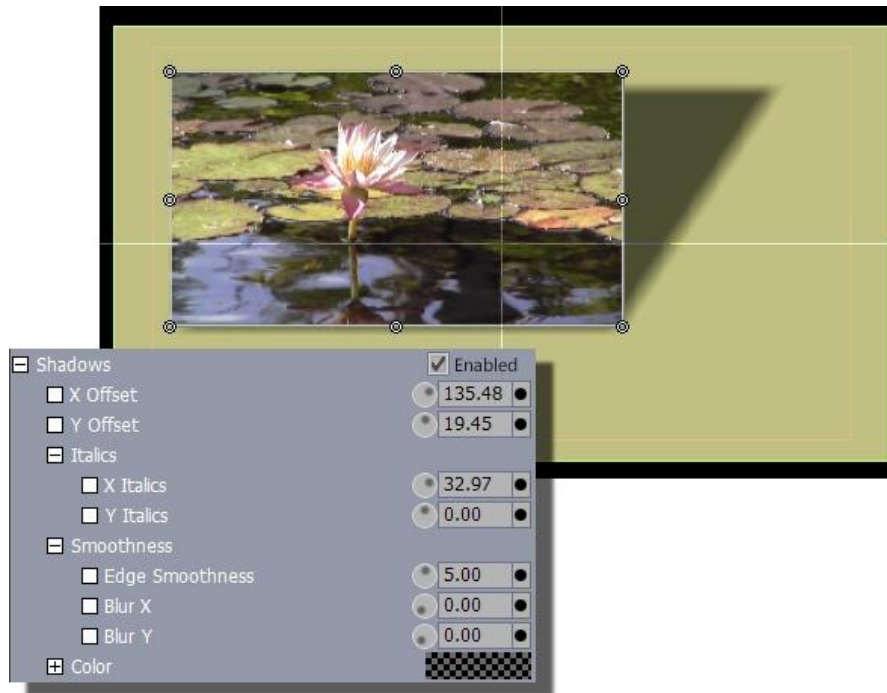


Figure 149

12.10.1 X OFFSET

Usually you offset the shadow to one corner of the clip or image.

Rotate the knob left to move the shadow to the left of the clip. (Moving left produces negative numbers.)

Rotate the knob right to move the shadow to the right of the clip.

12.10.2 Y OFFSET

Rotate the knob left to move the shadow above the clip, (resulting in negative numbers).

Rotate the knob right to move the shadow below the clip.

12.10.3 SHEAR

X and Y Shear values here behave just like their counterparts in the 3D Rotation Control Tree group.

12.10.4 SMOOTHNESS

This contains 3 more controls for smoothing the edges: **Edge Smoothness (%)**, **Blur X**, **Blur Y**.

Even though a shadow reflects the clip's Smooth settings, you can adjust the shadow's Edge separately. Dragging to the right will increase Smoothness. If the clip has Smooth Edges and you want to give the shadow hard edges, then set its Edge Smoothness to the negative value of the clip's Smooth (%). For example, if the clip's Smooth (%) is 10, then the shadow's Edge Smoothness would be -10 to give it a hard edge. Also try adjusting the Blur X, and Blur Y controls to get the perfect look.

12.10.5 COLOR

If you open up the Color control, (click on the + box next to Color), you'll see that the default shadow color is black with an Alpha of 100 (semi-transparent.) You can pick a different color by clicking in the box next to Color, which will bring up a Color Picker. Or you can right-click in the box to activate the Eyedropper tool, and then you can select a color from anywhere on the desktop. Or you can adjust the **Red**, **Blue**, **Green**, and **Alpha Components**.

12.11 BLUR

Blur X and **Blur Y** provide separate levels of blur on those two axes. The filter is only applied to the selected clip, of course (unlike the Blur filter found in the Effects folder.)

In the accompanying image, only the background clip has **Blur** values applied

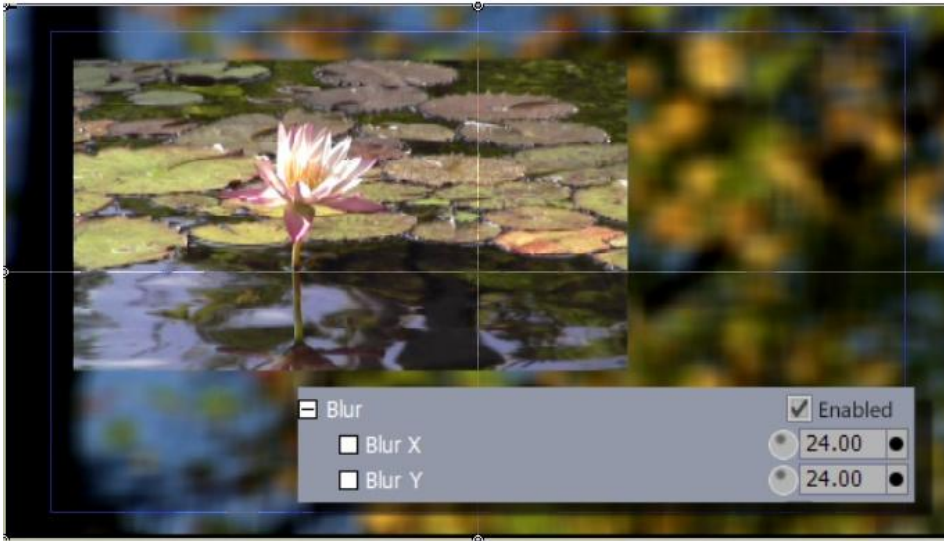


Figure 150

12.12 COLOR CORRECTION

12.12.1 OVERVIEW

The **Control Tree** provides a comprehensive family of independent **Color Correction** tools. These can be summarized as falling under one of the primary Color Correction group headings, **All**, **Low/Mid/High** or **Selective**.

By design, the tools and settings in the first group (**All**) affect the color attributes for every pixel of the selected clip. The other two groups provide more specialized spot or secondary control, affecting specified zones defined by color or luminance attributes you define, and can be used to tweak the tones of your imagery to perfection.

It's easy to be overwhelmed by all of the Color Corrections controls. Though you may eventually use a combination of tools to achieve your desired result, start with the most likely one and take it as far as you can. Then move to the next. Otherwise you may find values in one area are negating previous adjustments.

Be judicious with the controls, and don't overdo it. As well, while SpeedEDIT can handle over-saturated colors, your recording equipment (or clientele!) may not be so forgiving. Realize that some footage may be unrecoverable with Color Correction adjustments, and be mindful of legal color issues.

12.12.2 (ALL)

This is the most fundamental and hence easiest to grasp of the three primary Color Correction groups. Most of its features are familiar to anyone who ever fiddled with a color television set.

COLOR CORRECTION GROUP

WHITE BALANCE

If every light source on the planet were the same color, your camera wouldn't need white balance controls. And if you had perfect memory, neither would your edit suite. But that's not the kind of world we live in, so SpeedEDIT's **White Balance** controls are pretty nice to have. And the great thing is that it's so easy to use.

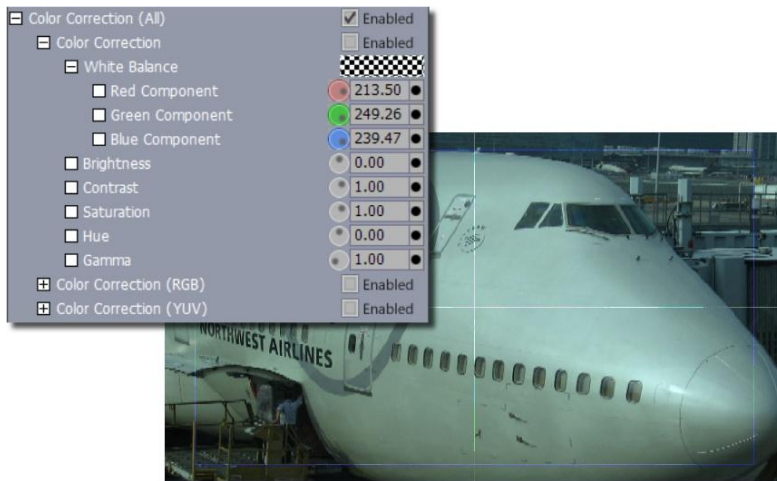


Figure 151

The three-color channels the tool works on are listed separately, and the values for each can be manually edited if you wish. That's kind of a tedious approach though, when you can simply right

click the color swatch provided, and either 1) click the spot in the image that is as close to white already as it gets, or 2) keep the mouse button depressed while you glide around the image, watching both the color swatch and correction update in realtime as you do so, until you find a happy combination.

The images here show the before and after result of an attempt to take the gloom out of this sadly off color shot. After clicking the bright spot circled in the second image as the 'white target' for the **White Balance** operation, the clouds lifted to reveal a nice sunny day.

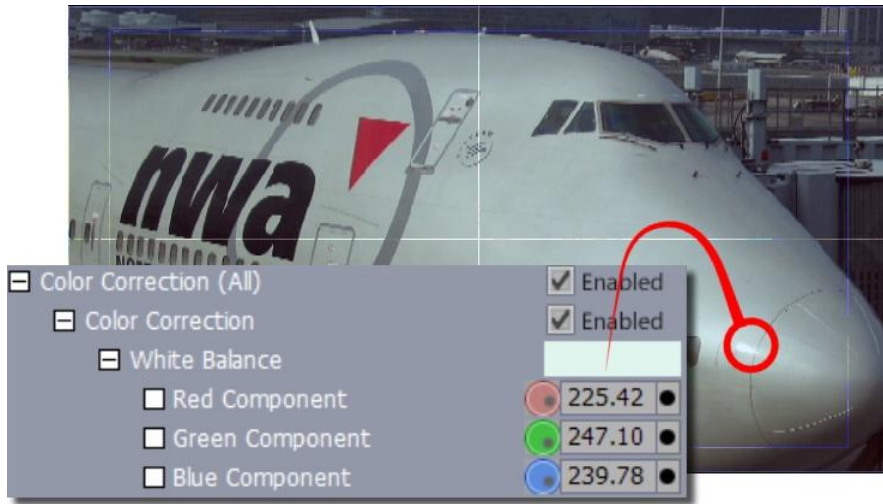


Figure 152

The next section of the simple Color Correction group holds perhaps the most familiar tools of all.

BRIGHTNESS

The Brightness control adjusts the luminance (lightness and darkness) of the video signal.

- Rotate the knob clockwise to increase Brightness, and lighten the image.
- Rotate counterclockwise to decrease Brightness, and darken the image.

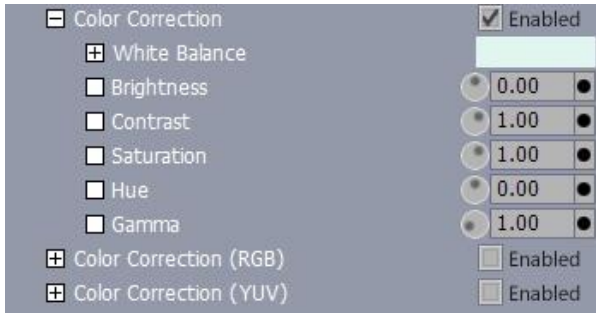


Figure 153

CONTRAST

The Contrast control adjusts the levels of gray in the signal, which affect the brightness and saturation of an image.

- Rotate the knob clockwise to increase Contrast; the image appears brighter and more saturated.
- Rotate counterclockwise to decrease Contrast; the image appears darker and less saturated.

An image with extreme areas of darkness and lightness might benefit from reduced Contrast. If your footage looks washed out, try increasing Contrast.

SATURATION

Saturation refers to the intensity of color in the video signal. Low saturated pictures look gray and overly saturated images show colors that bloom to the point of smearing.

- Rotate clockwise to increase Saturation.
- Rotate counterclockwise to decrease Saturation.

A video where colors seem too intense, especially where some colors bleed into others, would benefit from decreased Saturation. Red colors are particularly susceptible to bleeding in composite and Y/C signals.

The default Saturation value is 1. A value of 0 removes all color, resulting in black and white video. Negative Saturation values open up a whole new world of colors on the opposite end of the color-wheel.

HUE

The Hue control adjusts the relative phase of color and works on the principle of a color wheel. As you rotate the knob either way, you cycle through the colors. The functional range is between 0 and 360.

GAMMA

In addition to serving a valuable role in the Greek alphabet, Gamma has special meaning in the image-processing realm. Basically, it can be thought of as a hybrid control -- part brightness and part contrast. Properly applied, Gamma improves the contrast of the mid-range of an image's tones, without damaging either its lightest and darkest values. The net result can be a more dynamic image, literally.

When you think about it, the use of either of brightness or contrast alone can often have unwanted effects on the darker and brighter regions of an image. Raising brightness to rescue some important but insufficiently lit detail can blow out highlights, and dropping contrast to soften the mood can result in a washed out image. What to do?

The basic premise of gamma is that it boosts (or drops) the image's overall contrast while 'pinning down' the brightest and darkest tones -- white should stay white, and black stays black. Everything in between is tweaked according to a value you set to create a (usually) gentle contrast curve between those two points. Try it -- you'll like it.

The base value for gamma (no shift) is 1.0. Try raising it slowly, with values like 1.1 or 1.2. Values above 1.5 or so are seldom needed, though available for you if you wish.

12.13 THE MASTER COLOR TAB

Before considering the rest of the tools in the **Color Correction** section, we need to pause and familiarize ourselves with the features of the **Master Color** tabbed panel to the right of the

Control Tree list column (in the same place as the **Positioner**. The knowledge gained here will serve us well as we get into more complex color correction matters, too.

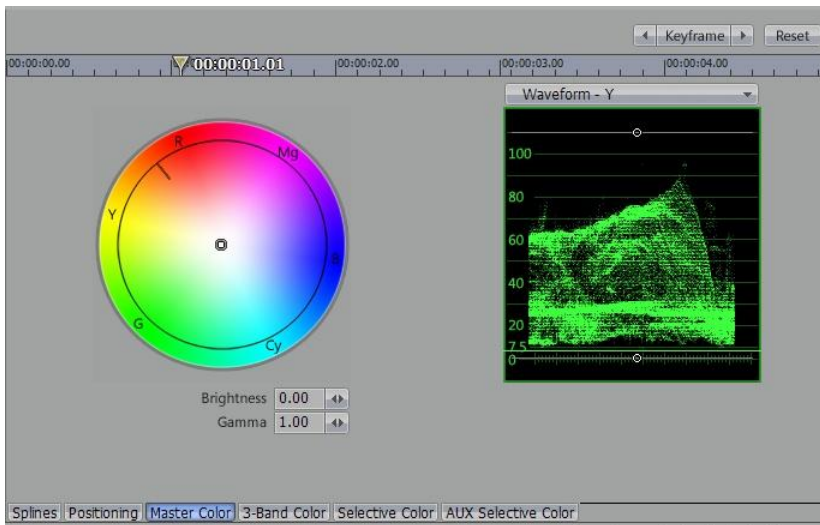


Figure 154

Note: When using the right hand Control Tree pane in this fashion, we obviously can't use the Positioner simultaneously. Use SpeedEDIT's Output window to keep an eye on the impact of the settings you choose.

The view shown here is the default display. It features a fairly standard RGB color wheel on the left, and a Waveform monitor displaying the selected clip's Luminance levels (represented as the Y value in YUV color space).

Let's watch how this panel interacts with and displays the various color settings in the Tree listing to the left.

12.14 COLOR CORRECTION — RGB

Expand the Color Correction (**All**) group (if necessary), then also expand both the **Color Correction** and **Color Correction RGB** group. Drag your cursor around in the **Color Wheel** and watch how this affects the values shown in the **Red**, **Green** and **Blue Gain** fields of the **RGB** group.



Figure 155

As you might expect, the converse is also true. Adjusting the **Brightness** and **Gamma** settings trigger matching changes in the corresponding numeric fields to the left, too.

The **Waveform** display is also an *interactive* control panel. Drag your mouse over the Waveform display. As you move close to the white lines indicating your pedestal (0 or 7.5 IRE) and the 100 or 110 IRE established as maximum, the cursor will display **Y Gain**, and dragging will adjust the corresponding value. Dragging in the middle of the range adjusts the **Y Offset**.

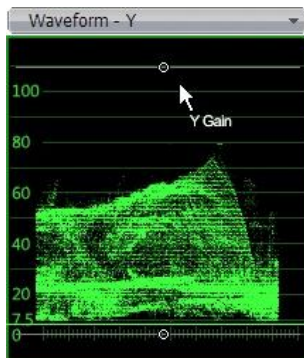


Figure 156

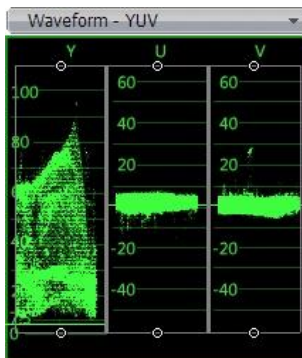


Figure 157



Figure 158

Click and hold the drop-down menu directly above the Waveform display, and choose Waveform YUV. Now you have the same ability to adjust each of those values (discussed in more depth

below) graphically too, with realtime results showed on the **Output** monitor, and scope-accurate information at your fingertips! The **Waveform RGB** option mimics this ability using **RGB** color values in place of **YUV**.

With respect to the **Vectorscope**, dragging inside the scope moves the cross-hairs, resulting in either a **U Offset** (drag horizontally), **V Offset** (drag vertically) or **Hue** shift (drag outside the cross-hairs to rotate the hue through the color spectrum).

Let's get back to the **Control Tree** proper now, and discuss the meaning of the Color Correction values we've been tweaking:

12.14.1 RED GAIN

Red Gain is similar to **Saturation**, except that when you adjust the Red Gain, you increase or decrease the saturation of only the red portion of the video signal. If you look on the 3-Band color vectorscope in Control Tree, you will see that Red Gain affects **Red, Magenta** and **Yellow**.

Rotate clockwise to increase red saturation, and counterclockwise to decrease red saturation. Though you can twist the knobs further, the effective range is 0 to 1.5. Adjusting Red Gain to 0 will take all the red out of your clip or image.

12.14.2 GREEN GAIN

Green Gain is similar to **Saturation**, except when you adjust the Green Gain, you are increasing or decreasing the saturation of only the green portion of the video signal. Green Gain affects Green, Yellow and Cyan. Rotate clockwise to increase green saturation, and counter-clockwise to decrease green saturation. The effective range is 0 to 1.5. Adjusting Green Gain to 0 will take all the green out of your clip or image.

12.14.3 BLUE GAIN

Blue Gain is similar to **Saturation**, except when you adjust the Blue Gain, you increase or decrease the saturation of only the blue portion of the video signal. Blue Gain affects Blue, Magenta and Cyan. Rotate clockwise to increase blue saturation, and counter-clockwise to decrease blue saturation. The effective range is 0 to 1.5. Adjusting Gain to 0 will take all the blue out of your clip or image.

NOTE: If you set Red, Blue and Green Gain to 0, you will create a totally black image.

12.14.4 RED OFFSET

Red Offset is similar to **Red Gain**, except when you adjust the Red Offset, you are affecting every color in the video signal, even black. Rotate clockwise to increase red saturation, counter-clockwise to decrease it. Adjusting Red Offset shifts the signal diagonally in the vectorscope. The range is -255 to 255 .

12.14.5 GREEN OFFSET

Green Offset is similar to **Green Gain**, except when you adjust the Green Offset, you are affecting every color in the video signal, even black. Rotate clockwise to increase green saturation, and counter-clockwise to decrease it. Adjusting Green Offset shifts the signal diagonally in the vectorscope. The range is -255 to 255 .

12.14.6 BLUE OFFSET

Blue Offset is similar to **Blue Gain**, except when you adjust the Blue Offset, you are affecting every color in the video signal (even black.) Rotate clockwise to increase blue saturation, and counter-clockwise to decrease it. Adjusting Blue Offset shifts the signal almost horizontally in the vectorscope. Blue Offset ranges from -255 to 255 .

12.15 COLOR CORRECTION — YUV

This set of tools is in many ways the same as the section just above, save that it uses a different color measurement system (one familiar to longtime analog video hands.)

12.15.1 Y GAIN

The Y portion of the YUV signal carries the luminance information. **Y Gain** is similar to **Contrast**.

- Rotate the knob clockwise to increase Contrast; the image appears brighter and more saturated.
- Rotate counterclockwise to decrease Contrast; the image appears darker and less saturated.

12.15.2 U GAIN

The U portion of the YUV signal carries the blue color information. **Gain** is similar to **Saturation**, except when you adjust the U Gain, you increase or decrease the saturation of the blue/yellow portion of the video signal.

- Rotate clockwise to increase blue and yellow saturation.
- Rotate counterclockwise to decrease blue and yellow saturation.

Tweaking **U Gain** causes the signal to bloom over the blue and yellow segments or contract away from them.

12.15.3 V GAIN

The V portion of the YUV signal carries the red color information. **Gain** is similar to **Saturation**, except when you adjust the V Gain, you increase or decrease the saturation of the red/green portion of the video signal.

- Rotate clockwise to increase red and green saturation.
- Rotate counterclockwise to decrease red and green saturation.

Tweaking the **V Gain** causes the signal to bloom over the red and green segments or contract away from them.

NOTE: If you set U and V Gain to 0, you'll create a black and white image.

12.15.4 Y OFFSET

The Y portion of the YUV signal carries the luminance information. **Y Offset** is similar to **Brightness**.

- Rotate the knob clockwise to increase luminance, and lighten the image.
- Rotate counterclockwise to decrease luminance, and darken the image.

12.15.5 U OFFSET

The U portion of the YUV signal carries the blue color information. **U Offset** is similar to **Hue**, except when you adjust the U Offset, you rotate only in relation to the blue/yellow portion of the video signal.

- Rotate U Offset clockwise to shift the signal toward blue.
- Rotate U Offset counterclockwise to shift the signal toward yellow.

Adjusting U Offset will shift the signal horizontally in the vectorscope.

12.15.6 V OFFSET

The V portion of the YUV signal carries the red color information. **V Offset** is similar to **Hue**, except when you adjust the V Offset, you rotate only in relation to the red/green portion of the video signal.

- Rotate V Offset clockwise to shift the signal toward red.
- Rotate V Offset counterclockwise to shift the signal toward green.

In the vectorscope, the signal will shift vertically.

12.16 (LOW/MID/HIGH)

We've absorbed the basic elements and tools of color correction by this point, and we're ready to kick it up a notch – well, several notches actually. This tool multiplies the benefits we've just finished discussing, by allowing us to apply three separate color correction settings to three distinct zones in our clip.

So you're asking yourself – why would I want the middle section of my image to be one color, the top another, and the bottom yet a third? You probably don't (and if you do, this isn't the way to go about it anyway.) Cleverly, the Low, Mid and High in the name of this tool refer to three brightness ranges comprising the entire luminance channel of your image, from black to white and everything in between. Thus you can use this tool to clamp a color correction to just the highlights, or brighten only the shadow detail, and so on.

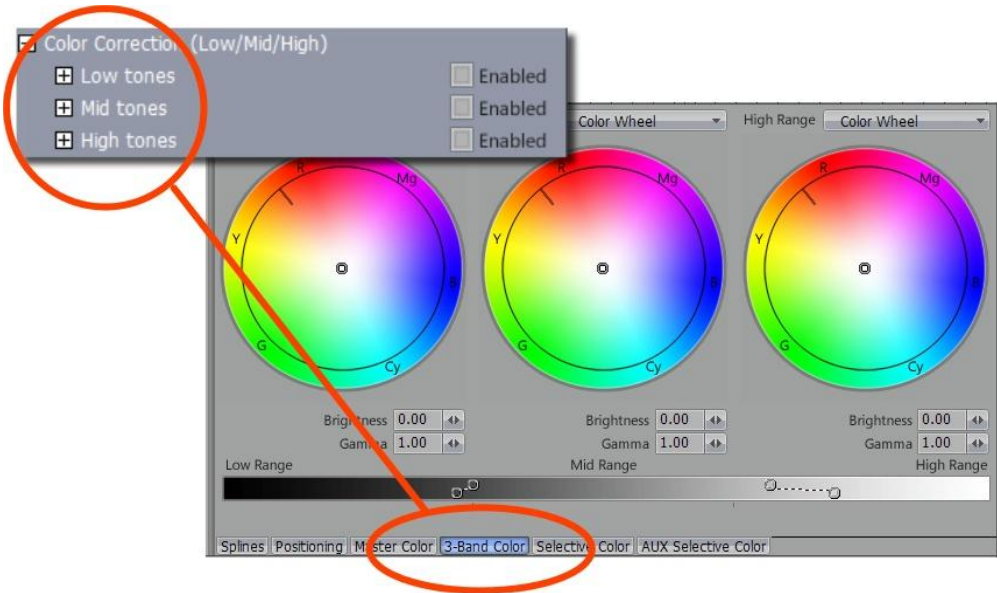


Figure 159

Let's look at a specific example. This sample image has fairly distinct luminance ranges, making it a good candidate for tweaking with this tool.

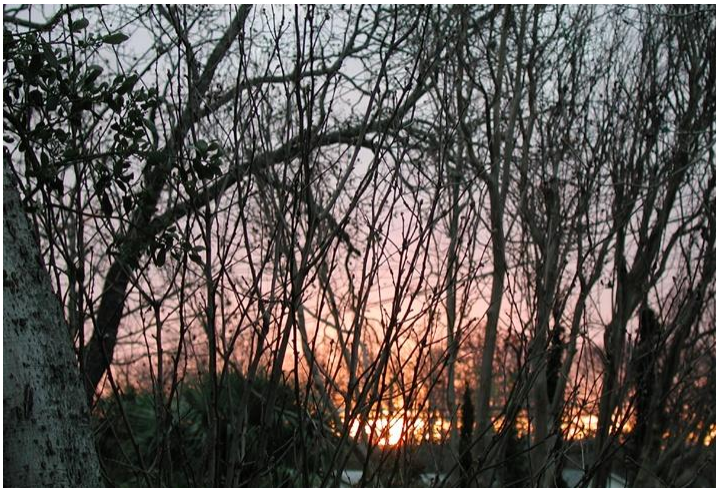


Figure 160

At the moment, it's a bit bleak – reminiscent of a brisk late autumn evening. The problem is that you need it to be a cheerful, sunny spring scene. Let's adjust the season.

The first thing we need to do is figure out which of our three ranges is best suited to define the parts of the clip we want to tweak. One way to do that is to simply apply a grossly inappropriate tweak to each of the ranges in turn, and see what is affected.

Here's what happens when you over-saturate the **Mid** range **Blue** channel and drag the **Brightness** value unreasonably high.

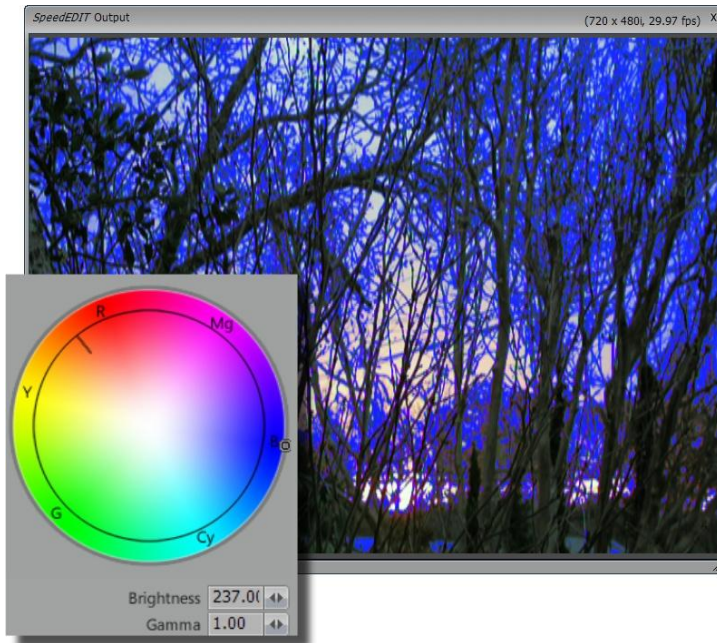


Figure 161

This makes it pretty easy to grasp what that range is affecting, and it happens to coincide pretty nicely with what's left of the foliage.

The remaining sky proves to fall into the **High** range, obviously, and the deep shadow areas are in **Low**. So what can we do armed with this knowledge?



Figure 162

With the few tweaks to **Mid** and **High** shown below, we're 90% of the way to our goal of rolling the calendar back to April.

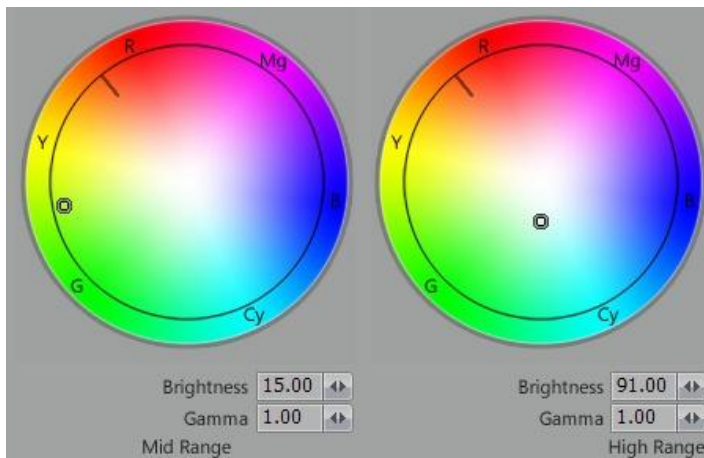


Figure 163

We can refine it a bit more however. Up to this point, we've simply accepted and used the default boundaries for our three luminance ranges. A close inspection, however, reveals that the massive shot of green added to the **Mid** range is spilling over into the **Low** range a bit more than is desirable, tinting the tree trunk leaning to the left in the foreground.

This is where the **Luminance Graph** across at the bottom of the panel comes into play. We can use the nodes in it to fine tune the boundaries of the default ranges, and also adjust the tolerance (**Smoothing**) between them.



Figure 164

With a minor adjustment, nudging the threshold of our Low region higher and tightening up the smoothing a bit, we can successfully remove the green caste from our tree trunk, boost up the brightness a touch on general principles, and move on to the next job.

We used some fairly large-scale adjustments in this example, but this tool is capable of a good deal of subtlety. Each of the three ranges can both be precisely defined and controlled.

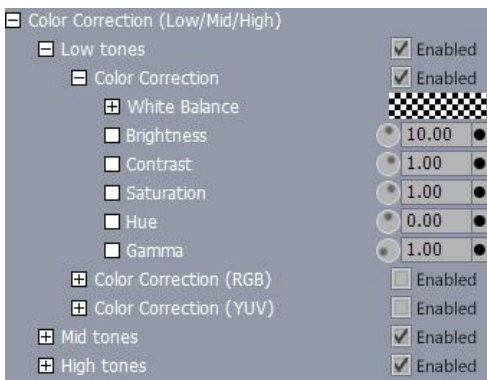


Figure 165

And, something we haven't mentioned previously, the controls for each one of these ranges can be expanded, revealing the complete set of color correction tools we discussed earlier under **Color Correction (All)**. To top it off, remember that you can also convert any or all of the **Color Wheel** controls to **Waveform** or **VectorScope** input and display modes.

12.17 (SELECTIVE)

This group presents the by now familiar yet very diverse set of Color Correction functions. In fact, like the three-band tool just discussed, it too provides multiple iteration of these tools (actually four complete sets this time, rather than 'just' three).

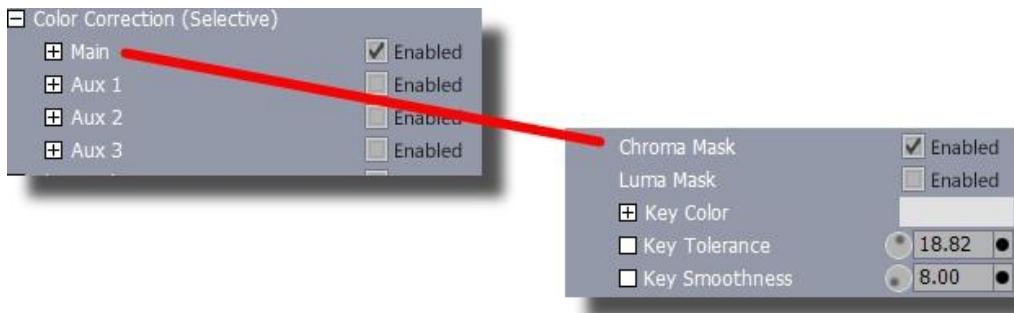


Figure 166

This permits you to perform local color control as many as four totally unrelated different color regions (in addition to any other color correction you may have going on simultaneously.)

The **Main** selection group and each of the identical **Aux 1-3** groups expand to reveal a complete set of color correction settings, but with one added set of tools at the top of its list.

12.17.1 KEY COLOR AND THE MASK

What sets the **Selective** tool set apart from its peers is that it offers totally different criteria to use in defining regions for spot color correction. This time, the operation is controlled using what is essentially a keying method. As it is key (no pun intended) to using Selective color correction, let's digress briefly to discuss basic keying concepts.



Figure 167



Figure 168

The first thing that likely comes to mind when you think of keying is ‘green screening,’ the system used almost universally to show your local weather reporter (or, in this case, ‘weather dog’) standing in front of an animated computer presentation of the upcoming downpour. This is really quite a narrow application of keying, but it illustrates the point:

A key color, green in this context, is used to define a color “mask.” With a little digital wizardry the alpha (transparency channel) value for the pixels in the area defined by the mask are remapped to suitably low levels, allowing computer graphics to replace the original green.

TOLERANCE AND SMOOTHNESS

No greenscreen is every perfectly uniform in its ‘green-ness’ of course, so a **Tolerance** (a carefully chosen range of neighboring color values) value is used to fully define the Mask. As well, in order to prevent a harsh cutoff line around the foreground subject (our patient dog), the mask is given a feathered edge by the use of digital smoothing, basically a blur. The amount of blur and consequent feathering is controlled by the **Smoothness** value.

LUMA AND CHROMA

It’s your choice whether to use **Luma** (brightness) or **Chroma** (color) mask systems to define your mask. A switch for one or the other leads off the settings listed in the Tree for all **Selective Color** groups.

USING COLOR, TOLERANCE AND SMOOTHNESS

The subsequent **Key Color**, **Tolerance** and **Smoothness** settings thus pertain to whichever of the primary keying systems you choose (the four Selective groups are completely independent from each other, permitting individual keying methods to be selected.)

There is also a color swatch (next to **Key Color** in the **Control Tree**) that you can use to set the base key color or shade.

Left-click the swatch to open the **Color Picker** (or right click to enable the *eyedropper* tool), allowing you to choose a color from your image directly.

NOTE: Direct entry of negative values is permitted in the Tolerance field in the Control Tree column. This results in inversion of the mask (and consequently, the color correction effect.)

DEFINING THE MASK

Let's focus on the **Luma** option for a moment, to firm up the concept in our minds. We'll use a diagonal grayscale gradient to illustrate the way a mask region defined.

The first image below shows the default panel that appears when you click the **Selective Color** tab below the right-hand **Control Tree** pane, overlaid by the **Output** window.

- The **Luma** option is switched on at upper-left, and the **Waveform** monitor is displayed (if **Chroma** was switched on instead of Luma, the left hand display would be a **VectorScope**.)
- To the right are the controls and setting for the color correction that will be applied.
- The default display is a **Color Wheel**, but as before, you can use the menu to choose between several alternatives.
- Below this are **Brightness** and **Gamma** sliders.

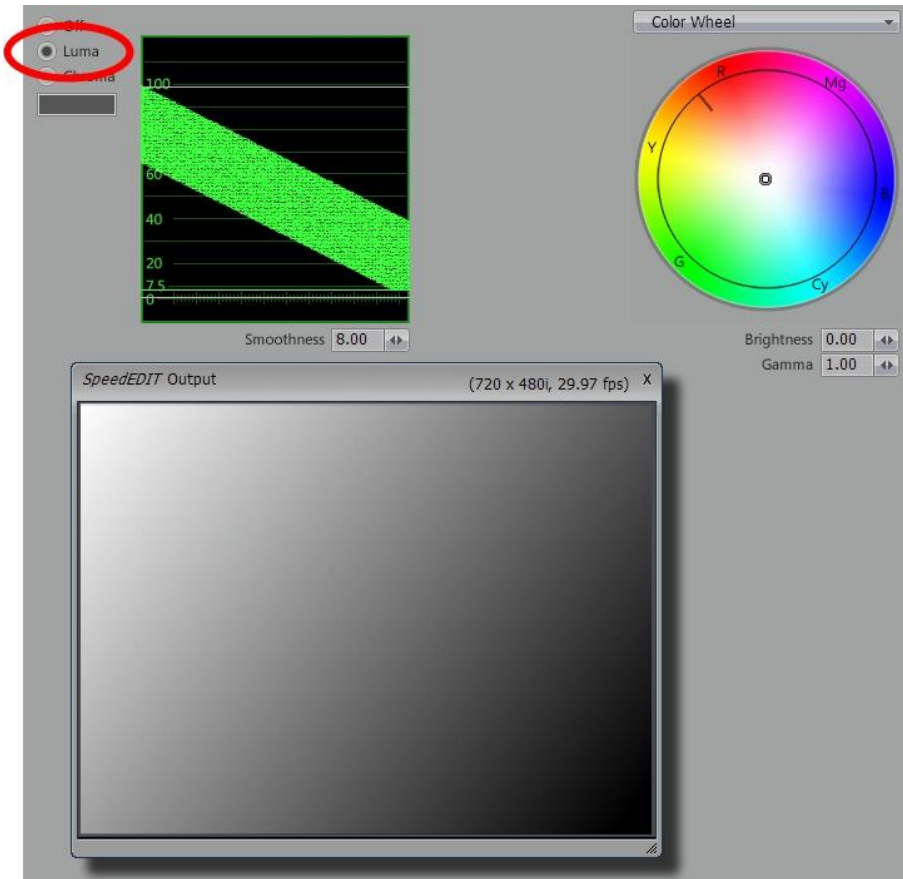


Figure 169

- The broad green diagonal stripe on the Waveform monitor graphs the consistent grayscale values of the unmodified clip.
- Two adjustable horizontal white lines on this graph control the upper and lower limits of the Mask's **Tolerance**, initially spanning the entire luminance range/

Let's see how adjusting them affects the mask tolerance.

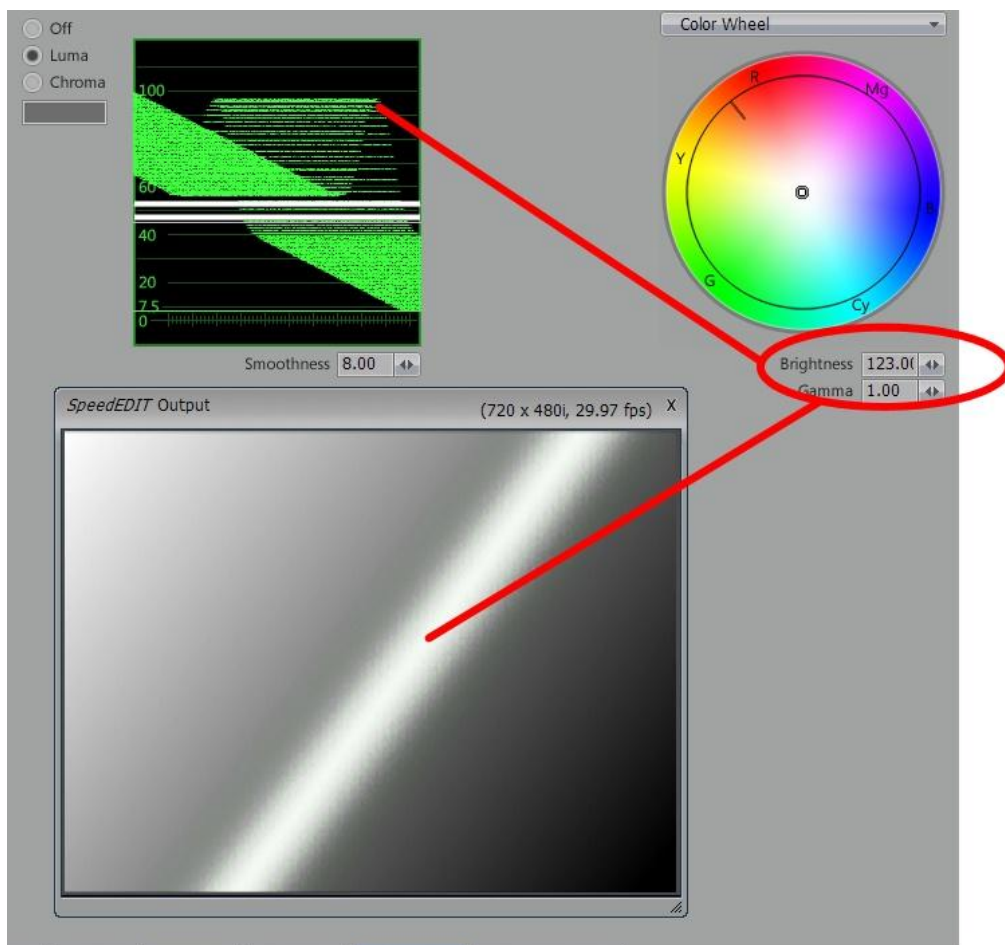


Figure 170

The white lines are accentuated in the second to show how a tightly restricted range constrains the color correction applied (for this example, simply a dramatic boost to **Brightness**) to a narrow luminance range – a brightness notch filter, if you will.

This results in greatly increased brightness across a narrow zone in the diagonal gradient of the test image, and a corresponding spike shown in the graph above.

Sliding the narrow tolerance band up and down interactively in the **Waveform** quickly gives you a sense of just where (in the **Output**) your mask is having effect. Of course, you can refine the mask using the numeric input fields in the Control Tee as well. You will see also that adjusting the Smoothness value up and down will either diffuse or tighten up the effect produced.

12.18 PRACTICAL COLOR CORRECTION

How might you use these tools? Let's review one brief example. The first image below was unfortunately shot on a rather gloomy overcast day. In the second, a simple **RGB Color Correction** has gone a long way toward turning on the sunshine, but has also had the effect of blowing out the highlights, leaving us with a white sky.

The sky, however, is distinguished from the majority of scene by its high luminance values, making it a good candidate for **Selective Color Correction**. Setting up a corresponding Mask permits us to tweak **Blue**, **Brightness** and **Gamma** values until we have a nice, cheerful sunny day for our shot.



Figure 171



Figure 172



Figure 173

The other primary mask option is **Chroma**. Choosing this option really only changes the process described above slightly. Rather than using luminance to build our mask, we substitute color values from the image as the criteria.

Let's consider another example, this time using **Chroma** to define the mask:

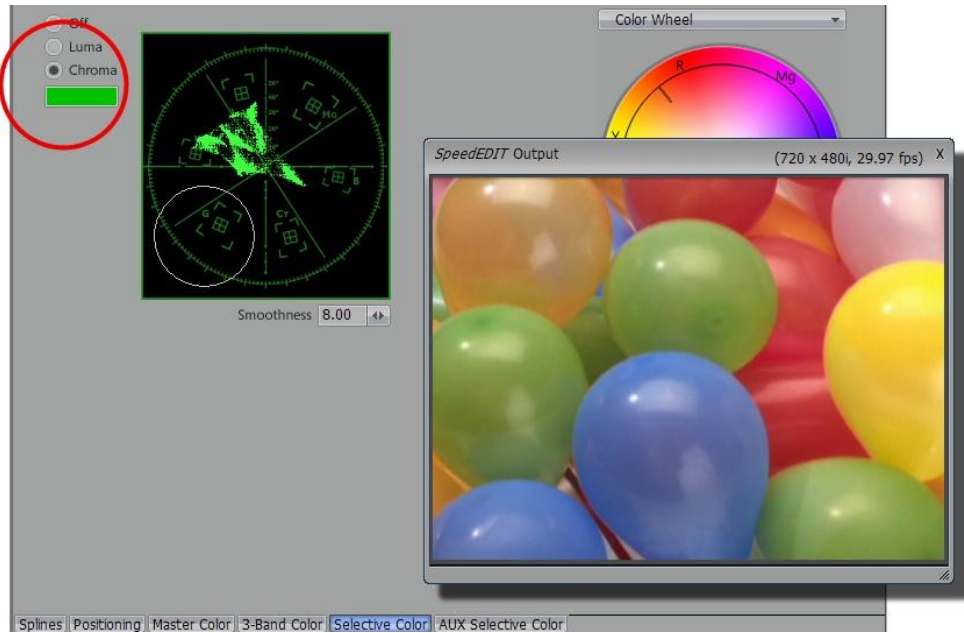


Figure 174

We have a profusion of colorful balloons in this shot. Sadly, our art director hates blue and loves green. A **Luma Mask** isn't going to help us much here, as blue, green and red balloons are fairly close in brightness value. On the other hand, the blue is sufficiently distinct in the shot to make it easy to define a **Chroma Mask**.

Right beneath the **Chroma** switch in the tabbed panel is a *color swatch*. Just like other color swatches in SpeedEDIT, we can right-click this one to engage the eyedropper tool, and then pick a base color for our mask directly from the screen.

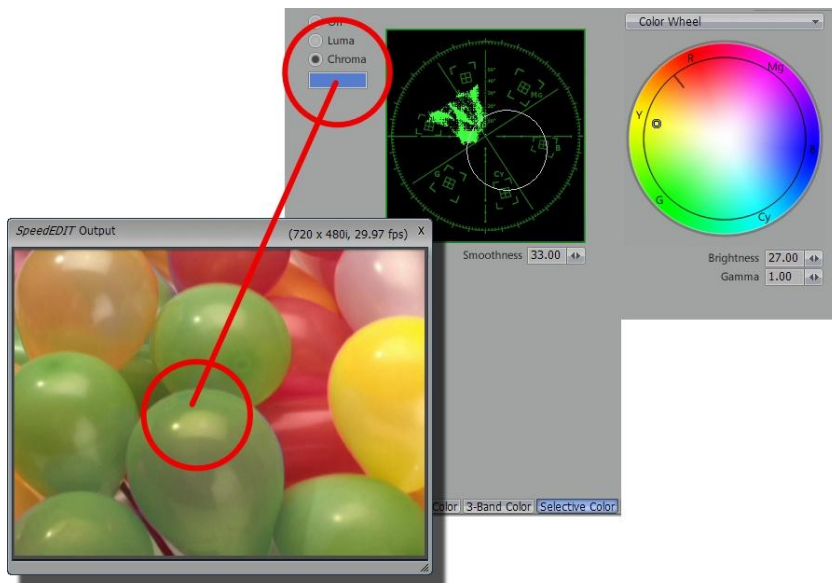


Figure 175

Having selected a color, the **VectorScope** updates to display the color **Tolerance** circle in its new location.

With some gentle nudging of the color correction using the **Color Wheel**, **Brightness** and **Smoothing**, it was pretty easy to replace those nasty blue balloons with grape green ones.

HINT: The Chroma circle in the VectorScope is an interactive tool, by the way. Just as we did when experimenting with the Luma mask, it is often useful to apply some completely overdone effect, (like pushing all pixels in the mask to bright red or white), then drag the circle around on the VectorScope to see how it affects the mask.

Likewise, dragging on the circumference of the circle increases or decreases the Tolerance. These interactive methods permit you to easily observe precisely what will be affected when you apply your more subtle corrections.

Don't forget that the **Color Wheel** is the default control, not your only option. The drop-down menu provides the standard array of **Waveform** and **VectorScopes**.

12.18.1 AUX SELECTIVE COLOR

The **AUX 1**, **AUX 2** and **AUX 3** sections in the **Control Tree** expand to reveal full clones of the Main Selective Color just discussed. This permits you to apply spot control to as many as four separate zones, using **Luma** or **Chroma** masking as you see fit.

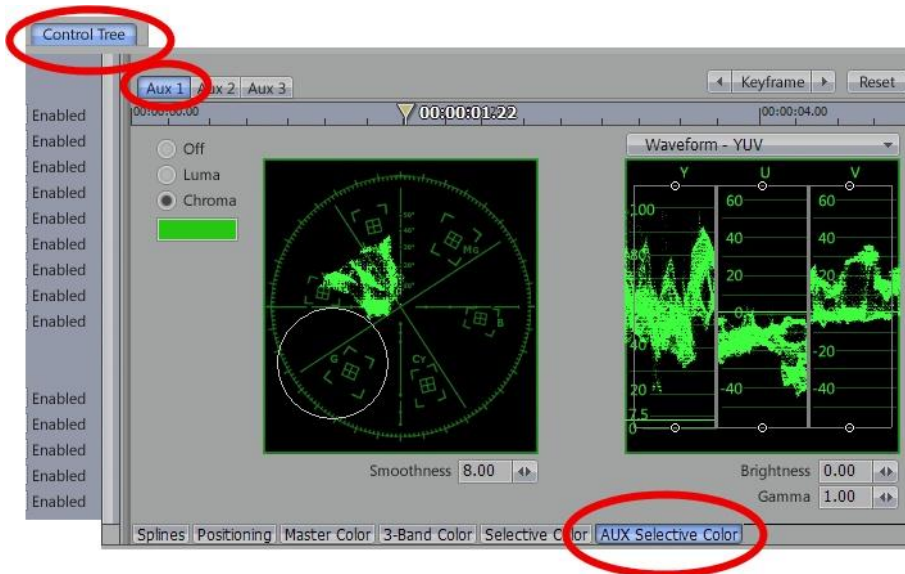


Figure 176

To access the interactive controls for these sections, choose the **AUX Selective Color** tab in the right hand **Control Tree** pane, then click the **Aux 1**, **2** or **3** tab at the upper-left corner of that panel.

12.19 CHROMA / LUMA KEYING

Keying combines two images. The process involves revealing the background image by eliminating a portion of the foreground image (cutting a keyhole) based on the foreground's brightness or luminance values (luma key), or on its color or chrominance values (chroma key).

NOTE: You will find a little further discussion of keying methods in the context of the Selective Color Correction tools, just above.

You set up a Key effect in SpeedEDIT by layering two images on the **Timeline**. Your background image goes on a track above your foreground key image.

NOTE: Important -- in the Trim Bay, you must checkmark Overlay for the foreground image for the keying to succeed.



Figure 177

12.19.1 CHROMA KEY

In video and film, the foreground footage is often shot in front of a blue or a green screen. For example, when you see a television meteorologist in front of a weather map, that person is actually standing in front of a blue or green screen, which is chroma keyed out (exposing the background map).

KEY COLOR

This is the color in the foreground image that you will key out. The basic steps to set up a chromakeyed composite are:

Load a suitable greenscreen clip, and place the desired background scene above it on the timeline. In the **Trim Bay**, turn on **Overlay** for the greenscreen sample. Don't checkmark **Enabled** (next to **Chroma Key**) just yet though.

First pick your key color, which you can do right from the **Control Tree**. Right-click on the color swatch next to **Key Color**, and pick your color by using the **Eyedropper Tool**. Drag it over to the SpeedEDIT **Output**, and release it above the desired key color. Now is the time to **Enable Chroma Key**. The key color will become transparent, and the background image will show through.

*Hint: If you don't see the background image show through in the **Positioning** panel display, go to the top of the panel and checkmark **Show All Layers**.*

KEY TOLERANCE

Key Tolerance determines the amount of color variance from your base key color. For example, if your base color was RGB 100, 125, 210, then a Key Tolerance of 10 includes only colors with values of 90 to 110 on the Red component, 115 to 135 on the Green, and 200 to 220 on the Blue.

If your key color in your clip is extremely consistent, then you can use a low tolerance. By default, **Key Tolerance** is set at 50, which is just a starting point. Increase it if the color isn't totally keyed out, or decrease it you are keying out colors that you want to retain. The range is from 0 to 255.

KEY SMOOTHNESS

In most keying situations, you want to eliminate the sharp edges where your background and foreground meet. The Smoothing operation produces a blur effect on the edges of a key. Usually lower **Key Smoothness** values will provide a soft professional edge. The default value is 8. The range is from 0 to 255.

Hint: Smoothness helps eliminate the blue or green glow around talent caused by light reflecting from the background screen. However, as you increase smoothness, objects in your video can become transparent. Smoothing should be increased by fine increments.

SPILL SUPPRESSION

This control helps remove any chroma key color that is spilling/bouncing back on to your talent. A larger value will remove more of spill.

KEY CHOKE

This tool works contracts the alpha channel generated by a key operation. For example, if you are keying out the blue background in a clip, decreasing the **Key Choke** amount will thin or eat away the edges of the key. The default is 0. The range is -5 to 5. Negative values will thin the edges, usually what you want.

FINE TUNING

- It's best to begin by adjusting **Key Tolerance**. To see what you are avoiding, try it at 100.
- Then set it to 0 and slowly turn the knob clockwise.
- Set **Key Smoothness** to 100. Now, bring it to 0. As a rule of thumb, if you can't see a difference, then go with the setting that doesn't apply the effect.
- Adjust **Key Choke** last. To view what you don't want in a typical keying, try a setting of 5. Now set Key Choke back to 0 and slowly twist the knob counterclockwise so you can see how negative values will eat into the foreground.

12.19.2 LUMA KEY

Luma Keying renders part of the foreground image transparent based on its brightness or luminance values (usually, but not exclusively, the foreground image will be black and white – perhaps a CG plate of some type.)

Set up the composite just as you did earlier when chromakeying – with the background imagery above the foreground layer on the timeline. Again, don't checkmark **Enabled** next to **Luma Key** immediately. You need to pick your key luminance value, generally either black or white.

As before, you can pick this from the **Control Tree**. Right-click on the color swatch next to **Key Color**, and you can pick black or white by using the **Eyedropper Tool**. Just drag it over to the SpeedEDIT **Output** window and release it over the key color.

Enable **Luma Key** at this point, and the key color will become transparent allowing the background image to show through. The default values for **Key Tolerance** and **Key Smoothness** are often fine. You may need to adjust **Key Choke**. If positive values don't work, try negative ones. All three of these settings work the same as described earlier under Chroma Key.

12.20 AUDIO CONTROL TREE

If you select an audio only clip or select the audio track of an audio/video clip, then the Audio section of the Control Tree will be activated. To access the tools, click on the + in the box next to Audio. These are the same tools you will find in the Selected Clip Properties panel, but in the Control Tree you can keyframe over the length of the clip.

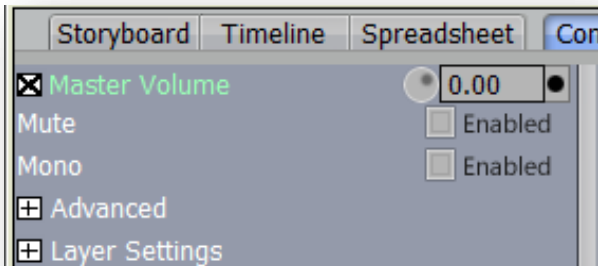


Figure 178

12.20.1 MASTER AUDIO CONTROLS

MASTER VOLUME

Master Volume controls both audio channels of a clip. The slider is incremented in *decibels*. At the default setting of 0 dB, your clip will play back at the volume set when you captured it.

- Rotate Master Volume clockwise to increase volume.
- Rotate Master Volume counterclockwise to decrease volume.

As you move the knob, you can see the changes in the clip's waveform on the Timeline.

MUTE

Enabling **Mute** turns off the volume for the whole clip. Mute cannot be keyframed.

MONO

Enabling **Mono** mixes the two channels and sends the same signal out of both. Mono cannot be keyframed.

GRAPHIC EQUALIZER

Open this up to reveal master EQ controls. These are similar to bass and treble controls, but offer 8 discrete bands of EQ from a low 25 Hz to a high 16 kHz. Use these to perfect your sound.

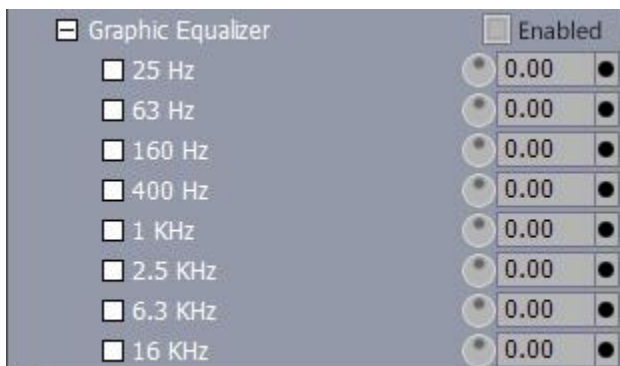


Figure 179

BALANCE LEFT-RIGHT

The **Balance Left-Right** control will mix the channels. The effective range is -10 to 10 . Even if Balance is set at -10 , you still will be mixing in some of the right channel. If you don't want to hear the right channel, then turn its volume all the way down.

- Rotate Balance clockwise to mix in more of the signal from the right channel.
- Rotate Balance counterclockwise to mix in more of the signal from the left channel.

ADVANCED

When you expand the **Advanced** item, you will see controls for the overall clip, and also separate **Left** and **Right** groups. The **File Trim** adjusts levels written to disk when you save. It helps set a standard for the next time the clip is loaded.

If your wires were crossed when you captured, or perhaps you just wish to flip an effect, use the **Reverse Left-Right** or **Front-Back** controls.

The **Auto Fade In**, **Fade Out** and **Fade Times** let you attach audio fades to the beginning and end of a clip with audio.

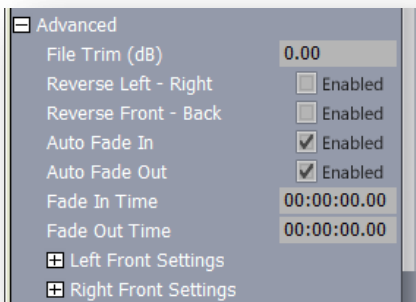


Figure 180

Each channel has a set of independent controls for volume, left-right and front-back pan, another graphic EQ, and a phase control.

The pan controls can send that channel to any place in the left/right, front/back spectrum. A setting of -10 for the Left To Right Pan sends that channel’s signal to the left. A setting of 0 would send that channel evenly to both left and right outputs. **Front to Back Pan** is similar.

The **Phase** control will flip the audio waveform and throw that channel “out of phase”. This can help correct for a cable that was wired wrongly, or for audio that arrived on the back side of a microphone.

NOTE: Watch out for phase, because if you are listening to two tracks of identical signals (like a test tone) and one of them out of phase, then chances are you will hear nothing at all, because the two wave shapes cancel each other out.

12.21 AUDIO LEVELS PANEL

In the Control Tree interface, to the right of the tools, is a window that serves a double purpose. At the bottom are some tabs and, with a clip that has audio, you will see a tab named Audio Levels. When selected, you are shown a graphic layout of a room with four speakers.

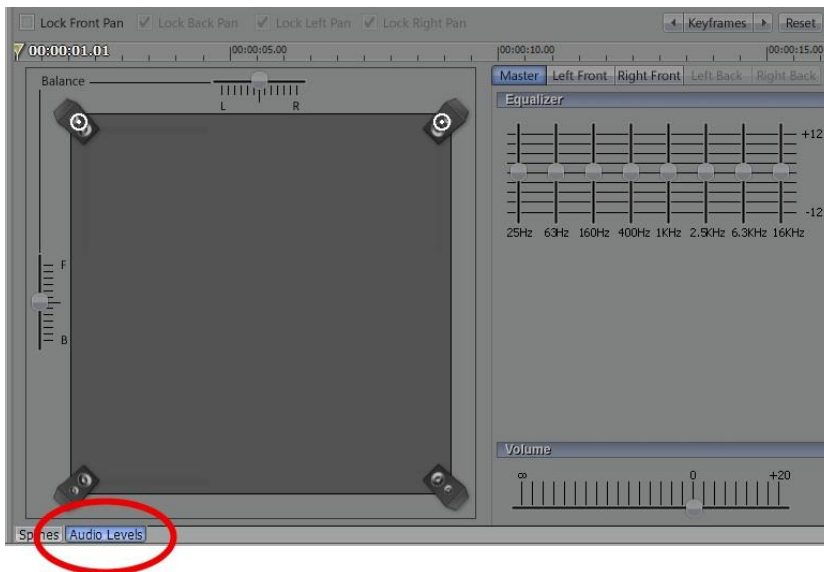


Figure 181

To the right are sliders for the master graphic equalizer. Above that are tabs to take control of each of your audio channels individually. Click on the top right speaker and drag its icon into the virtual room. You would be placing that sound. Drop that and grab the left speaker icon.

At left is a checkbox - turn on **Lock Front Pan**. Now move either channel icon and both channels will move together. Over in the far right is the **Reset** button to restore the original positions (Reset is your friend). Soon you will have mastered keyframing with your SpeedEDIT **Spline Editor**. Then you can keyframe your sound to fly around the room from one position and on to another.

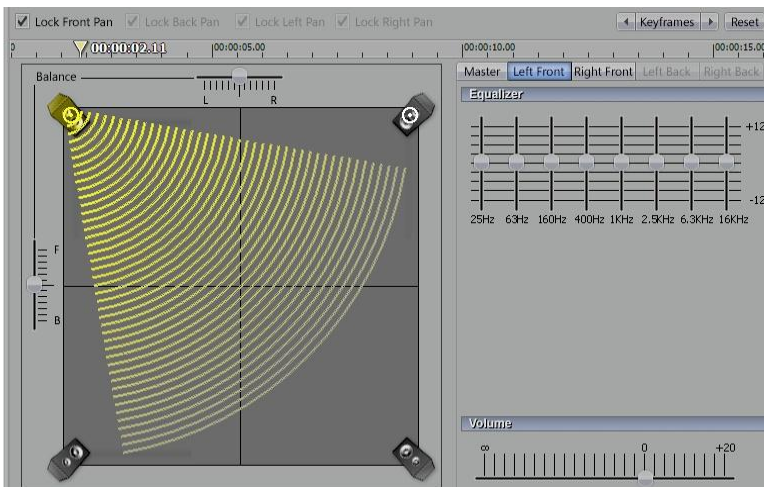


Figure 182

12.22 KEYFRAME BASICS

The real power of the **Control Tree** lies in the possibility of setting keyframes for any of its tools. If you are not familiar with keyframes, read on (if you know about keyframes, then you can skip forward a bit.)

To explain how keyframes work, let's start with a basic operation — resizing a video layer from full frame to quarter screen in two seconds:

Load a video clip – one of your own or something from the NewTek Content folder. Drag it onto the **Timeline**, and select it (by clicking it). Turn on **Overlay** in the **Trim Bay**. Open up the **Control Tree**, and *scrub* to the first frame of the clip. This is where you want the clip to be full frame.

You will be changing the size of the clip over time. Specify that at the beginning of the clip it should be full size by creating an initial keyframe for **Size**. To make a keyframe, go to **Size (%)**. (If you have questions about basic **Control Tree** operations, please see the previous discussion.)

Since **Size (%)** defaults to 100 (which is what you want at this frame), simply click on the black circle and it will turn white. You have just created a keyframe.



Figure 183

Now that you have locked **Size** at that frame, scrub two seconds forward and then set **Size (%)** to 25. Notice that as soon as you entered the new value, the black circle turned white – because a keyframe was automatically placed there for you.

Play the clip and you will see it shrink from 100% to 25% over two seconds. SpeedEDIT calculates the size at every field along the way. If you let the clip play longer, you'll see that the size now remains constant because you have set no other keyframes.

HINT: If you want Size to be 25% at the beginning and never change throughout the clip, then you can set it to 25% and never have to create a keyframe.

Those, then, are the fundamentals: go to a location on a clip, make an adjustment to any of the **Control Tree** tools, set a keyframe; move to the next spot on the clip where you want that tool to be at a certain value, set another keyframe, and move on. Of course, the process can be much more detailed as you work with multiple tools, but the foundation is the same.

HINT: When you first start using keyframes, the tendency is to create more of them than you really need. Here's a good technique to follow:

Let's say you are moving a video layer across the screen in three seconds. Go to the beginning and place the layer where you want it to start. Set a keyframe at the spot. Then scrub three seconds forward to the end of the sequence and reposition the layer; this will create a keyframe. Now, play the clip; if the movement looks good, you're finished. If it's not quite right, scrub on the time bar to a new time in-between the first two, and adjust your video layer to create a keyframe.

Often you will find that you need to create fewer keyframes with this first, last and then in-between method, rather than creating keyframes as you move through the clip.

12.23 POSITIONING PANEL

Many of the **Control Tree** operations just discussed can be performed in a more visual manner in the Positioning panel. In the Control Tree interface, the window to the right of the tools serves a double purpose. At the bottom left are two tabs, **Splines** and **Positioning**.

If you click on the **Positioning** tab, SpeedEDIT provides a graphical interface that allows you to interactively adjust many of the Control Tree tools. Using the mouse, you can move, rotate, size, crop, and smooth your clip in real-time. The changes you make are automatically reflected in the numeric values of those tools in the Control Tree. And any alterations that you make in the Control Tree will be mirrored in the Positioning panel display.

To see how the **Positioning** panel works, load a clip on the **Timeline**. Select it and open up the **Control Tree** tab and then the **Positioning** tab.

NOTE: When you are selecting your clip, be sure to select the video portion. If you hit the audio portion, the Positioning window won't display anything because there is nothing to position.

Take a look around the panel, which is specific to the clip that you have selected. For example, the time bar at the top displays the clip's timecode, and it reflects the **In** and **Out Points** that you have set for that clip. You can scrub through the clip by dragging the yellow triangle.

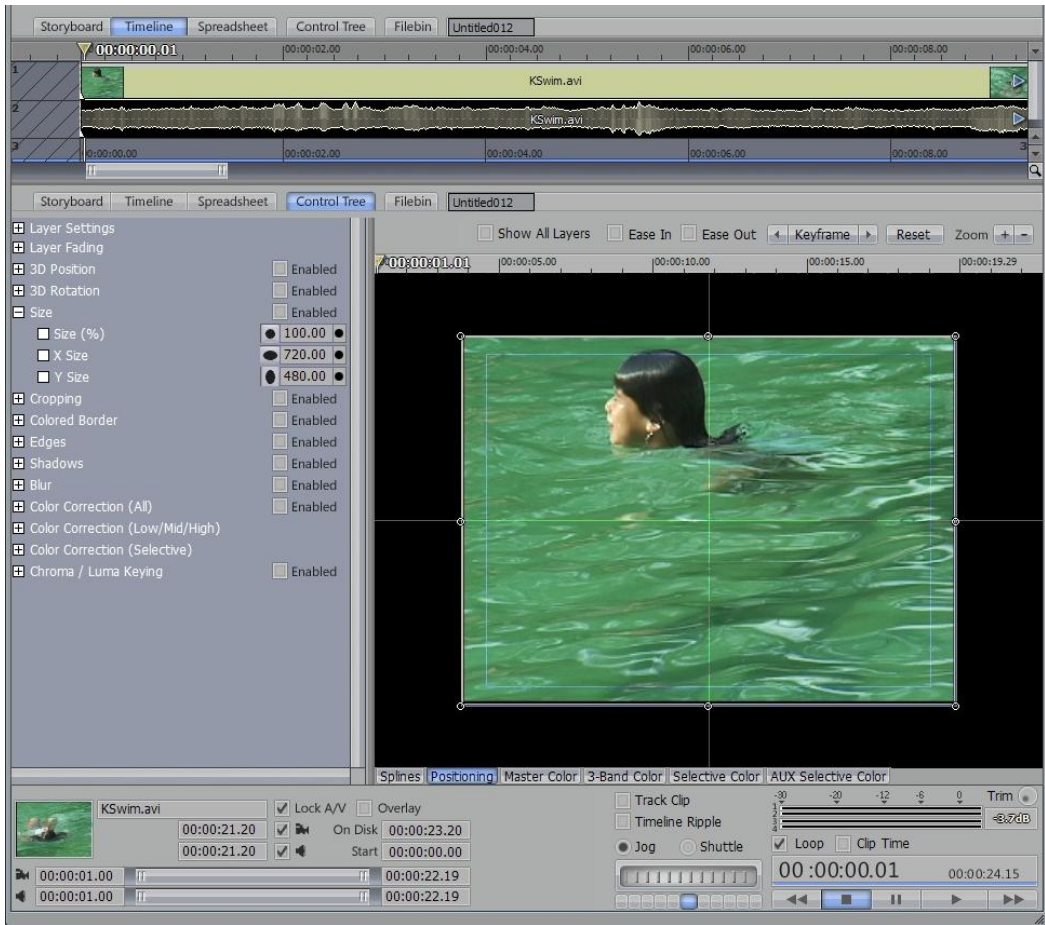


Figure 184

The thin blue line boxes are references maneuvering your clip or image. The outer yellow box shows the edge of the video frame (it does not represent the edge of your clip). Anything positioned outside this box will not be seen on your TV monitor.

The inner blue box delineates the **Safe Action Area**. If you position anything outside this box, it may be cut off on some TV monitors. The light yellow crosshair quarters the screen, with the intersection in the exact middle.

You can zoom on both axes of the display at once with the **Zoom +** and **–** buttons at the top right of the panel.

If you change your clip to **Overlay**, then if **Show All Layers** is check-marked, a clip above it on the Timeline will be displayed where transparency exists. If the background clip is also an **Overlay**, then the clip above it also will be shown (and on and on if there are additional Overlays).

Your clip is surrounded by a thin white outline that has control circles in each corner and in the middle of each edge. When you roll your mouse over different areas of the clip, the cursor will change to indicate the tool that is active at that spot. When you see one of the tools, you can click and drag your mouse to use it. Except for **Size**, right-clicking will give you a different aspect of the tool. For example, right-clicking when **Crop** is active will just crop one side and not the whole image when you drag.

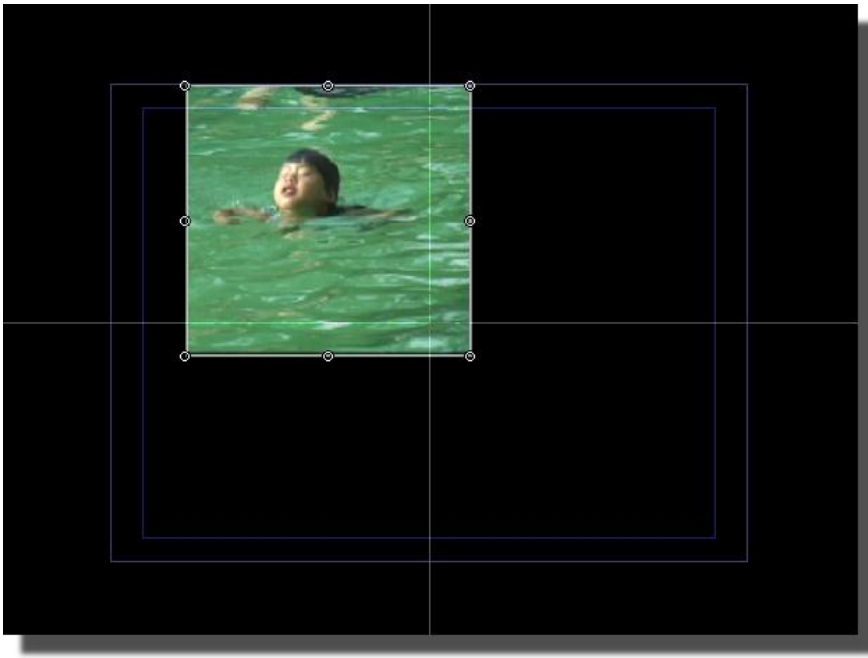


Figure 185

12.23.1 POSITIONING CONTROLS

3D POSITION

The cursor changes to **Move** when you roll the mouse anywhere inside of the white outline.

- Left-click + drag inside the video layer to move the layer on the X and Y axes.
- Shift + left-click + drag inside the video layer to constrain your movement to either the X or Y axis.
- Right-click + drag inside the video layer to move the layer on the Z axis.

12.23.2 3D ROTATION

- The cursor changes to **Rotate** when you roll anywhere outside of the white outline.
- Left-click + drag outside of the video layer to rotate the layer on the Z axis.
- Right-click + drag outside of the video layer to rotate the layer on the X and Y axes.
- Shift + right-click + drag outside of the video layer to constrain your rotation to either the X or Y axis.

NOTE: You can change your pivot point in the Control Tree by numerically adjusting the X and Y Centers

12.23.3 SIZE

- The cursor changes to **Size** when you roll over one of the control circles on the white outline.
- Left-click + drag on one of the corner circles to size the video layer proportionally on all sides.
- Left-click + drag on one of the circles in the middle of the left or right edge to size the width of the video layer.
- Left-click + drag on one of the circles in the middle of the top or bottom edge to size the height of the video layer.

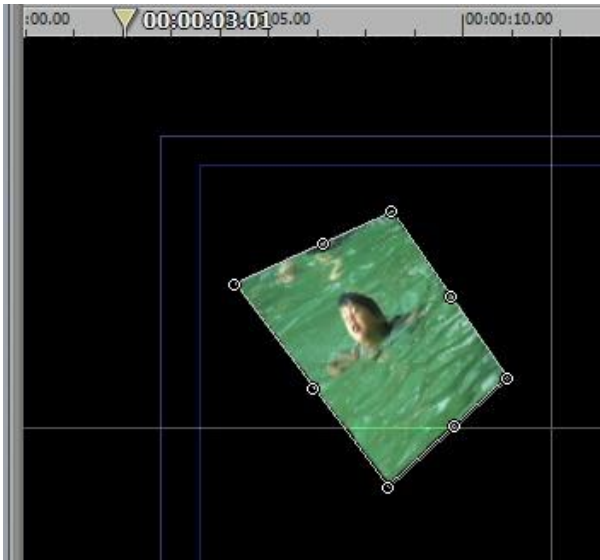


Figure 186

12.23.4 CROP

When you roll over the outside edge of the white outline, that edge turns yellow and the cursor changes to **Crop**.

- Left-click + drag on the edge to crop the video layer proportionally on all sides.
- Right-click + drag on the edge to crop the video layer on just that edge.

12.23.5 SMOOTH

In the Control Tree, **Smooth** is found under **Edges**. When you roll over the inside edge of the white outline, that edge turns yellow and the cursor changes to **Smooth**.

- Left-click + drag on the edge to smooth the video layer proportionally on all sides.
- Right-click + drag on the edge to smooth the video layer on just that edge.

When you alter **Smooth**, another white outline is added to indicate its boundaries.

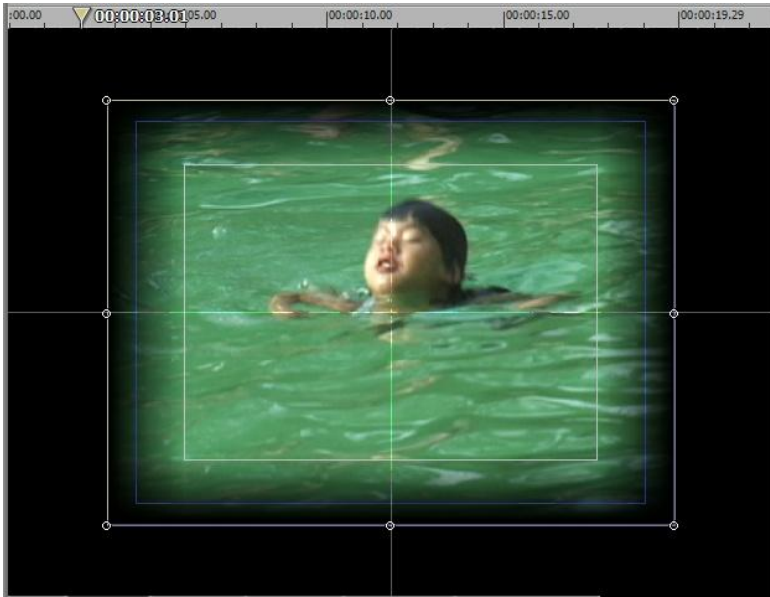


Figure 187

12.23.6 KEYFRAMING IN THE POSITIONING PANEL

In the **Positioning** panel, you can quickly set keyframes for **3D Position**, **3D Rotation**, and **Size**. Let's take a simple example of creating a picture-in-picture and moving it in the video frame over the length of the clip.

Load any video clip, and then navigate the **Filebin** to the **Effects** folder. Open the **Solid Colors** folder it contains, and drag a blue icon onto the Timeline, placing it on a track above the video clip. In the **Trim Bay**, turn **Overlay** on for the video clip. Stretch the blue background still out so that it lasts as long as the clip below.

On the time bar, scrub to the first frame of the clip, or press the **Stop** button to jump to the first frame. Grab one of the corner control points on the clip's white outline and reduce the **Size** to about 50%.



Figure 188

HINT: You can look at the Control Tree tools to see what the numeric values are. If you enter a value in the Control Tree, it will be reflected in the Positioning panel.

Set any **Cropping** and **Smoothing** values that you desire (to add a **Shadow** you will need to go to the **Control Tree**). Move the clip off-screen to the left. After positioning it where you want, you need to create a keyframe for any setting that will change.

KEYFRAME BUTTON

The **Keyframe** button is on the upper right of the panel, above the time bar. When you have set the video layer at the first frame of your sequence, click on the button to highlight it.

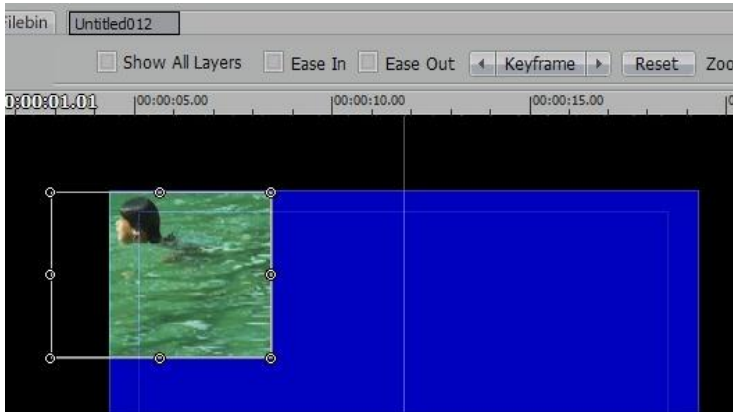


Figure 189

If you look at your **Control Tree** display, you will see that keyframes are automatically set for the X, Y, and Z Position (in 3D Position), for the X, Y, and Z Angle (in 3D Rotation), and for the **Size (%)** and **X and Y Size** (in Size). You can tell because the little black circle, (to the right of the data entry field), turns white.

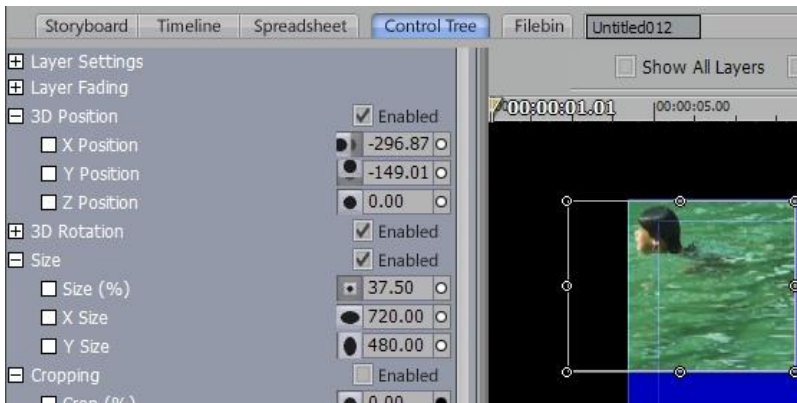


Figure 190

Notice that keyframes are made even if you have not adjusted the tool, which, in turn, will allow you to change that value later without having to backtrack.

Also, note that keyframes were not automatically made for **Crop** or **Smooth (Edges)**, even if you did change them from their defaults. If you plan to change Crop or Smooth again during the sequence, you need to set their keyframes by hand in the Control Tree by clicking in the black circle to turn it white.

Now on the **Time Bar**, scrub about a third of the way into the clip. This will be your next keyframe. Notice that the **Keyframe** button has turned off. Move your clip layer to the top middle of the video frame. As soon as you start moving it, the Keyframe light comes on, which indicates that the **Positioning** panel is automatically setting keyframes for you.

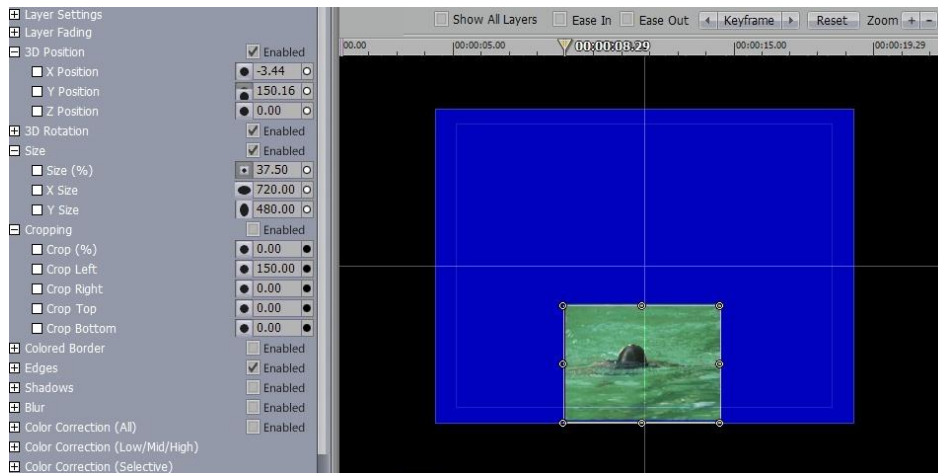


Figure 191

Remember that it is only setting keyframes for the 3D Position, 3D Rotation, and Size tools listed above. However, *if you have previously set a keyframe*, any adjustment you make to **Crop** or **Smooth** at this location will cause another keyframe to automatically be made.

Scrub to your next spot on the time bar (about two thirds into the clip), move the clip layer to the right edge of the frame. Again, keyframes are automatically made.

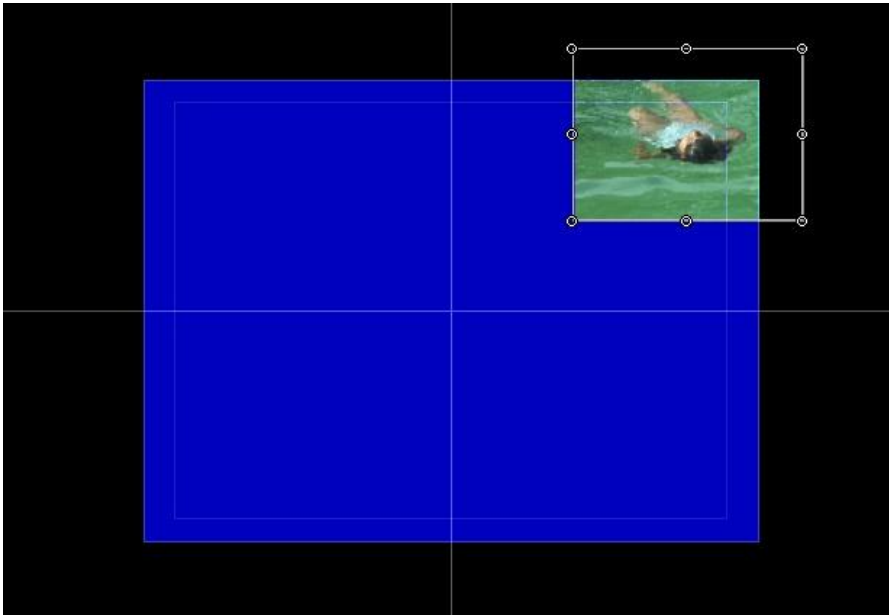


Figure 192

Scrub to near the end of the clip, move the clip layer to the middle of the frame, and resize it to full screen. You can do this quickly with the **Reset** button (see below).

NOTE: If you have changed Crop or Smooth, you will have to bring them back to their defaults in the Control Tree. Reset does not affect them.

To see the sequence, you can scrub it on the time bar, or simply play the clip.

You now have four keyframe spots, delineated on the **Time Bar** by thin purple vertical hash marks. (Look closely to see the first one on the left.) To jump from keyframe to keyframe, click one of the arrows that flank the **Keyframe** button.

If you are on a keyframe and want to delete it, click the **Keyframe** button off. This will delete all the keyframes for the **3D Position**, **3D Rotation**, and **Size** tools listed above at this spot on the clip. This will not delete any other keyframes at this spot. The video layer will jump back on the time bar to its previous keyframe.

RESET BUTTON

The Reset button is on the upper right of the panel, above the time bar. When you click Reset, the X, Y, and Z Position (in 3D Position), the X, Y, and Z Angle (in 3D Rotation), and the Size (%) and X and Y Size (in Size) are all reset to their defaults, and keyframes are created for them at that location. You can click the Reset button anywhere on the Positioning panel time bar. If there was a keyframe at that spot, it will be replaced with the default values; if there was no keyframe, a new one is created.

HINT: Most actions in the Positioning panel can be undone by pressing Ctrl + z, or clicking the Undo button at the top of the SpeedEDIT panel.

12.23.7 POSITIONER EASE IN/OUT

Ease In and **Out** are frequently required for effects – particularly motion effects. A CG object moving from one position to another on the screen looks much more natural when it eases out, accelerating gently up to full speed from a stopped position. Likewise, Ease In it will help it to ‘park’ in its final resting-place much more elegantly. Naturally SpeedEDIT accommodates your need for a quick way to apply these common adjustments to your effects.

At the top of the **Positioner** pane are two switches labeled **Ease In**, and **Ease Out**. These toggle the Ease status for all keyframe-able settings (such as 3D Position, Rotation, etc.) In addition to acting as toggle switches, the state - highlighted or not – of a switch provides information about the effect.

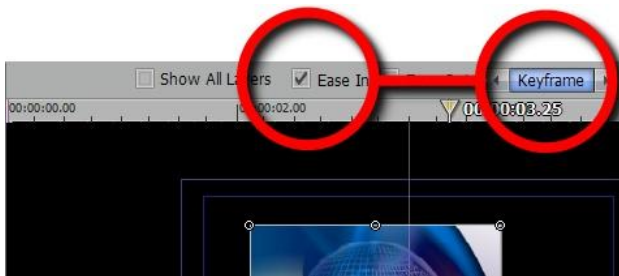


Figure 193

For example, in this image the **Ease In** switch is check-marked *and* the **Keyframe** switch is highlighted, indicating that a keyframe exists at this frame (00.00:3:25) and that Ease In is enabled. Keyframed parameters will ease into the settings established for this keyframe.

When the **Keyframe** switch is not highlighted in the next image, indicating no Keyframe exists at the current frame, a check-marked Ease switch shows that Ease is active for this part of the animated effect. More about Ease In/Out is coming up just a bit further on, in the discussion of the **Spline Editor**.

12.23.8 POSITIONING OVERLAYS

Working with **Overlays** is an essential technique when you are creating multi-layered effects such as picture-in-picture, (PiP). Normally, you will construct your Overlay stacks in the **Timeline** and adjust the clips in the **Control Tree**. Let's make a simple PiP to show you the basic steps.

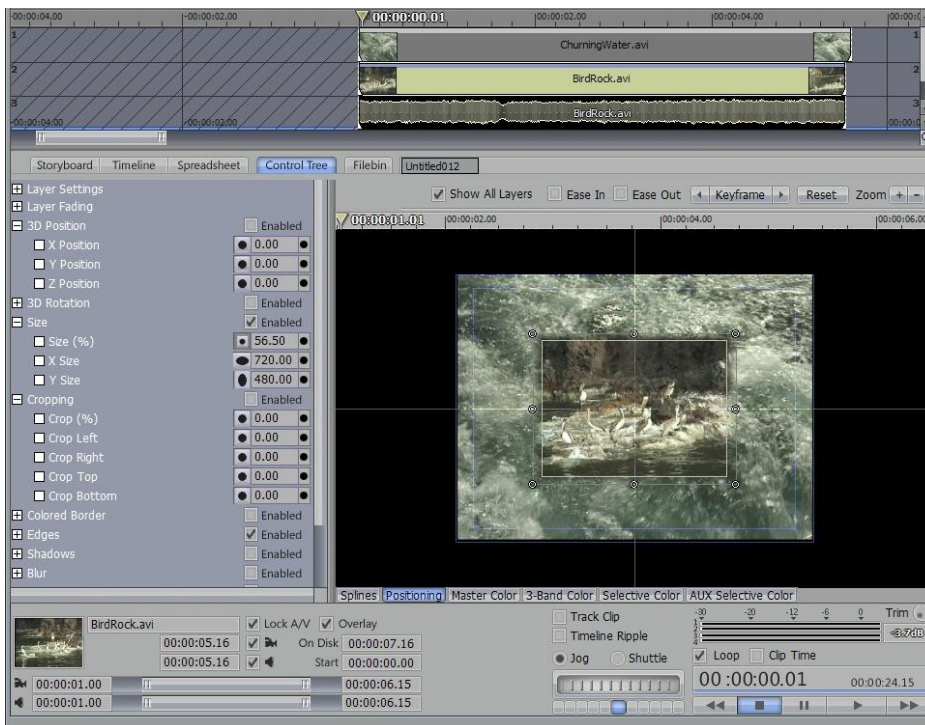


Figure 194

Load two clips (or stills) into the timeline. Set one as the background clip, placing it on a track above the foreground. Turn **Overlay** on for the foreground clip.

*HINT: The quickest way to turn Overlay on for a selected clip is to use the keyboard shortcut of pressing **y**. There's also an Overlay check box in the Trim Bay and the Selected Clip Properties panel.*

Now, in the Control Tree's **Positioning** panel, shrink the foreground clip to about 50%, smooth the Edges to about 10, and maybe even adjust the Alpha a little. Then play the sequence.

One of the restrictions of **Overlays** is that you cannot fade them in and out with the traditional Cross Fade DVE (you can't apply DVEs to an overlay on the Timeline).

NOTE: You can apply DVEs to Sub-Projects. So if you create a Sub-Project with an overlay inside it, you will be able to use a DVE on the Sub-Project as a whole.

To simply fade an Overlay in or out on the Timeline, move your mouse to the bottom corner of the video track of the clip. The cursor will change to 'Fd' for fade (fades set in this fashion do not appear in the Alpha section of the Control Tree's Spline panel.)



Figure 195

If you click and drag the edge of the clip when you see 'Fd', you will create a Fade In (if you are dragging into the clip from the front). Or you will Fade Out if you are dragging into the clip from the back. The numbers displayed as you drag are based on the timecode of the clip.

HINT: If you want precise control of the fades, you always can create an Alpha spline in the Control Tree.

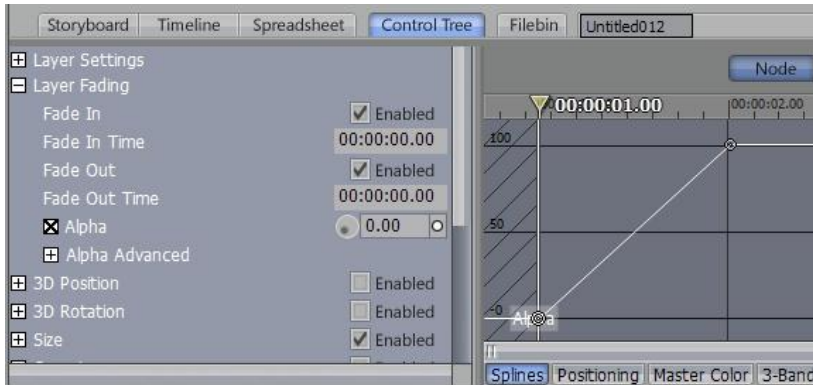


Figure 196

Of course, if you want more images floating around, you just add layers on top of layers. Remember that SpeedEDIT reads visibility from the bottom of the Timeline up. The lower layer always covers the one on top. Or conversely, the background images are above the foreground images on the Timeline.

Inevitably, if you stack enough layers on top of each other at one time, even the fastest, meanest machine will whimper. But since SpeedEDIT sports an intelligent background render engine, often by the time you are finished constructing your multi-layered masterpiece, SpeedEDIT is ready to play it back.

12.23.9 PANNING STILL FRAMES

Since SpeedEDIT can import images on to the Timeline that are bigger than video resolution, you have the opportunity to move the image around the frame in a technique called pan and scan. The Positioning panel makes this process fast and fun. And with the ability to store spline presets, you can zip through repetitive tasks fairly painlessly. But there are a couple of tricks that will make the process even smoother.

First, you should understand how to resize images that you import into SpeedEDIT. As was mentioned earlier, by default SpeedEDIT automatically scales oversized images down so that the

largest dimension fits on the screen. If you want access to the full resolution of an oversize image, set Size (%) to 100. Then you can select the Positioning panel and move the image around, or zoom in and out on that cute face.

HINT: If you load a small resolution clip or image, you can size it exactly to fit the screen by setting Size (%) to 100, X Size and Y Size to match the current project resolution. This may distort the image if it wasn't originally the same image aspect as the project.)

The second, not so obvious, trick to using still frame addresses how they are seen in the Control Tree. By default, when you load a still, it comes onto the Timeline as a five-second clip. (You can change this default in the **Preferences** panel under **EDITING: Default Still Length**.) This default length is also reflected in the Control Tree time bar.

This becomes important if, for example, you create motion for a still that is five seconds long, and then decide you would like to add three more seconds where the image doesn't move. Now, if you just go to the Timeline and move the still's **Out Point**, you actually *stretch* the clip. If you look in the **Selected Clip Properties**, the clip's **Speed** is now 62.5%, which means that the movement has been stretched and slowed to fill the whole eight seconds. But you don't want that outcome.

You can extend the **In** or **Out Points** of a still without affecting the **Speed** by going into the **Selected Clip Properties** panel and making the adjustments at the **In** and **Out Point** windows. A better method is to hold down the Alt key while dragging the **Out Point** – the cursor will change from **Stretch** to **Out**, and the still's Out Point will be extended.

12.24 SPLINE EDITOR

For precise command of the Control Tree tools over a period of time, use the **Spline Editor** panel, which is accessed by clicking the **Splines** tab at the bottom of the Control Tree window, to the right of the tools.

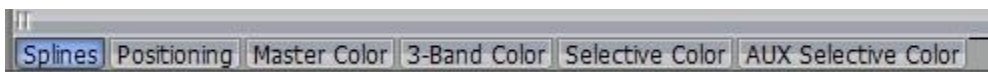


Figure 197

12.24.1 SPLINE BASICS

NODES AND INFLUENCES

The **Spline Editor** interface is specific to the clip that you have selected. For example, the time bar at the top displays the clip's timecode (as opposed to *project* timecode) and it reflects the In and Out Points that you have set for that clip.

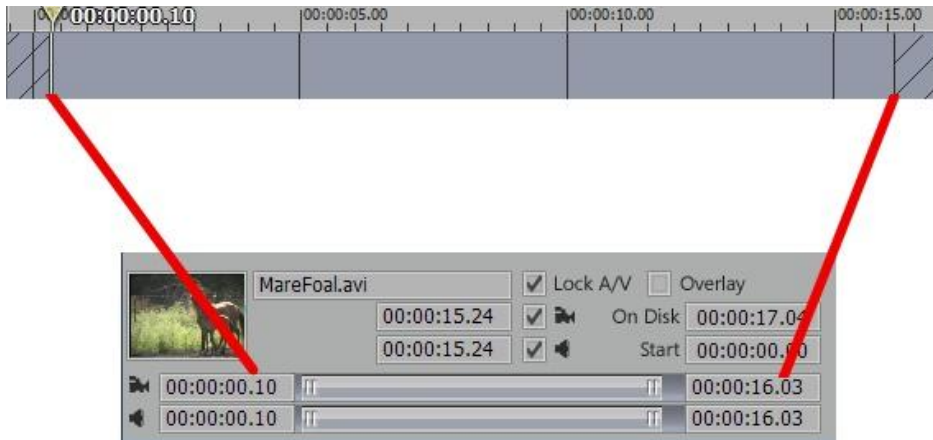


Figure 198

Load a clip onto the Timeline. Select it, go to the **Trim Bay**, and set the **In Point** to 00:00:00.10. If you look at the image above, you'll see that the diagonal lines on the left stop at that spot on the time bar. The diagonal lines on the right indicate the **Out Point** of the clip.

As with the Timeline interface, you can zoom in and out on the horizontal axis with the mouse wheel or the scroll bar at the bottom. The mouse wheel, however, zooms on both horizontal and vertical axes, based on the existing screen center. You also can zoom on the vertical axis with the scroll bar on the right. You can zoom on both axes at once with the **Zoom +** and **-** buttons at the top right of the panel.

NODES

The **Spline Editor** presents a graphical display of the values of the **Control Tree** items.

To see how it works, select a clip in the Timeline, and scrub to the In Point on the Spline Editor. In the Control Tree, click on the + in the box next to **Size** to expand it. In **Size (%)**, enter 33. Now click in the black circle to the right of it to create a keyframe for Size (%) at the In Point.

To see your handiwork in the Spline Editor window, click on the white box next to **Size (%)**, which will change the box to a circle with a black X in it.

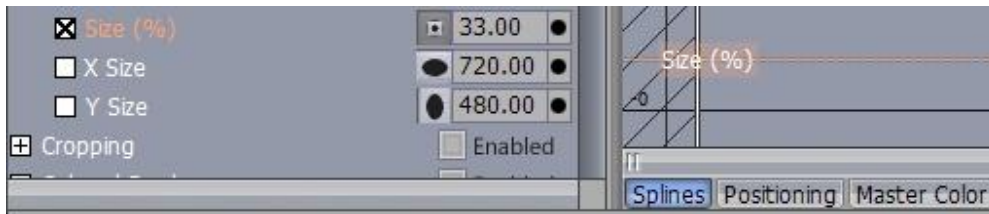


Figure 199

Size (%) changes to an orange color, which also is the same color of the line placed in the Spline Editor window.

If you look closely on the left at the beginning of the line under **Size (%)**, you will see a little circle, which is called a **Node**. This node is how the **Spline Editor** indicates a keyframe. To get a good look at a node, scrub to one frame before the Out Point of the clip.

HINT: If you set a keyframe right at the Out Point of your clip, you will not be able to see your clip on your Program Out monitor at that point. Since adjusting Control Tree tools often requires that you have a visual reference, if you set the keyframe one frame before the Out Point, you will be able to observe your changes.

Then go back to the Control Tree and adjust **Size (%)** to 100.

HINT: Remember that you simply can double-click on the icon to the left of the number field to bring the value back to its default.

The circle to the right of the number field should turn white, which means a keyframe was automatically set. If you look in the Spline Editor, you'll see your two nodes connected by a straight line.



Figure 200

That straight line indicates that the change in **Size (%)** between nodes is *linear* — thus in this case, the increase in **Size (%)** for each frame is the same. This linear formula for calculating change can work fine in many situations. Often, though, such changes can seem abrupt, especially at the beginning and end of a sequence. To solve this problem, you use Influences.

INFLUENCES

In the Spline Editor, you control the formulas that dictate the change between nodes with Influences. Luckily, you do not have to worry about any math, because setting and tweaking Influences is a visual task.

To illustrate the power of Influences, let's set up a quick example. Load a still frame on to the Timeline. Select it, then go to the **Trim Bay** and set the **Video Duration** to 00:00:05:00.

Since this example only needs a few numbers to be entered, you can do it fairly quickly from the Control Tree. Let's start the sequence with the image at full frame. Scrub to the **In Point**. In the Control Tree, set keyframes for the **X** and **Z Angle** (in **3D Rotation**) and the **Size (%)** (in **Size**).

Since you want the default values, just click on the black circle to the right of the number field to turn it white and create a keyframe. Do it for all three. Now move to a second later on the time bar, set **Size (%)** to 50, then rotate 360 degrees on the **X Angle** and another 360 degrees on the **Z Angle**.

Move forward one second on the time bar. Rotate back on the **X Angle** to -360 degrees. Don't change the **Z Angle** or **Size (%)** values, but create keyframes for both at this location. Move ahead one more second and rotate back on the **Z Angle** to 0. Don't change the **X** rotation. And bring **Size (%)** back to 100. Play the sequence back and you'll see a couple of abrupt transitions.

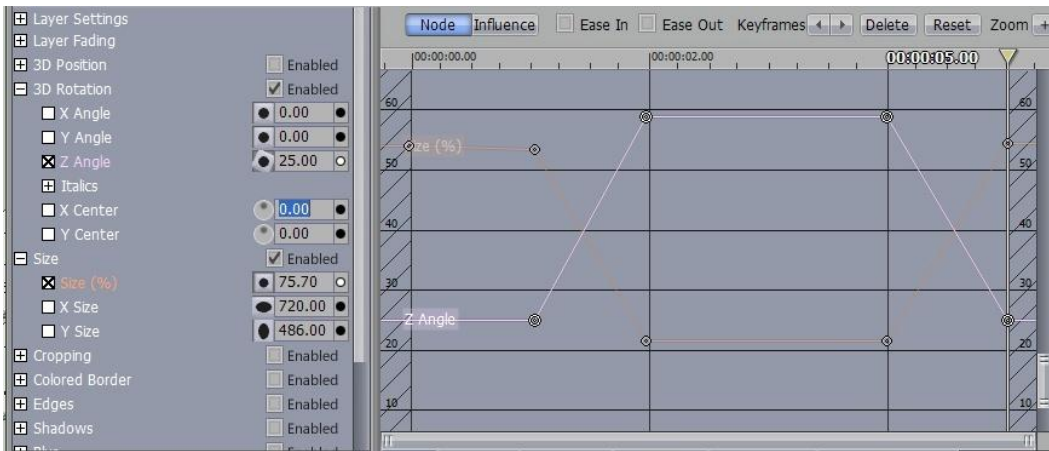


Figure 201

The changes are graphically indicated by the sharp angles in the Spline Editor, especially the X Angle lines. These can be smoothed out with **Influences**.

WHAT IS A SPLINE?

So far, in the example above, if you look at the Spline Editor, you have been creating **Nodes** that are attached to each other by straight lines. A spline is a curve, so in essence you have yet to create a spline until you attach **Influences**. But since this is the Spline Editor, it will be less confusing if this representation of Nodes and straight lines is called a spline. For those of you familiar with LightWave or compositing apps, SpeedEDIT's splines are a hybrid of *Bezier splines*.

12.24.2 SPLINE EASE IN/OUT

We considered **Ease In** and **Out** earlier, when discussing the **Positioner**. Now we will look at Ease as implemented in the Spline Editor.

Here is a screenshot of the same simple (two-keyframe) motion effect we looked when discussing the Positioner.

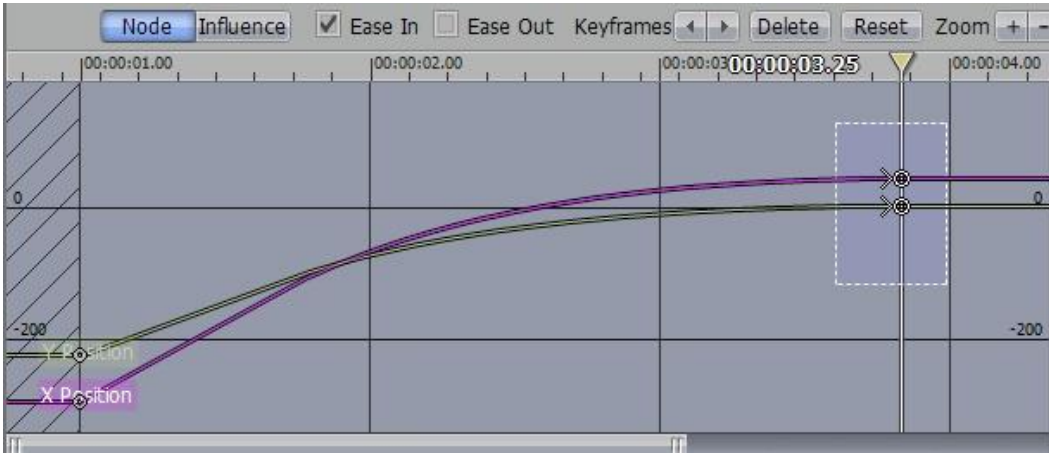


Figure 202

Notice that even though there are no visible **Influences**, gently sweeping curves indicate that the motion will decelerate gently into the keyframe at timecode 00:00:3.25. The fact that **Ease In** is active at that keyframe is indicated by the **>** symbol to the left of the round *keyframe* markers on the spline curve, as well as by the checkmark in the switch above. Similarly, a **<** symbol to the right of the keyframe marker would indicate **Ease Out** was enabled.

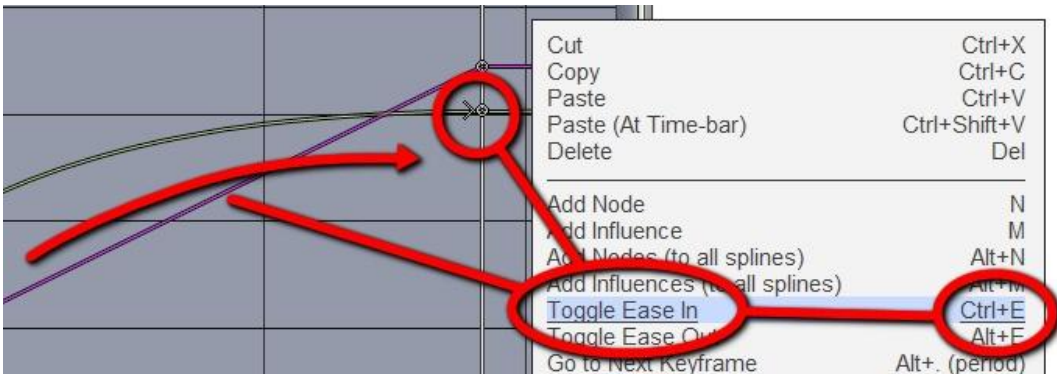


Figure 203

There are a number of ways to enable **Ease** on for a particular segment of a spline. You can hover the mouse above a single spline, then right-click to open to Spline Editor's context menu,

selecting **Toggle Ease In** (or Out.) Or, use the keyboard shortcuts -- Ctrl+e (Ease In) and Alt+e (Ease Out.) Add Ease curves to multiple splines by dragging out a marquee with the cursor to surround neighboring keyframes, then using the same menu options or shortcuts.

12.24.3 PRECISION SPLINE CONTROL

ADDING AN INFLUENCE

You can add an **Influence** in the Spline Editor in any of four ways.

Click on the **Influence button** at the top of the panel (clicking it toggles off the Node button.) Now, in the Spline Editor window, when you roll your mouse near a spline, your cursor will have a little x attached to it, indicating you are in **Influence mode**. Also the spline will brighten, which means that you have selected it. When you click anywhere on that spline, an Influence point, again indicated by an x, will be created at that spot.

Or ...

With the spline selected (as described just a moment ago) if you double-click anywhere in the Spline Editor, an Influence will be created at that spot, and it will be attached to the selected spline.

Or ...

You also can scrub the **Edit Line** until it intersects the spline and then press the m key – an Influence point will be created at the intersection.

Or ...

If you are in **Node mode**, you can add an Influence by holding down the Ctrl key and clicking.

HINT: If you are having trouble distinguishing between different splines, (especially when they are overlapping in the Spline Editor), go to the Control Tree and toggle off any of the items that are in the way. Simply, click on the box with the X next to the tool.



X Z Angle

To return to the previous example, create two Influence points on either side of the sharp X Angle transition at 1 second into the clip.

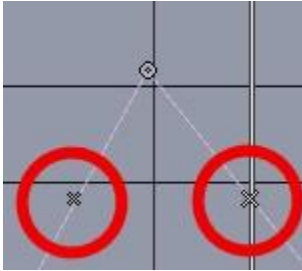
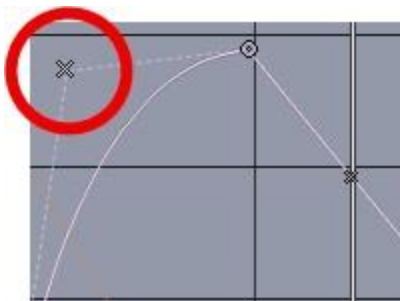


Figure 204

To smooth out the angle, grab the Influence point on the left, and then pull it up and away from the spline. Notice that you are making a curve out of the straight line. Congratulations, you have officially made a spline.



Grab the Influence point on the right, and then pull it up and away from the spline.

The little displayed numbers show your location on the scale. “359” means 359 degrees in this case, since this is the X Angle.

Figure 205

When you play the sequence back, the spin slows as it gets to that keyframe or node, and remains slow as it leaves. This is called easing in and easing out. You commonly apply Influences to splines to adjust movements, but they can be used in a myriad of ways.

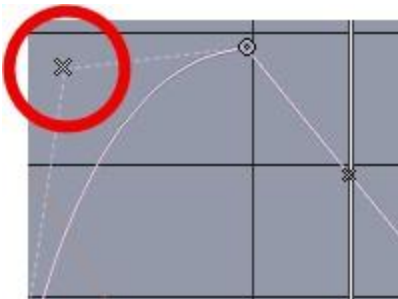
ADDING A NODE

You can add **Nodes** to splines the same way that you add **Influences**. To create a new Node, click on the Node button at the top of the panel, and then click anywhere on the spline. Or if you are not on the spline, double-click and the spline will jump to the Node's position and attach to the Node. Or move the **Edit Line** so it intersects the spline where you want the Node, and hit the n key.

ADDING MULTIPLE NODES OR INFLUENCES

To add **Nodes** to all the splines that are visible in the Spline Editor, scrub the **Edit Line** to where you want to add the Nodes, and then press Alt + n. To add **Influences**, press Alt + m.

SELECTING A SPLINE



Select a spline by rolling your mouse over it. You will see it brighten, and its spline tag in the lower left of the window will be discernibly lighter than the other spline tags.

One spline will always be highlighted in the Spline Editor, (the spline closest to the mouse).

Figure 206

SELECTING NODES OR INFLUENCES

The quickest way to select a **Node** or **Influence** is to click on it. You need to be a little careful because if you miss your object and click on the spline instead, you will create a new Node or Influence, depending on which mode you are in. To assist you, your cursor changes to a little four-headed arrow when you are over a Node or Influence. Usually, as you are rolling around the Spline Editor, your cursor will have a little dotted box at the end of the arrow.

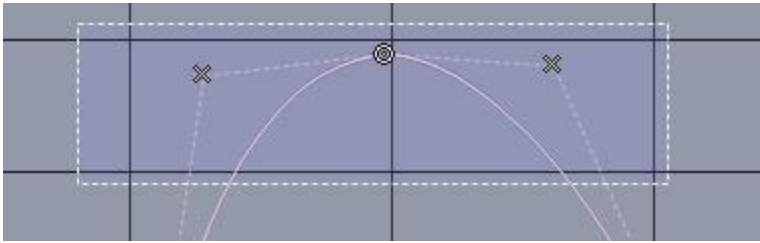


Figure 207

This means that your mouse is in **Selection mode**. If you click and drag the mouse, it will draw out a selection box. Any **Nodes** or **Influences** inside the box will be selected.

You also can select multiple **Nodes** and **Influences** by holding down Ctrl while clicking. Press Ctrl + a to select all Nodes *and* Influences for the selected spline. Press Alt + Ctrl + a to select every Node and Influence for every spline visible in the Spline Editor.

EDITING NODES OR INFLUENCES

You can adjust a Node's value by *dragging* it up or down in the **Spline Editor**. For example, if you dragged the **X Angle** spline up or down, you would be increasing or decreasing its value in degrees. As you drag it, the position on the scale will be displayed numerically next to the **Node**.

NOTE: The scale on the Spline Editor will change depending on the spline that is selected. For example, if you select the X Angle spline, then the numbers on the left side of the Spline Editor will represent degrees of an angle. If the X Size spline is selected, then the numbers will represent pixels.

You can adjust a Node's position on the Timeline by dragging it left or right. You cannot drag it past another of the same spline's Nodes without unwanted results.

HINT: To constrain the movement to either up and down or left and right, hold down the Shift key when you are dragging the mouse. You can adjust an Influence in the same manner. If you are dragging it left or right on the Timeline, you should not move it past a Node. And the spline looks a little weird if you try to move an Influence past another Influence on the Timeline.

If you have selected more than one **Node** or **Influence**, then you can drag them together. You can drag Nodes and Influences from more than one spline. And if you have selected multiple splines, you can drag all of those around at once.

As you see, editing **Nodes** and **Influences** is easy — occasionally too easy, because even slight changes can radically alter your sequences. Luckily, the Spline Editor, like the rest of SpeedEDIT, has a multi-level **Undo** feature, so you can experiment and then hit Ctrl + z or the Undo button to back out of any undesired results or miscalculations.

RESET BUTTON

The **Reset** button at the top of the Spline Editor will reset any **Node** or **Influence** back to its default value. If you select the Nodes for all the splines at one moment in the **Timeline**, you can Reset all the values back to their defaults, (which can be useful if you want to restore a clip back to its original state). Since you can select multiple Nodes, this button can be a pretty powerful tool. In the wrong hands, it can flatten a perfectly nice rolling spline.

DELETING NODES OR INFLUENCES

To delete a **Node** or **Influence**, select it and then either press the **Delete key** on the keyboard, the **Delete button** at the top of the Spline Editor, or Ctrl + x. If you have multiple items selected, you can delete them all at once.

NAVIGATION TOOLS

To jump from one **Node** or **Influence** to the next on a selected spline, you can hit the arrows that flank the **Keyframe button** at the top of the Spline Editor panel. Or you can use the keyboard shortcuts. Pressing the F1 function key on the keyboard easily accesses the following list of shortcuts for the Spline Editor.

COPYING AND PASTING NODES AND INFLUENCES

You can copy and paste **Nodes** and **Influences** within a spline, or even between splines. Highlight a spline, and then select the Nodes and Influences that you want to copy. Press Ctrl + c to copy them. Scrub the **Edit Line** to the location on the spline where you want to paste them. Press Shift + Ctrl + v to paste the Nodes and Influences at the line.

If you want to paste them into another spline, select it and repeat steps 2 and 3. Of course, the splines should be compatible — that is, copying **X Angle** values to the **Y Angle** spline and not to the **Size (%)** spline (though, you might imagine an odd combination like adjusting a **Volume** spline, and then applying it to **Brightness** or **Hue**).

NOTE: Usually, you paste Nodes and Influences after the last one that's already on the spline, but you can paste them anywhere on the spline with interesting results.

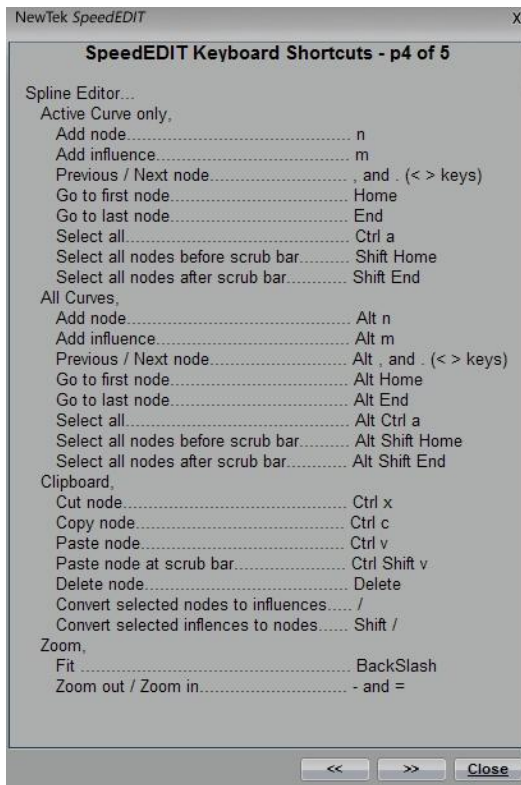


Figure 208

SPLINE CONTROL OF PLAYBACK SPEED

As was mentioned earlier, setting keyframes for the **Playback Speed** tool in the **Control Tree** is a special case, because the spline must be created prior to setting any **In** and **Out Points** for the

clip in your project. (Let's just say, if a clip was in the Timeline and you animated its speed to zero, you could set the Timeline rippling off into infinity.) To explain how to adjust Playback Speed safely, let's ramp the speed of a clip from full speed down to half and then back up again.

Load a sample video clip with obvious motion into an empty spot on the Timeline (where it's not in **Ripple** contact with other clips.) Drag the **Out Point** of your clip to twice its normal length. Ignore the warning icon that says you are past the end of the clip.

Open up the **Control Tree** and expand **Layer Settings** to reveal **Playback Speed**. Scrub to the **In Point** of the clip; set a keyframe for Playback Speed at the default of 100.

Now setting the other keys isn't an exact science, as you'll see. Scrub to another spot a few seconds later on, and adjust Playback Speed to 50%.

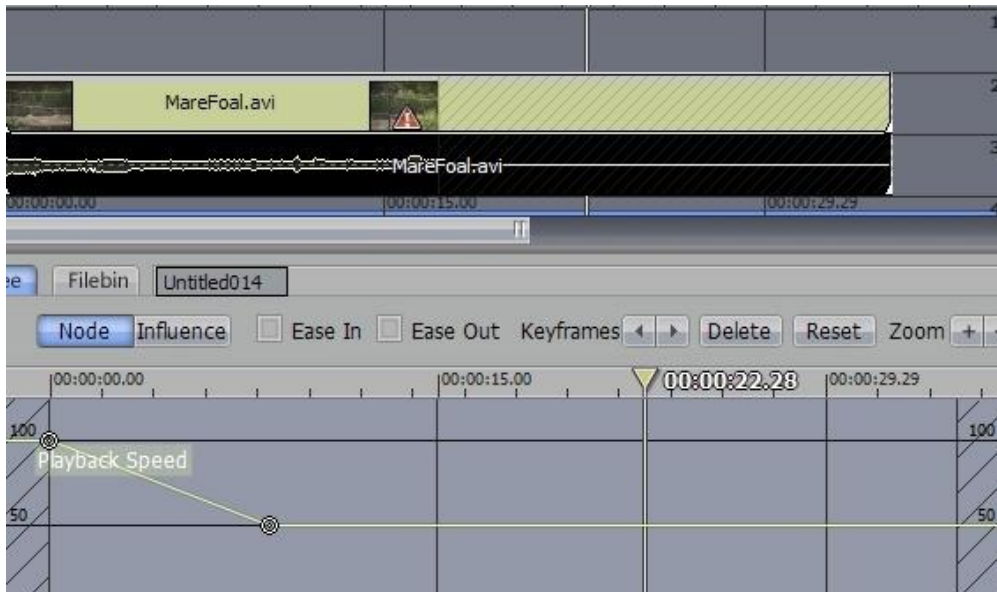


Figure 209

Play the clip. You'll notice that you have slowed the clip so that it takes longer to reach the point where you set the keyframe.

In the Spline Editor, you can drag the **Node** on the **Playback Speed** spline to the left or right to taste. Remember, if you hold the Shift key while you drag, you constrain your movement to one axis.

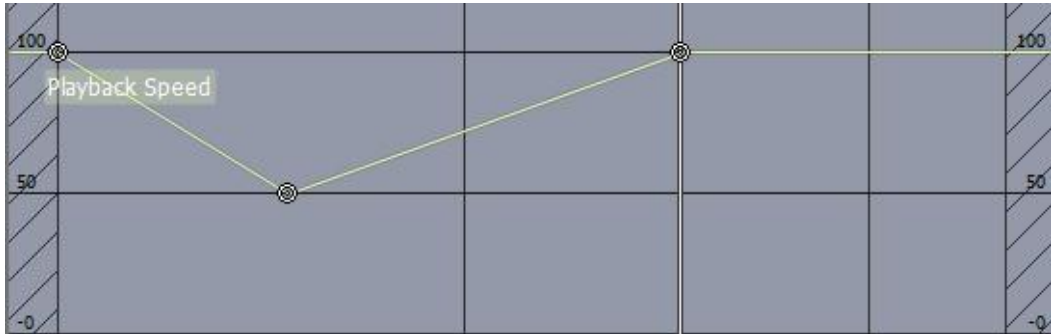


Figure 210

If you want the clip to speed back up to 100% at the end, scrub there and create a keyframe at 100. Play the clip back to test it. Then grab that last Node and move it back to where you see the clip end.

HINT: When you're dragging Nodes, make sure that you don't have unwanted ones tagging along. If you want to add other keyframes, you can see how you may have to realign Nodes with points on the clip.

When you have set the speed ramp, you can add other splines, such as for movement. Then adjust your In and Out Points to select the part of the clip that you want and insert it into your project. Just remember if you wish to readjust your Playback Speed spline, you should take the clip out of the Timeline, make your changes, and then put it back in.

12.24.4 SPLINE PRESETS

SpeedEDIT's **Tool Shed** is a powerful and flexible tool that can save and re-apply favorite splines. For example, you may be producing a project that requires you to pan and scan a series of fifty photographs in the same manner. If you could create the movement once and then apply it to all of the photos, it would be a tremendous timesaver. Some useful examples are stored as **Default Splines**. Let's test this.

First select some clips. At the top of the SpeedEDIT panel, click on the **Tool Shed** button. Then click on the box next to **Presets** to expand it, and open Default Splines. From the list, select one by clicking on the name to highlight it in blue. For example, choose **Psycho In** or, if you're not in the Hitchcock mood, try **Plain Blue Border**. In the **Apply Range Start** and **End** fields, you pick the part of the clip on which you will be applying the spline.

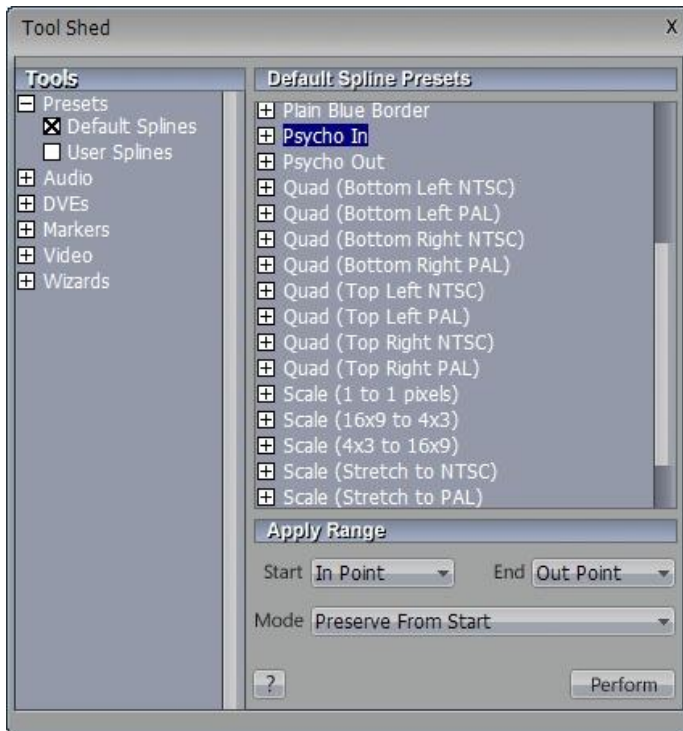


Figure 211

START OPTIONS

In Point — The Spline will be applied starting at the clip's In Point.

Current Time — This value can be used for either Start or End, though not for both at the same time. Current Time is indicated by where the Edit Line is placed on the clip.

Clip Start — This is the beginning of the clip. Even if your In Point is set a few seconds into your clip, if you choose Clip Start, the spline will be applied beginning here.

END OPTIONS

Out Point — The application of the spline will end at the clip's Out Point.

Current Time — Current Time is indicated by where the Edit Line is placed on the clip.

Clip End — This is the end of the clip. Even if your Out Point is set a few seconds earlier in your clip, if you choose Clip End, the application of the spline will end here.

MODE OPTIONS

Preserve — Only those spline nodes that fall within the time interval specified by Start and End are applied. The distance between the nodes is preserved.

Scale — The length of the spline increases or decreases to fully fit into the interval of time specified by Start and End.

When scaling starts at the In Point, the spline is scaled around the In Point. When scaling starts at the Clip Start, the spline is scaled at the Clip Start point. If your Start choice is Current Time, then the spline is scaled at the Out Point or the Clip End, whichever is selected in the End choice.

Click **Perform** and play the clip to see the effect. If you click on the box next to the spline title in the Preset list, you can expand the preset to see (and enable or disable) the **Control Tree** settings that are used in the preset.

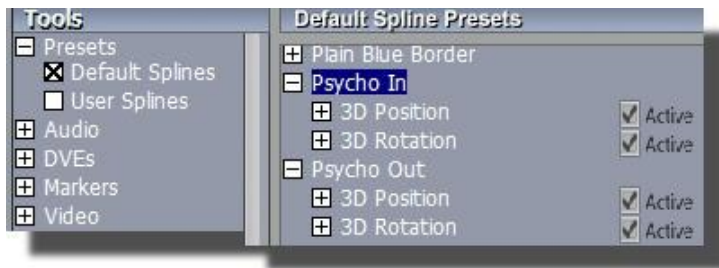


Figure 212

NOTE: The Default Spline parameters are provided for informative purposes. If you try to alter them, the changes will not be saved.

Of course, if you open the Control Tree and select the clip, you can see the exact settings and you can tweak the clip's splines that have been created by applying the preset.

TO STORE A SPLINE PRESET

The greatest power of spline presets is the ability to create and store your own splines so that you can recall them later or share with other editors. To begin, create your effect, which may consist of multiple splines.

Open the **Tool Shed**, and click on **Presets** and **User Splines**. Click **New**, and type in a title for your preset. Press **Enter** to store it in the User Spline Preset list. It's that easy. When you want to reuse it, select a clip, highlight the User Spline, adjust your **Apply Range** settings, and click **Perform**.

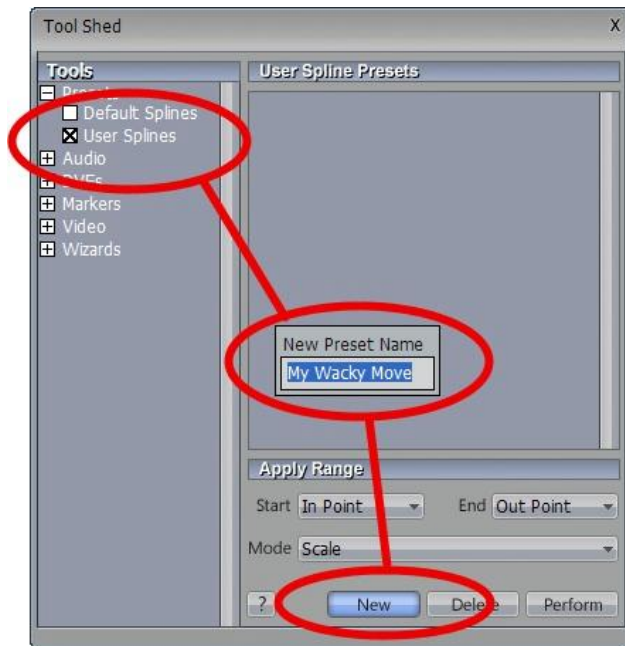


Figure 213

HINT: If you hold down the Shift key when you click New, you will only store the splines that are currently visible in the Spline Editor. Therefore, you can separate the general splines that you want to save as a Preset from other splines that may be specific to the clip you are working on.

When you are naming your **Presets**, try to title them with a uniquely descriptive name. It will help you in the future after you have stored a long list of Presets. User Spline Presets are stored in the directory called \\SpeedEDIT\User Data\my user name\Spline Presets\. The names have a .VT Spline Preset extension.

13 TITLING (CG POST)



Sure, “a picture is worth a thousand words”, but sometimes the opposite is true too.

Professional looking titles and graphics convey invaluable information, and SpeedEDIT makes it easy to create and even animate these in your editing projects.

SpeedEDIT includes the ability to create a title, or CG text page directly within the SpeedEDIT interface, and modified within the Control Tree.

The first step within SpeedEDIT is to add a CG **Effect** icon to the project timeline. These effects are installed in the \SpeedEDIT\Effects\Titles folder, and are based upon the type of text page desired: **Crawl Page**, **Scroll Page**, or **Title Page**.

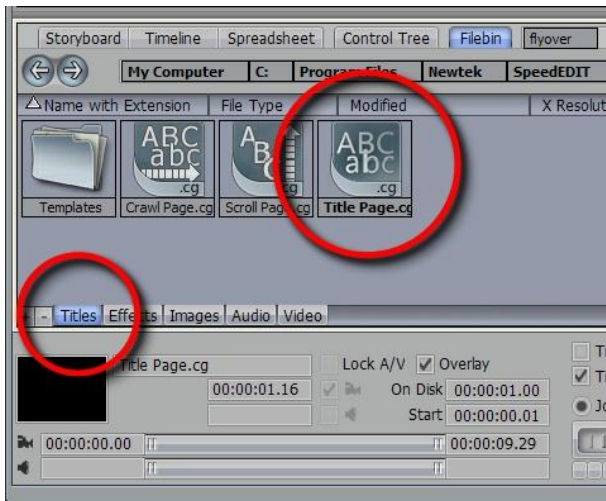


Figure 214

Begin by navigating to the **Titles** folder (the easiest way to do this is to click the titles **Quicktab** at the bottom of the **Filebin**.) Drag a **Title Page** icon into your timeline, and place it beneath a video layer. With the CG effect *selected*, set the other SpeedEDIT pane to **Control Tree**.

There is now a **Title Page** set of controls in Control Tree's upper-left window. These page properties are for adding motions to any lines of text or whole pages.

NOTE: You will also see Layer Properties listed above in the Control Tree's left-hand column, providing the full array of layer tools, even including color correction. This section provides the possibility of putting an extra 'spin' on your CG creations, as it were!

Clicking the + symbol next to **Title Page** will reveal the page type dropdown and options to apply motion to any lines of text. There are also options to lock any object to its screen position, when using scroll or crawl pages, and a per-object **Do Not Render** option, which will prevent that from displaying during display of the page. As you begin typing lines of text in the **Title Compose** window, a new control tree attribute, **Text**, will appear for each line at the bottom of the **Page** list properties.

There are **Page** and **Line Properties**, many of which share the same values.

13.1 PAGE PROPERTIES

13.1.1 PAGE STYLES

There are basically three types of CG pages available: **Crawl**, **Scroll** and **Title**.

- A crawl page is what you see moving across the bottom of your TV screen when there are weather warnings or program notes. This benefits both broadcaster and viewer since important information can be transmitted without completely disrupting the program.
- A scroll page is typically reserved for program credits, when a large amount of text is required.
- A Title page is a 'still', typically used for lower-thirds and titles where images or text all fit within one screen.

STILL

This style is used for lower-thirds and title pages not requiring motion or large amounts of text.

SCROLL U

This scrolls the text and images from the bottom of the screen up and out of view. CG is activated by adding a CG effect to the project

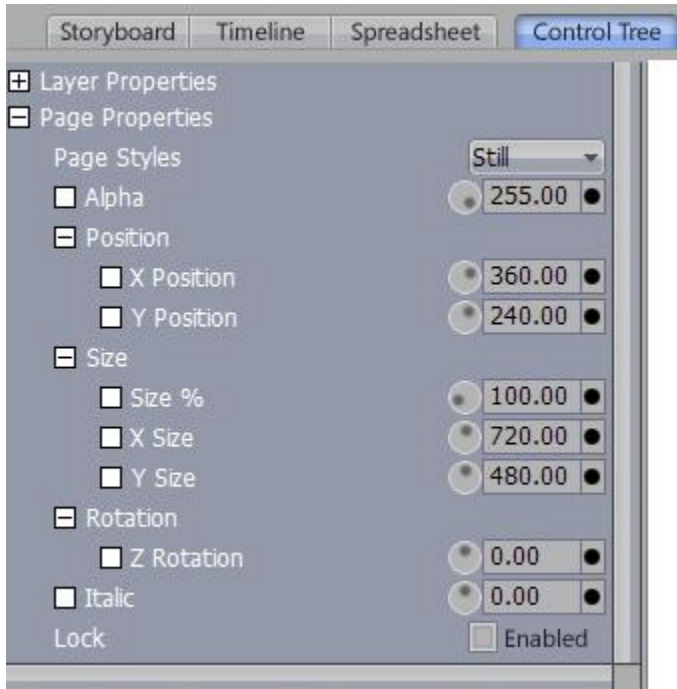


Figure 215

SCROLL D

This scrolls the text and images from the top of the screen down and out of view.

CRAWL L

This horizontally crawls text and images from right to left.

CRAWL R

This horizontally crawls the text and images from left to right, and is typically reserved for languages read in that direction.

13.2 CONTROL TREE OPTIONS

Endless controls are presented. You can separately modify (and keyframe) settings for the entire title layer, the title page (as a 2D object in the layer), and individual text or graphics elements on the page.

In large measure these controls work exactly like the clip settings discussed previously in Chapter 12, The Control Tree, but some special features are added for title pages.

13.2.1 PAGE PROPERTIES

The **Page Properties** group expands to provide some options particularly suited to title pages. Here you can use the **Page Styles** options to convert a **Still** page to a motion page that will **Scroll** or **Crawl** in either direction.

13.2.2 ITEM PROPERTIES

Individual **Control Tree** groups are added to the list for each text or drawing object added to the page. The options are largely familiar by now, but a few are worth mentioning.

One item that is unique to text objects is the **Lock**. When **Lock** is checked, the item that is selected will remain stationary, helpful when working with Motion Pages.

Several other useful text attributes are described next:

- **Reveal:** Keyframe this setting to make characters appear to be typed onto the title page over time.
- **Tracking:** Controls the spacing between characters on the same text line. This control is for global tracking throughout the text line, and can be keyframed. You can also manually kern by placing the cursor between letters, and, while holding down the Alt key, use the arrow keys to add or reduce spacing.

- **Leading:** Adjust the vertical distance (or overlap) of multi-selected (CTRL + click or drag a rectangle around objects in the preview window) or grouped text lines.

13.3 CG EDIT PANE

In the right-hand **Control Tree** column, you will find the **CG Edit Pane**, which provides a full color preview of your creation, in addition to numerous settings and interactive controls.

The **Edit Pane** has a number of specialized panels to assist you with various CG attributes. These panels are accessed using the tabs along the bottom of the right-hand Control Tree pane.

13.3.1 BASIC EDITING TOOLS

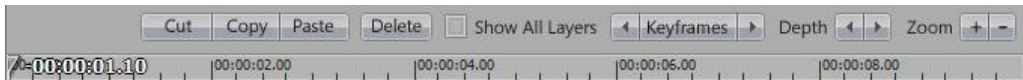


Figure 216

There are buttons on the top of the CG panel for the basic editing tools: **Cut**, **Copy**, **Paste**, **Delete**, **Undo**, and **Redo**. The traditional Windows keyboard shortcuts also work:

- Cut — **Ctrl + x**
- Copy — **Ctrl + c**
- Paste — **Ctrl + v**
- Delete — **Delete** key

While not offered as buttons across the top panel, you have multiple instances of undo and redo, on a page-specific basis:

- Undo — **Ctrl + z**
- Redo — **Ctrl + y**

SHOW ALL LAYERS

When checked, **Show All Layers** will show the CG text and objects, along with any background layers if transparency is used on the page.

KEYFRAME

The **Keyframe** button is on the upper right of the panel, above the time bar. When you have set the video layer at the first frame of your sequence, click on the button to highlight it.

Notice that keyframes are made when you have not adjusted the tool, which, in turn, will allow you to change that value later without having to backtrack. You can now scrub across the local timebar to another point, modify any value, and it will automatically remember those settings at that time.

DEPTH

Object layers can be rearranged as a foreground or background element on a page with the Depth tool.

First, you select the object you want to move. Clicking the left arrow will drop the object one layer in the stack. Clicking the right arrow will raise the object one layer.

NOTE: It can be difficult to select a specific CG object when several overlap. As you glide your mouse over objects in CG Post's various display panes, the object that would be selected if you clicked at that moment is surrounded by a temporary (bounding-box) outline.

ZOOM

Zoom + - will increase or decrease the size of the CG preview window in Control Tree view.

13.3.2 TABBED PANES

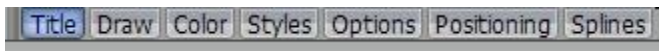


Figure 217

The seven tabs across the bottom of the screen give access to position and motion control as well as the CG page and character property controls.

SPLINES

This presents the same Spline Editor used throughout SpeedEDIT, which allows you dynamically adjust all parameters within the CG. (For details on manipulating splines, see Spline Editor page 8.81)

POSITIONING

While all attributes can be entered in control tree as a numeric value, in many cases it is easier to use the Positioning Panel to move it to the general location or orientation desired. This panel behaves identically to the visual positioning panel (For detailed functionality of the Positioning Panel, see Page 8.70)

13.4 CREATING CG TITLES

13.4.1 TITLE

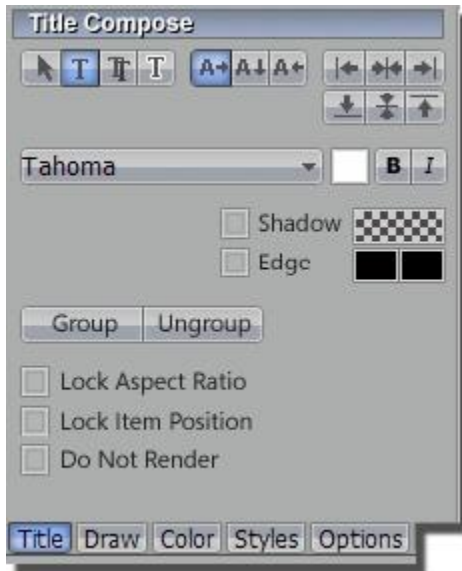


Figure 218

Click the **Title** tab at the bottom of the **CG Edit Pane**.

ARROW (SELECTION)



Figure 219

Clicking on the **Arrow** box activates the **Selection tool** (and switches off the Text tool). Unlike the previous selection method, this one is a more global technique because it selects the whole line and not just parts of it. If you have just typed something in, clicking the Arrow will create a box around what you typed.

Select the line by clicking anywhere on it. The mouse pointer changes when you roll your mouse around above the selection box.

When it becomes a two-headed arrow, you can click to grab an edge of the box and drag it in or out to resize the text.

When the cursor sprouts four arrowheads, which means you can click and grab the whole box to move it around the **Work Area**.

T (TEXT)



Figure 220

Click on the T Text box to activate the text function. Before you enter text, this box has to be highlighted. Click in the Work Area and an I-beam icon starts blinking. This is your Work Area cursor.

When you type, the I-beam is the insert point for the text. You can move the I-beam anywhere on the **Work Area** by clicking it with your mouse and dragging it around or just clicking your mouse on another spot in the Work Area.

SHADOW



Figure 221

Click on the Shadow button to change the selection box to a Shadow adjustment box. This time when you roll your mouse over the box, the cursor turns into a four-headed arrow or a two-headed lightning bolt.

If you grab one of the edges of the box and drag the mouse, you move the location of the Shadow in reference to the text, (expressed in X and Y axis values). You also can just click in the middle of the box and drag it. If you grab a corner, (the lightning bolt), and drag the mouse, you adjust the tilt or Italics of the Shadow by moving the X independent of the Y or vice versa.

BORDER



Figure 222

The **Border** button allows you to dynamically resize the edge width. This works in association with the Border status checkbox and inner and outer color selector (see below). Complete numeric controls for this are located in the Control Tree's **Colored Border** settings.

ORIENTATION

This selection of three buttons determines the direction that new text extends from the cursor either as you type, or after the line has been created. This is primarily designed to accommodate language fonts written for top-down or right-to-left orientation.

LEFT TO RIGHT



Figure 223

Left to Right creates each new character, as you type, to the right of the cursor.

TOP TO BOTTOM



Figure 224

The **Top to Bottom** orientation creates each new character, as you type, below the cursor.

RIGHT TO LEFT



Figure 225

The **Right to Left** orientation creates each new character, as you type, to the left of the cursor.

HORIZONTAL JUSTIFICATION



Figure 226

The **Horizontal Justification** buttons align text as are commonly found in word processing programs.

LEFT JUSTIFY

This button will align your text and move the beginning of the line(s) just inside the left edge of the Text Safe Area.

CENTER

This button will align the center of the line(s) with the center of the Safe Text Area.

RIGHT JUSTIFY

This button will align your text and move the end of the line(s) just inside the right edge of the Text Safe Area.

VERTICAL JUSTIFICATION



Figure 227

These buttons justify your text within the vertical Safe Text area of the screen.

TOP

This button aligns your text just below the upper limit of the Text Safe Area.

CENTER

This button centers your text vertically in the Text Safe Area.

BOTTOM

This button aligns your text just above the lower limit of the Text Safe Area.

GROUP AND UNGROUP

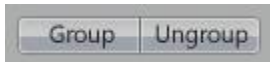


Figure 228

Even though each line is a separate object, you can select multiple lines and **Group** them together to act as one object. The **UnGroup** button undoes the union.

Hold down the Ctrl key while clicking multiple items or lines of text and press the **Group** button. The bounding boxes are now replaced by a single bounding box. Click UnGroup and the lines become separate entities again.

SHADOW



Checking **Shadow** activates the last used shadow settings, including offset, color and transparency. To choose a new color, click in the colored or checkered box to the right, which will bring up SpeedEDIT's **Color Picker**.

EDGE



Figure 229

The two boxes to the right of the Border button are where you choose the colors for the inside and outside edges of the **Border**.

Inside Color is the box on the left; **Outside Color** is on the right. Click in the box to bring up the **Color Picker**, or right-click in the box to activate the **Eyedropper tool** to easily copy an existing color from the work area.

LOCK ASPECT RATIO



Figure 230

When checked, **Lock Aspect Ratio** retains the text or object aspect when resizing. This can be activated after a text or drawing object has been resized. Grabbing any of the four corner handles with the mouse and dragging will ensure that height and width ratios remain the same.

NOTE: You have the ability to modify the aspect at any time, even with Aspect Ratio checked, by dragging either the top or side bounding box.

DO NOT RENDER

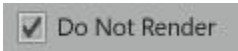


Figure 231

When checked, **Do Not Render** prevents the image from being displayed as part of the page when displayed or rendered.

NOTE: If an object is selected as Do Not Render, it will vanish if the Show All Layers option is checked.

13.4.2 DRAW

With the **Title Draw** tab, you can pick Drawing Tools that will create lines, ovals, rectangles, and freeform spline objects.

NOTE: The other features on this tab, (Select, Shadow, Border, Justification, Group, Ungroup, Lock Aspect, Lock Item and Do Not Render) work just as they do in the Title Compose tab explained above.

LINE



Figure 232

To make a straight line, you simply click in the **Work Area** where you want the line to begin and then drag the mouse to where you want the line to end.

RECTANGLE



Figure 233

The **Rectangle** button creates outlines of four-sided objects.

FILLED RECTANGLE



Figure 234

This tool works just like the Rectangle tool except it fills in shape with the same color as the outline.

ARC



Figure 235

In the second row of Drawing Tools are variations of ovals. With the first, you can create *segments of arcs*.

OVAL



Figure 236

The **Oval** works just like the Rectangle tool. You click and drag in the Work Area to draw out your shape.

FILLED ARC



Figure 237

The **Filled Arc** operation is the same as the Arc tool (see above). The only difference is that the arc created is filled in. Think of the Filled Arc as the pie chart tool.

FILLED OVAL



Figure 238

This tool works like the **Filled Rectangle**.

SPLINE



Figure 239

Spline is the nearest thing to a freehand draw tool that the Character Generator offers and it's editable.

CLOSED SPLINE



Figure 240

The technique for the Closed Spline is like the Spline — you click in the Work Area, release the mouse and move to the next spot and click again to establish a node. With this tool, as soon as you create that node, it's connected to the anchor point automatically creating an enclosed object. When you're finished creating nodes, you double-click to establish the object.

CLOSED FILLED SPLINE



Figure 241

This tool works just like the **Closed Spline** tool except it fills in shape with the same color as the outline.

POLYGONAL LINE



Figure 242

This tool functions like the Spline except it doesn't create a curve between the nodes. You click in the **Work Area** to establish your anchor point, release the mouse and move to your next spot, and click to create a node. A straight line will connect the two points. Move and click again and a line will connect this point with the previous one.

With this tool, a sharp angle is maintained at the intersection of the lines. You double-click at the last point to finish.

POLYGON



Figure 243

This tool works like the **Polygonal Line**, except as soon as you create the first node, it's connected to the anchor point, automatically creating an enclosed object.

FILLED POLYGON



Figure 244

This tool works just like the **Polygon** tool except it fills in shape with the same color as the outline.

13.4.3 TITLE COLOR



The **Color** tab provides the basic characteristics for coloring and texturing objects. If you wish to have more subtle numeric control over attributes, it must be done in Character Generator.

SELECTION, LINE & CHARACTER

If you have multiple lines of text on a page, you can choose how the texture will be applied. **Selection** automatically sizes the texture to on everything selected.

Line applies the texture independently to each line, automatically sizing to the line. **Character** applies the texture independently to each character, automatically sizing to the character.

Figure 245

EDIT

There are three choices in the Edit drop-down menu:

- **Fill** selects colors used in the body of the font or object.
- **Edge** determines the colors used in the font or object edges
- **Shadow** determines the colors used in the font or object shadows

TYPE

You can choose from six different types of texture. **Solid** applies a single source to the surface. When you pick one of the middle four options, (**Linear**, **Corners**, **Angle**, or **Radial**), you are applying the current gradient color. **Linear** applies the Gradient color in a straight left-to-right pattern. **Corners** will apply the gradient color starting at the upper left corner diagonally to the bottom right. **Angle** applies the Gradient color starting at 3 o'clock and rotating 260 degrees

counterclockwise. Radial applies the Gradient color starting at the center of the surface and emanating to the edge. **Texture** applies an image map to the surface.

ROTATE

This rotates the image map or the gradient, and is expressed in degrees.

PRESETS

The **Presets** bin is specific to the **Type** of color mapping selected above. **Solid** will only display solid color swatches in the bin, but **Linear**, **Corners**, **Angle** and **Radial** will show the saved **Gradient** presets. **Texture** will display the loaded image maps.

Clicking on the drop-down panel just above the **Presets** bin allows you to choose an image map or load a new one from any directory on your workstation.

13.4.4 STYLES



The **Styles** tab shows a range of default styles that you can apply to both text and objects. Each style typically defines the **Fill** and **Edge** colors, and often includes the **Shadow** color.

ADD STYLE & REMOVE STYLE

If you create a text or drawing object you are happy with, the Styles bin allows you to add that to your arsenal by clicking **Add Style**.

If an included style is not relevant to your projects, you can select it in the bin, and click **Remove Style**.

Figure 246

13.4.5 OPTIONS

SAFE AREA

Checking **Safe Area** will overlay a simple white cross hair and two boxes on the Character Generator work area. (The outer box is barely visible.) The Safe Area gives you a guideline for placing action or text so that it appears properly on a television monitor.

WIRE FRAME

The Wireframe feature, when checked, simplifies the Layout by displaying text and graphic elements as wireframes. When you are creating very large scroll pages, Wireframe also provides the best screen refresh rates. If you have images on your Work Area, they will disappear in Wireframe mode. This look will not be reproduced as output.

CHECKERBOARD

Enable this switch to show a checkerboard background anywhere that the current title page is transparent.

13.4.6 GRID AND GUIDES

SHOW GRID

To assist in composing and aligning text and graphics, you can customize a grid that overlays your **CG Work Area**. The **Grid** is just for reference and does not show if you save the CG page

GRID SIZE

The Grid Size checkbox has two size windows: the slider on the left spaces the vertical lines horizontally. The slider on the right spaces the horizontal lines vertically.

The units are pixels. So if you want a grid of 10 by 10 lines, you would enter 72 (pixels) in the left box and 48 in the right, (for NTSC 720 x 480 output).

SNAP TO GRID

If you checkmark **Snap to Grid**, the edges of your text or graphics box will snap to the intersection of grid lines when you move the box close to the lines.

SHOW GUIDES

Show Guides is simply an additional alignment assistant. Like the **Grid**, **Guides** do not appear if you save the CG page.

SNAP TO GUIDES

Snap works the same with **Guides** as it does with the **Grid**.

CLEAR ALL GUIDES

If you wish to **Clear All Guides** on the page, this button does the trick in one click.

ADD VERTICAL GUIDE

Clicking **Add Vertical Guide** will create a faint vertical blue line across the CG work area. If you mouse over this line, the cursor changes to a double arrow pointing left and right. Click and drag the guide to the location of your choosing.

ADD HORIZONTAL GUIDE

Clicking **Add Horizontal Guide** will create a faint horizontal blue line across the CG work area. If you mouse over this line, and the cursor changes to a double arrow pointing up and down. Click and drag the guide to the location of your choosing

13.4.7 SCROLLS AND CRAWLS

Motion pages have special requirements, which are addressed by the following option.

13.5 CG TEMPLATES

Open one of SpeedEDIT's panes to the **Filebin**, and click the **Titles** Quicktab at the bottom of the pane. Locate and open the **CG Templates** folder. Here you will find a large number of professionally designed pre-built CG templates to give you a great head start on your titling and graphics work.



Figure 247

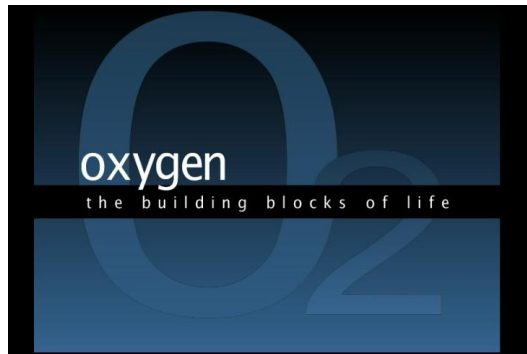


Figure 248

Simply drag one of the template icons, such as page056.cg (used in this example) onto your Timeline window, beneath any clips resident there. Voila – a great looking CG plate that only requires a little tweaking to suit another purpose entirely.

Select the CG icon in the Timeline, and open the **Control Tree**. Then proceed to modify the text as you please, using the controls and settings discussed earlier in this section. It doesn't get much easier (or faster) than this.

Note: The templates supplied, although possibly designed for a 4:3 aspect project, will stretch to fit your current mode. However this may require you to tweak the proportions of some objects and text in the result, in order to avoid undesirable squashing.

PART III (APPENDICES)

A time-saving question and answer section, followed by an extensive listing of Shortcut Keys, schematic diagram and keyword index ...

APPENDIX A - KEYSTROKE SHORTCUTS

13.6 CAPTURE

Record/Stop	Enter
Pause toggle	Spacebar
Chop recording	Backspace
Reset (Clear) recording	Delete key (when recording)
<u>DV Deck Control</u>	
Reverse Shuttle	J
Pause / Play	K
Forward Shuttle	L
Rewind	Shift + J
Stop	Shift + K
Fast Forward	Shift + L
One Frame Back	Alt + J (when paused)
One Frame Forward	Alt + L (when paused)
Go to Time position	Ctrl + G

13.7 EDIT/PLAY

Play/Stop	Spacebar (or K)
Preroll and Play	Shift + Spacebar
Backwards/Forwards	J / L
Rewind/ Fast Forward	Shift + J / L
Stop/Go to start	Ctrl + K
Go to Time position	Ctrl + G
Go to Start/End of project	Home / End
Step through clips	Up / Down arrows
Step through clips and zoom (timeline)	Shift + Up / Down arrows
One Frame Back	Left Arrow... 1 or Alt + J
One Frame Forward	Right Arrow... 2 or Alt + L
Five Frames Back	Shift + Left Arrow... or 3

Five Frames Forward	Shift + Right Arrow... or 4
One Second Back	Ctrl + Left Arrow
One Second Forward	Ctrl + Right Arrow
Adjust Offset (-/+ 1 frame)	Alt + Left/Right Arrow

13.8 DRAG AND DROP...

Clone	Ctrl + drag
Inherit	Alt + drop item
Preview in and out points	Alt + rollover

Storyboard Only – Drag/Drop...

Change in/out points	Alt + drag
Change in/out points... audio only	Ctrl + Alt + drag
Slip and slide	Shift + Alt + drag

Timeline Only – Drag/Drop...

Change in and out points	Drag Crouton edge
Stretch (speed)	Alt + drag edge
Slip and slide	Shift + Alt + drag
Change length of DVE	Drag DVE edge
Change in and out points of DVE	Shift + drag DVE edge
Slip and slide DVE	Shift + Alt + drag DVE
Set current time marker	Shift + Click
Pan through project	Right Click + Drag Left/Right
Zoom in/out of project	Right Click + Drag Up/Down
Slowly pan or zoom project	Ctrl + Right Click + drag

13.9 IN/OUT POINTS...

Note: if no clips are selected... these use nearest clip to current time

Mark In/Out Point	I / O (or E / R)
--------------------------	------------------

Mark In/Out then review	Shift + I / O
Clear In/Out Point	D / F (or Alt + I / O)
Clear Both In and Out Points	G (or Alt + P)
Go to In/Out Point	Q / W
Preroll before In/Out and play	Shift + Q / W
Adjust In Point	Q + Left/Right Arrow
Adjust Out Point	W + Left/Right Arrow

13.10 MISCELLANEOUS

LED Normal/Time Remaining	;
LED Local/Total Time	Shift + ;
Fades... Insert Range	Alt + F
Toggle Overlay on and off	Y
Clip Properties	F8
Tool Shed	F9

13.11 TIMELINE TOOLS

Cut (Razor) at edit line	C
Cut to selected clip (Multicam)	Z
Constrain to vertical dragging only	V
Zoom and center Timeline view	=
Add Marker	M
Go to Previous/Next Marker	, / . (< > keys)
Toggle Timeline Ripple	T
Disable Timeline Ripple	Shift + T
Fit display to current clip	Enter
Fit Whole Project	Backslash
Center display around edit line	Backspace

13.12 GENERAL CLIPBOARD

Cut	Ctrl + X
Copy	Ctrl + C
Paste	Ctrl + V
Undo	Ctrl + Z
Redo	Ctrl + Y
Delete	Delete

APPENDIX B – ADVANCED FILE CONFIGURATION

SpeedEDIT provides a diverse array of presets for you to choose from when rendering, but if you are a dedicated tweaker who wants to go deeper, here is an introduction to the key functions of the Advanced File Configuration panel:

NOTE: The panel shows the same options no matter which codec is in use. Hence, certain options, although displayed, will be irrelevant (such as changing bitrate in a DV clip) and will consequently be ignored during rendering.

13.13 BITRATE OPTIONS

With CBR, set min, max, and avg as the same - otherwise a variable bit rate will result.

VBV buffer size – (video buffer verify): if you set the min & max to anything other than zero or don't specify a value, the default is 448. This sets buffer size in the stream (some MPEG formats like VCD use 40KB...DVD uses 224KB).

2-pass – enable or disable two-pass rendering. When enabled, rendering takes noticeably longer, but generally results in greater precision for a given bitrate or file size.

Intra-frame options turns on or off. The recommendation for NTSC DVD files is 15. For PAL, use 12. HDV variously uses is 15 or 6.

Max B-frames is the number of consecutive b-frames that appear between non b-frames. 2 is the most common setting (DVD, HDV). The usual sequence is IBBPBBPBBP (to the end of the group) This applies to MPEG-1, MPEG-2, MP4 and even flash

FourCC: is the four-character code header for the video stream. You can, for example enter divx in this window, and the DIVX codec will recognize it as such. MP4 version 3 requires "MP43" as a valid header.

Pixel format – defines the colorspace to be used. Some codecs don't offer this option, or only list one, hence do not permit changes.

13.14 ADVANCED TAB

This is primarily for MPEG, and is perhaps the most confusing. Provisions permit you to tweak video quality, compression rates, and how strictly you want the codec to conform to the bitrate.

Min/Max Quantize scales – MPEG has a scale ranging from 1 to 51. Lower values result in higher image quality. Using the minimum value of 1 is not recommended, as some decoders won't recognize it. 2 is the minimum default. A good max range is 10-31, although 1-51 is 'legal.'

Difference between quantizer scales is the maximum difference between consecutive I or P frames. When the scale is moving from an I to a P frame, this limits the amount of adjustment permitted within that range.

Quantizer scale compression – ranges from 0 to 1.0. Lower values result in stricter adherence to the CBR.

Quantizer scale blur – value of 0 to 1.0. Larger values average the quantizer change over greater time.

QP Factor – plays a part offsetting between I and P and P and B frames.

Lagrange Factor – controls the lagrange multiplier for (bit) rate control. The settings limit the weighting factor, balancing rate vs. distortion. This also limits the quality. The minimum recommended setting is \leq minimum quantizer scale.

Intra DC Precision – can be set to 8, 9 or 10 bits. DVD is usually 9-bit.

Standards Compliance permits bypassing certain set encoder rules that are expected (for example, MPEG can only have certain framerates). The renderer can violate a standard the encoder is expecting, and process the file anyway. While available for experimentation, it's not recommended for production use.

13.15 FLAGS

Bitexact is for testing algorithms, and should remain off

Closed GOP is there for editing, and results in B frames not looking to the next I frame for information

Trellis Quantization – recommended it be left on

Rate distortion optimization CBP (Coded Block Pattern) lets CBP minimize the distortion. Use of this is in conjunction with Trellis Quantization.

Always try... (Macro Block) (motion vector) encode each macro block with the motion vector starting at <0,0> and choose a better one. When doing the motion vector between P and B frames, the codec will reset at the beginning instead of starting where it left off last time. This increases render times but helps in choosing better motion vectors and improves rendered video quality.

Strictly Enforce GOP size (that had been selected in Frame options earlier) it can produce a small improvement in video quality.

13.16 ALGORITHMS TAB

(Probably the least changed options...) Default settings are already at the best quality. Move along, nothing to see here. The settings that are on auto will choose the best for your system, and deal with MMX or SSE optimization.

Macroblock decision mode has three options. It takes the image and divides it into 8x8 blocks for DCT operations.

Simple – probably the least intelligent option and will try to choose the mode that uses the fewest bits.

Rate distortion – is probably the most commonly used mode. Most SpeedEDIT presets use this.

Matrix – intra-DC and non-intraDC matrix options

File comments –if the format supports it (QT, WMV) this comment will be added into the file stream.

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