

EditWell

THE **INTERACTIVE** NEWSLETTER
FOR **FINAL CUT STUDIO**

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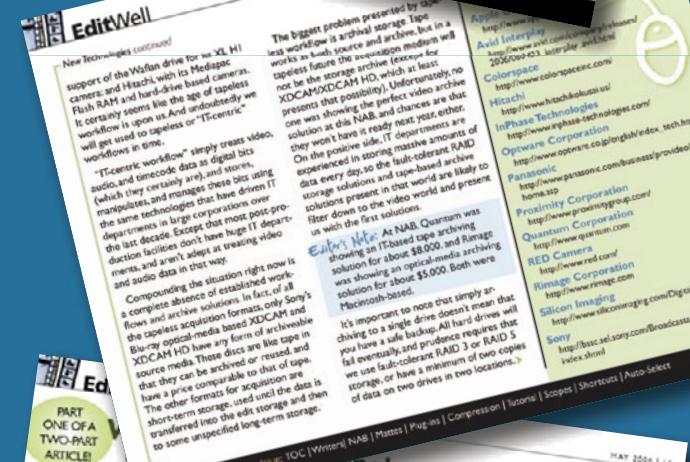
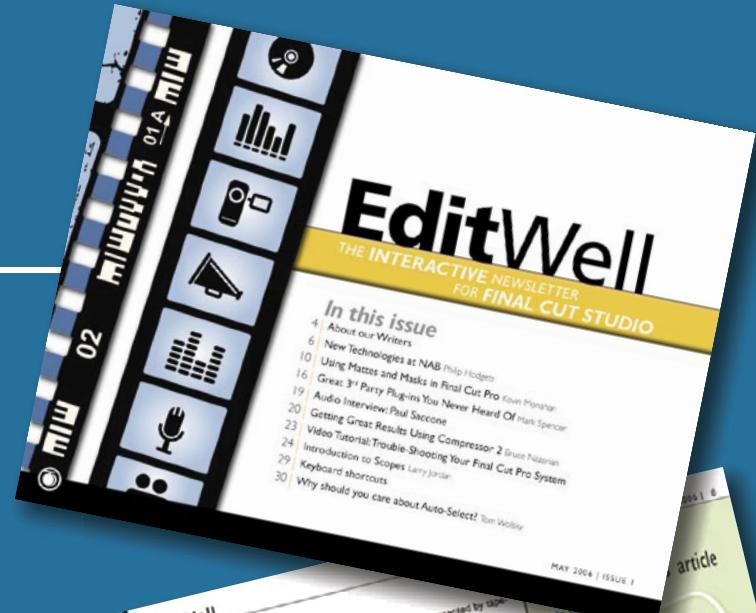
THE INTERACTIVE NEWSLETTER
FOR FINAL CUT STUDIO

The first interactive newsletter on
Final Cut Studio created for pros like you!

Brought to you by Peachpit in collaboration with author and Apple Certified Trainer Larry Jordan, *Edit Well* is an authoritative, in-depth resource for Final Cut Studio users.

Sign up today and get 12 issues for \$59.99! *Edit Well* promises to bring you:

- Video tutorials to help you maximize your Final Cut Studio skills
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- Original cutting-edge articles written by Final Cut Studio experts, including Tom Wolsky, Philip Hodgetts, Bruce Nazarian, Kevin Monahan, Mark Spencer, Noah Kadner, Alexis van Hurkman, and Graeme Nattress
- Timely insider information that can be found nowhere else!



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Editor's Notes

Welcome

Welcome to *Edit Well* — the interactive newsletter for Final Cut Studio!

I am delighted to join with Peachpit to create this newsletter for the serious Final Cut user. I specifically want to thank Nancy Ruenzel and Jennifer Bortel at Peachpit for their support and encouragement.

As both a video editor and teacher, I've found that it's easy to get overviews and product information from the Internet or monthly magazines. But it's very, very difficult to find accurate, well-written, and in-depth help on how to use the advanced features of Final Cut Studio successfully.

That's where *Edit Well* comes in. Look through the pages of this premiere issue and you'll discover articles from Tom Wolsky, Bruce Nazarian, Kevin Monahan, Mark Spencer, and Philip Hodgetts—leading-edge writers with world-class reputations and a deep understanding of how to use Final Cut.

Plus, we're taking advantage of our online delivery to include audio and video elements. For instance, in this issue we have audio interviews with Paul Saccone, Apple product marketing manager for Final Cut Studio; and Kym Rogers, manager of AV Central,

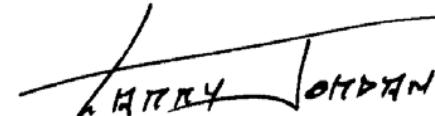
an Apple Pro-Video dealer in Adelaide, Australia; plus a video tutorial showing you how to optimize your system for Final Cut. You can play these elements by clicking the appropriate buttons on Pages 19 and 23.

Each issue contains focused, in-depth articles, keyboard shortcuts, audio interviews, video tutorials, and a wide variety of tips and techniques you can use to edit faster, with better quality, and improve your editing skills so you can get a step ahead of the competition.

I am very interested in what you'd like us to present, because everything we cover is designed to help you make the most of Final Cut Studio. Share your opinions with me at editor@editwell.com.

Finally, in order for this newsletter to succeed, we need you to [subscribe](#). We have a special introductory price of \$59.99 for a full year of 12 issues. If Final Cut is important to you, we believe this newsletter is a worthwhile investment in your career.

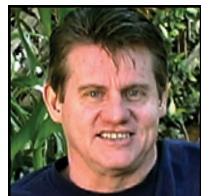
This is going to be fun. Welcome to *Edit Well*!



Larry Jordan



About Our Contributors

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Visionary and technologist Philip Hodgetts is the managing editor and primary host of Digital Media BuZZ and the president of Intelligent

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Larry Jordan is a consultant and Apple Certified Trainer in Digital Media with more than 25 years' experience as a television producer, director,

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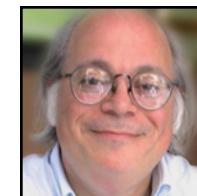
Mark Spencer is a freelance producer and editor working in the San Francisco Bay Area. His production company, Day Street Productions,

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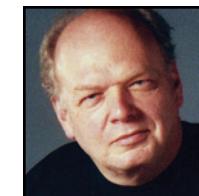
Kevin Monahan is a video editor and motion graphics artist living in San Francisco. He is the president and co-founder of the world's

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**Tom Wolsky**

Tom Wolsky is a former ABC News producer and operations manager in London and New York. He now has a boutique

production company in northern California and has been teaching FCP since it came out. He teaches for Digital Media Academy and has written a number of books, articles, and DVDs on Final Cut Pro, Final Cut Express, video production, and video journalism. Visit his website at www.SouthCoastTV.com.





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Articles are written for Final Cut Studio version 5.0 or later, unless otherwise noted.

Coming Next Issue:

Noah Kadner:

Shooting Tapeless: Panasonic P2 Workflow

Alexis Van Hurkman:

Show Me Some Skin: Secrets of Color Correction

Larry Jordan:

Mixing Your FCP Projects in Soundtrack Pro

Graeme Nattress:

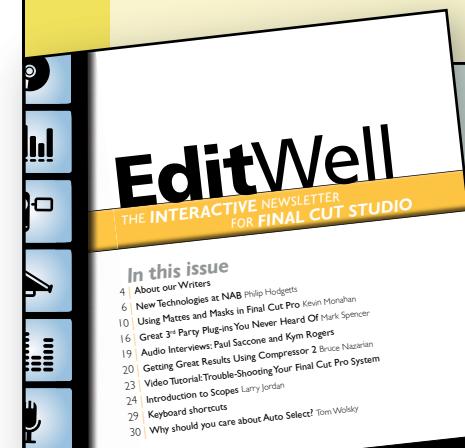
Creating Your Own Effects with FX Script

Mark Spencer:

25 Killer 3rd Party Plug-Ins—Part 2

Bruce Nazarian:

Check Your DVD Motion Menu IQ



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NAB 2006: The News You Need to Know

Three trends at NAB:

new camera
technologies

tapeless
workflow

digital asset
management

By Philip Hodgetts

Here's a quick update on the news of interest to Final Cut editors from the 2006 National Association of Broadcasters convention in Las Vegas. On the surface, this was a year without major announcements from Apple. However, under the surface three major trends were evident. First were new camera technologies, such as the RED camera. Second was a feeling that tapeless workflow, for all the unanswered questions, is starting to feel "real;" and third, related to tapeless workflow, is a rise in affordable digital asset management tools.

New camera technologies

The only really significant buzz around a single product this year involved the RED camera, a project backed by Jim Jannard of Oakley, Inc. fame, joined by noted Final Cut community personalities like Ted Schilowitz (formerly AJA's Macintosh product manager), Graeme Nattress (Nattress Productions plug-ins), and Frederic Haubrich (Lumière HD). While it's an ambitious project to develop a ultra-high-resolution camera with a planned price of \$17,500 for the basic camera body, the team behind the camera makes it believable. But, RED wasn't alone.

Silicon Imaging was showing a prototype, with images, of their new "cinema class" 1920 x 1080

camera. Like RED, this camera uses a CMOS-based imager and is designed to work with standard cinema lenses. Silicon Imaging is targeting 16mm PL-mount lenses, while RED is planning to support Super35 mm PL-mount lenses. The third offering, from Colorspace, is also positioning itself as a film-camera replacement, with both 35mm and 16mm equivalent offerings.

What these cameras have in common is imaging quality similar to that of the Dalsa/CineAlta/Viper, but at prices that make them affordable for mere mortals. All are targeting sub-\$30,000 pricing, depending on accessories.

This trend toward CMOS means that we need to rethink what we know about camera technology. First, these are single CMOS chips with Bayer Pattern filtering. This is the method that single-CCD chips use to derive color from a single sensing device, and has been considered to offer inferior color quality to three-CCD cameras. It's time to rethink that idea.

Neither the CMOS nor the CCD technologies are inherently superior. Both types were developed in the late '60s and early '70s, often by the same developers. CCD technologies have dominated because they were easier and cheaper to fabricate than CMOS. These days, advances in silicon technology have benefited CMOS, which has found growing >





New Technologies *continued*

application in digital still cameras and now in this new class of digital-cinema cameras. CMOS imagers are more complex to fabricate, but generally require fewer supporting components and less power than CCDs.

We'll also have to get used to working with much larger file sizes and images from larger sensors. Using images from large sensors is definitely a positive move – bigger is better for imaging – and larger file sizes have been coming for some time.

The third implication of new camera formats, for both these large-scale CMOS digital-cinema replacements and the more common sources such as Panasonic's HVX-200, is an explosion of formats: frame size and frame rate combinations that threaten to overwhelm us with flexibility. The HVX-200 alone has nearly 100 image size and frame rate combinations! The RED camera will support an almost infinite combination of frame size and frame rate. Gone forever is the simplicity of one-size-fits-all Beta SP or even Digital Betacam. Gone, too, is the idea that every editing package will be able to edit every video format. Staying current becomes even more critical as more and more formats are released.

In the future, we'll have to carefully consider the

most appropriate combination of quality and cost, of frame rate and frame size, that suits the project at hand. And then test, test, and test the workflow until (we hope) some later date shows us time-tested workflows.

Tapeless workflow

One thing is for certain: These new cameras will not be recording to good old videotape.

**The biggest problem
with tapeless workflow
is archival storage.**

For example, Panasonic extended the range of its P2-based devices this year; Sony showcased its tapeless XDCAM and XDCAM HD; Grass Valley presented its Iomega-sourced Infinity cameras; Canon supported the Wafian drive for its XL H1 camera; and Hitachi combined its Mediapac Flash RAM and hard-drive based cameras. The age of tapeless workflow is upon us, and undoubtedly we will get used to tapeless or "IT-centric" workflows in time.

"IT-centric workflow" simply treats video, audio, and timecode data as digital bits (which they certainly are), and stores, manipulates, and manages these bits using the same technologies that have driven IT departments in large corporations over the last decade. The problem is, most post-production facilities don't have huge IT departments, and aren't adept at treating video and audio as data. ➤





New Technologies continued

Compounding the situation right now is a complete absence of established workflows and archive solutions. In fact, of all the tapeless acquisition formats, only Sony's Blu-ray optical-media based XDCAM and XDCAM HD have any form of archiveable source media. These discs are like tape in that they can be archived or reused, and have a price comparable to that of tape. The other formats for acquisition use short-term storage to transfer the data into edit storage and then to some unspecified long-term storage.

The biggest problem presented by tapeless workflow is archival storage. Tape works as both source and archive, but in a tapeless future the acquisition medium will not be the storage archive (except, perhaps, for XDCAM/XDCAM HD). Unfortunately, no one was showing the perfect video archive solution at this NAB, and chances are that they won't have it ready next year, either. On the positive side, IT departments are experienced in storing massive amounts of data every day, so the fault-tolerant RAID storage solutions and tape-based archive solutions present in that world are likely to filter down to the video world and present us with the first solutions.

Editor's Note: At NAB, Quantum was showing an IT-based tape archiving solution for about \$8,000, and Rimage was showing an optical-media archiving solution for about \$5,000. Both were Macintosh-based.

It's important to note that simply archiving to a single drive doesn't mean that you have a safe backup. All hard drives will fail eventually, and prudence requires that we use fault-tolerant RAID 3 or RAID 5 storage, or have a minimum of two copies of data on two drives in two locations.

Looking forward a little, archive solutions based on Blu-ray or HD DVD optical media may be available by next year at reasonable prices; casting our vision a little further out, holographic storage may be the solution we're seeking. This year, Fujifilm was showing a 3.9TB variant of the Holographic Versatile Disc. (Separating "HDV" and "HVD" will certainly be confusing!)

Fuji was one of the partners in the HVD Alliance, building on technology originally developed by Optware, which also partnered with Toshiba this year. With storage capacity to spare and transfer speeds up to 40 times that of current DVDs (meaning about ➤

Links mentioned in this article

Apple Computer

www.apple.com

Avid Interplay

[www.avid.com/company/releases/ 2006/ 060423_interplay_avid.html](http://www.avid.com/company/releases/2006/060423_interplay_avid.html)

Colorspace

www.colorspaceinc.com/

Hitachi

www.hitachikokusai.us/

InPhase Technologies

www.inphase-technologies.com/

Panasonic

www.panasonic.com/business/provideo/home.asp

Proximity Corporation

www.proximitygroup.com/

Quantum Corporation

www.quantum.com

RED Camera

www.red.com/

Rimage Corporation

www.rimage.com

Silicon Imaging

www.siliconimaging.com/DigitalCinema/

Sony

bssc.sel.sony.com/BroadcastandBusiness/index.shtml





New Technologies continued

35–40MB/second), holographic technology could meet the needs of archival storage. The HVD is physically compatible with current DVD discs, so an upgrade path exists.

As in the Blu-ray vs. HD DVD battle, there is a competing offering. Maxell joined with holographic pioneer InPhase with a 30GB storage capacity drive, scheduled for release late in 2006. However, Maxell and InPhase's drive offers only a fraction of the storage capacity of HVD and a slower transfer rate of 20MB/sec.

Until either technology matures, protected RAID storage looks to be the most effective way to archive in a tapeless environment. Longer term... well, check back after the next NAB.

Digital asset management

Massive digital media archives present another problem: how to find files you need. Tape archives present their own access problems, but with multiple terabytes of data stored in even the smallest facility, over time, finding assets brings us to the final overarching theme at NAB 2006: digital asset management (DAM). As in “DAM(n)! Where did I put that file? I'd better find it or my asset is on the line!”

Asset management is going to become one of the most critical technologies in the tapeless workflow of the future.

DAM was a large part of the Avid Interplay story at NAB. A hybrid of shared media, asset management, workflow automation, and security control in a single system, Interplay currently suits only large facilities because it's built on Avid's Unity as a platform. Neither Apple nor Adobe had a new offering in digital asset management to match Avid. Apple was actively promoting Proximity's “artbox” for Final Cut Studio, and building on Xsan. Like Interplay, artbox provides collaborative access to assets (resolution-independent) and tight integration with the editing engine. artbox is relatively expensive, starting around \$25,000, although this is still less expensive than Interplay.

NAB 2006 showed that the proven technologies and workflows we've enjoyed are at an end, as is SD. Instead, we have a future with an almost infinite choice of frame size, frame rate, and acquisition media. As always, we still have to balance between quality and cost. How the media is stored and how it's found after being archived are relatively new problems still to be solved definitively. [EditWell](#)

Why upgrade to Final Cut Studio 5.1?

If you're a Final Cut Pro 5 user, you may be deciding whether to upgrade to version 5.1, especially as it costs money.

Paul Saccone, product marketing manager for Final Cut Studio, and Brian Meaney, product designer for Final Cut Studio, suggested several reasons to upgrade:

- Intel/Mac support
- Significant performance and speed improvements to Compressor
- Bug fixes and support for new video formats
- Tighter integration between FCP and Motion
- Very cost-effective way to upgrade from a single earlier application to the entire product suite

Click to hear an audio interview with [Paul Saccone](#) discussing the benefits of the 5.1 upgrade.



Great Visual Effects Using Mattes and Masks

By Kevin Monahan

At the very heart of video effects creation, you'll find mattes and mattes. Masks and mattes give you the power to shape and blend clips to form wholly new images, more commonly known as composites.

Mattes vs. masks

You may be wondering, "What's the difference between a matte and a mask?" The answer is "Not much." Mattes and masks both have the same effect: They create and control the areas of transparency in a clip. But there are two crucial differences between these two features:

A matte is most commonly a filter that controls areas of transparency within a clip. These filters define areas of transparency with parameters such as sliders and point controls. You activate mattes with **Effects > Video Filters > Mattes**. Use mattes if you need a filter with a simple shape.

A mask is an independent graphic or video clip (usually grayscale) lying on a video track between the foreground and background images. The mask serves the same purpose as a matte. To "unlock" this mask, you must use a composite mode such as Travel Matte Luma or Travel Matte Alpha. You can use a mask to create a more custom look than you can get with a matte, which has predefined parameters. (See Figure 1)

Matte filters at a glance

FCP has six filters that you can use to create mattes:

Garbage Matte. Allows you to create shaped mattes by manipulating point controls.

There are both four- and eight-point varieties, which are useful for cutting out oddly shaped items.

Extract. Takes the luma information of a clip and allows you to use it as a Travel Matte Alpha or Travel Matte Luma mask.

Image Mask. Works like a mask filter, in that you need to supply a separate mask image to make the blend.

Mask Shape. Provides basic matte shapes such as rectangle, rounded rectangle, diamond, and oval.

Widescreen. Used to simulate a widescreen effect with an adjustable viewing area.

Soft Edges. Makes a blended matte with built-in feathering, perfect for a vignette effect with edges that fade to the frame's border.

Now that you're familiar with the major players in matte creation, let's see how mattes create blended video imagery. ➤



Figure 1: This image is a composite made from two separate images. The foreground image (the woman) uses a shape mask and a Mask Feather filter. The clip has also been flopped, repositioned, and tinted.



Mattes & Masks continued

Matte, masks, and the alpha channel

You probably already know that the colors of digital video are created with a combination of red, green, and blue pixels. The red, green, and blue channels control the level at which each pixel displays. Each pixel also has the power to be transparent or opaque (solid). The channel that determines transparency is called the alpha channel. The alpha channel uses grayscale values to control whether a pixel is transparent, semi-transparent, or opaque.

When you're manipulating a matte or mask, you're actually controlling the alpha channel of a clip. Three values determine the areas of a clip:

- Black (fully transparent)
- Gray (semi-transparent)
- White (fully opaque)

See the alpha channel in action by doing the following:

1. Load a clip into the Viewer.
2. Change the **View** pop-up menu in the Viewer to Alpha. (Figure 2)
3. Your Viewer will now be white, representing the clip's full opacity. (By default, a clip's alpha channel is 100% white.)
4. Choose **Effects > Video Filters > Matte > Mask Shape**.

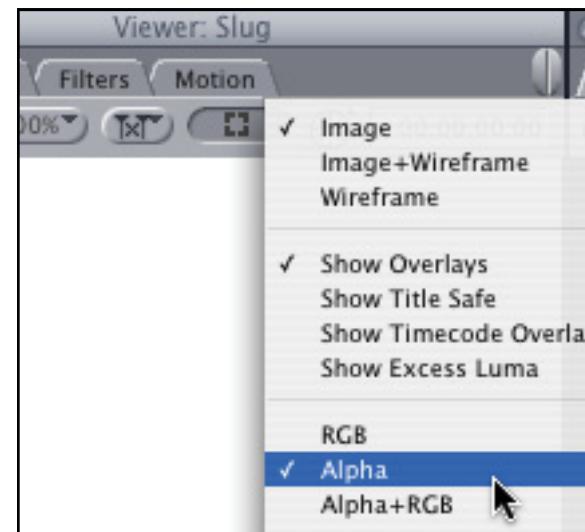


Figure 2: Select Alpha to view clip transparency.

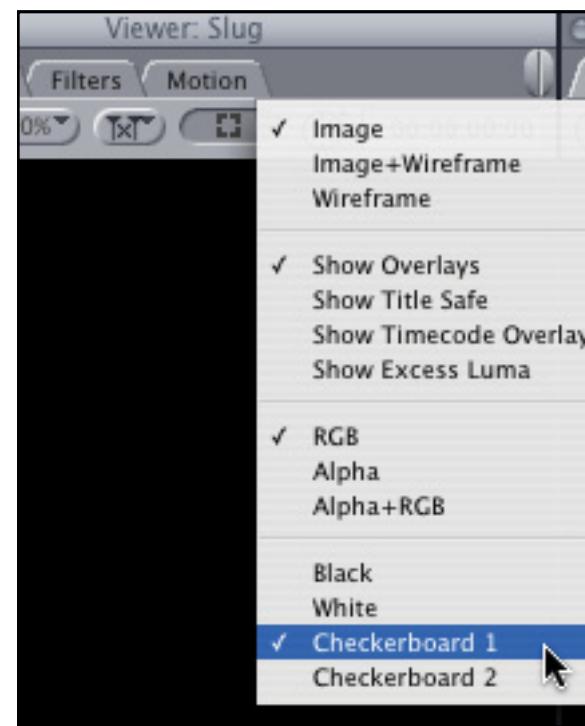


Figure 4: Viewing black text and effects is easy when the background is changed to Checkerboard 1.



Figure 3: Black represents 100% opacity in Alpha view. Notice that the alpha channel changes to a white rectangle on a black field. Black in this view represents an area of full transparency.

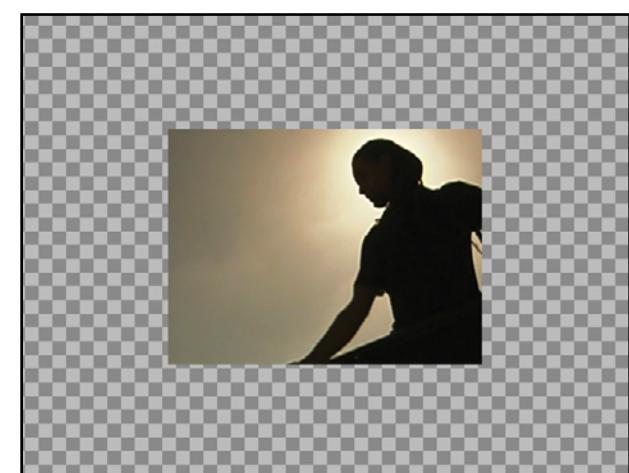


Figure 5: By switching to RGB view, you can easily see how the alpha channel operates. Notice that the area that was black in Alpha view is now transparent, indicated by the checkerboard background. The alpha channel controls the transparency of each pixel in the clip.





Mattes & Masks continued

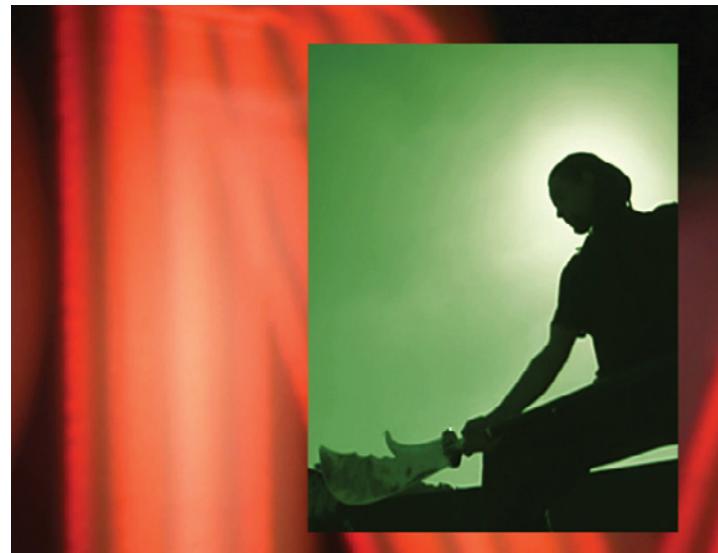


Figure 6: The foreground clip's matte is repositioned and horizontally scaled. The clip is also repositioned and tinted.

5. Change the View pop-up menu to **RGB** and the background to **Checkerboard I** (see Figure 4).

Using mattes

Now that you know what's going on behind the scenes, you can create a simple blending technique by putting a matte filter into practice:

1. Place a clip on V1 in the Timeline.
2. Edit a different clip on V2 directly above the V1 clip.
3. Double-click the V2 clip, loading it into the Viewer.
4. Choose **Effects > Video Filters > Matte > Mask Shape**.
5. Experiment with the filter's parameters on the Filters tab and watch what happens (see Figure 6).

You should now see a composite, which displays both the foreground image (defined by the



Figure 7: This Circle generator has the Wave filter added to it. Adding filters to generators is a creative way to make grayscale mattes within FCP.

transparency created by the matte) and background image at the same time. By changing the parameters, you can alter the shape and/or the position of the matte. Keep in mind that you can also reposition, scale, rotate, distort, or add a filter to the affected clip.

Tip: To avoid blurring when repositioning an image using interlaced video, be sure its vertical position on the Canvas is set to an even whole number. Set this in the Motion tab by adjusting the right-hand box in **Basic Motion > Center**.

Available masks in FCP

Where can you find masks in FCP? Actually, you can use generators such as Custom Gradient, Highlight, Particle Noise, Shapes, Boris Vector Shape, or even Title 3D to create a grayscale mask. You ➤





Matte & Masks continued

can spice up the look of the generators with the addition of a filter (see Figure 7), or stack two generators and apply a composite mode (Hard Light, Overlay, etc.) to the overlying clip, and then nest the two into a single graphics track. I've combined filters and composite modes for cool masks inside FCP. You can even create more complex static masks in Adobe Photoshop.

Mask techniques

We've already seen how to use mattes, so what's the technique for blending images using a mask?

1. Stack two clips on separate video tracks, placing the foreground clip on V3 and the background clip on V1.
2. Place the grayscale generator of your choice on V2 between the edit points of the V3 and V1 clips.
3. Select the V3 clip. Choose **Modify > Composite Modes > Travel Matte Luma**. (You can also change a composite mode by Control-clicking the clip and choosing the desired mode from the shortcut menu.) Figure 8 shows my result.
4. Make any necessary adjustments to the grayscale matte clip.

Note: The stacking order of the clips is important – background on V1, mask on V2, and foreground on V3. A common error occurs in applying the composite mode; you must apply it to the V3 clip (also called graphic fill), not to the mask itself.

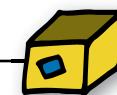


Figure 8: A Circle generator with the Wave filter applied serves as the V2 matte in this composite. The matte's edges undulate, as the Wave filter is self-animating.

Travel Matte Luma vs. Travel Matte Alpha

You may wonder when it's better to use one flavor of travel matte versus another. Here's the general rule: When a mask element has an embedded alpha channel, such as a Title Generator, Title 3D, or Boris Vector Shape, it's better to use Travel Matte Alpha. This mask is much cleaner than Travel Matte Luma.

For example, it's possible to create a black-and-white text generator for a mask element on V2 and apply the Travel Matte Luma composite mode to a clip on V3 for a simple "video in text" effect. If you use Travel Matte Alpha, however, the edges of the text will be sharper.➤



Trivia Bin

The alpha channel (along with other computer graphics milestones) was invented by the Lucasfilm Computer Division in the late 1970s.





Mattes & Masks continued

Animated mattes and masks

Mattes and masks don't necessarily have to remain static. Matte parameters can be animated with keyframes. Masks can be created with animated grayscale values. Doing either creates an "undulating" blended effect that you can use to create further custom effects. FCP generators combined with animated filters offer some interesting possibilities.

Tip: To readjust a point's position in a Garbage Matte or the position of a Shape Mask, return to the Filters tab and click the point control's button (the cross-hair) to reset it before moving it in the Canvas. Otherwise, you might nudge the entire image.

Feather and choker filters

Mask Feather and Matte Choker are two more filters in FCP's collection of matte filters. They aren't actually mattes or masks themselves, but tools to control the edges of the mattes. These filters add and subtract grayscale values from the boundary of the alpha channel, each in a slightly different way:

Mask Feather. Add this filter just below any matte filter in the Filters tab to soften the edges surrounding your clip or graphic. This technique lends a vignette effect to any image by adding a gradient ramp at the edges of the alpha channel. Almost every graphic will need at least a little feathering; just make sure that Mask Feather lies at the bottom of the filter stack.

Matte Choker. Add this filter just below any matte filter in the Filters tab, and you can subtly expand and contract the edges of the clip or graphics. This effect is achieved by adding or subtracting solid black or white to the edges of the graphic.

Tip: A matte choker is most commonly used to reduce, or "choke," the matte derived from a chroma key.

Compositing technique: blurry border

Here's a simple technique to add a blurry border to an image:

1. **Shift-Option-drag** the V1 clip upward to place an identical copy of the clip in the track above.
2. Turn off the visibility of the V1 clip by Control-clicking the clip and choosing **Clip Enable** from the shortcut menu (or press **Control-B**).
3. Apply a matte filter to the V2 clip; for example, **Effects > Matte > Mask Shape**. Try a few different shapes from the Shapes pull-down menu. Adjust the parameters as you see fit.
4. Add a Mask Feather filter to soften the edges.
5. Turn on the visibility of the V1 clip by Control-clicking the clip and choosing **Clip Enable** from the shortcut menu again (or press **Control-B**).
6. Apply a **Gaussian Blur** filter to the V1 clip (see Figure 9).▶





Mattes & Masks continued



Figure 9: Achieve a blurry border effect by stacking identical images and applying a matte to the upper layer and a Blur filter to the lower layer for a simple and elegant look.

The clip appears to have a blurry border, but what's really going on is that the two images have been altered by a matte on V2 and a Blur filter on V1.

Tip: A different look can be achieved in a similar way by using a color correction or tint applied to either or both clips.

Video-in-text effect

A simple video-in-text effect has the ability to send two messages at once: a written one and a visual one. Everyone should know how to make the following effect:

1. Place the clip you want to use as the background on V1.
2. Place the text generator you want to



Figure 10: To add a drop shadow to the effect, nest the travel matte effect first.

use on V2. (I prefer Title 3D and LiveType over the standard Final Cut text generators.)

3. Place the video you want to see within the text on V3.
4. Select the V3 clip.
5. Choose **Modify > Composite Modes > Travel Matte Alpha**. You should now see your video within the matte created by the alpha channel from the text generator. Add a drop shadow to the video in text. This is normally impossible to do because a drop shadow needs to use the "graphic fill," but is already being used by the V3 clip. You can get around this restriction by nesting the clips.
6. Select the clips on V2 and V3.

7. Nest them by selecting **Sequence > Nest Items** (Option-C).
8. Name the nest "Video in Text" and click OK. The clips collapse into a nest.
9. **Option-double-click** the nest to load it into the Viewer.
10. On the Motion tab, click the checkbox for Drop Shadow and adjust its parameters to get the look you want (see Figure 10).

Editor's Note: My favorite drop shadow settings are: Offset 1.5, Angle 135, Softness 30, Opacity 90.

You now have a pretty video-in-text effect that was created with the letters of the generator acting as mattes in a Travel Matte Alpha effect. Experiment with the different elements (such as animating the type or color correcting the graphic fill), if you like. You'll soon have some professional looks going on.

There are literally endless things you can do with mattes, masks, and the techniques with which to exploit them. This article discussed only three layers of images, but FCP has 99 video tracks available, and nesting increases that number to an astronomical amount. Keep stacking those layers of video and graphics and let your imagination run free. [EditWell](#)





Surviving the Jungle of 3rd Party Plug-ins

Part one of a two-part article!

By Mark Spencer

Final Cut Pro ships with 60 video transitions, almost 90 video filters, and 26 generators, but sometimes they just aren't enough to give you the specific look you want. Whether you want a different kind of transition, or you're going for a "film look," trying to pull a great green-screen key on some less-than-perfect footage, or otherwise manipulating your image, there's probably a solution out there for you.

Thanks to Final Cut's built-in FXScript effects language and a large community of Final Cut users and developers, a plethora of third-party plug-ins are available — the hard part is trying to sift through all the options to determine what's right for your needs and budget. So here's a two-part guided tour through some of the colorful jungle of third-party plug-ins for Final Cut Pro. In this issue, I'll discuss the free plug-ins. Next month, I'll present those that cost money.

So what is a plug-in, anyway?

A third-party plug-in is usually a bit of code written in FXScript that, when added to Final Cut Pro (see sidebar, *Installing Plug-ins*),



Figure 1: The Clock generator from TMTS plus the OCR font = instant digital clock.

appears as a brand new filter, transition, or generator in the Effects tab of the Browser. It can also be a full-blown application that "lives" inside Final Cut as a filter but has its own interface.

Free plug-ins every editor should have

Our first stop in the plug-in jungle is the free plug-in swamp — these are some of the free filters available for download that are worth looking over.

The free Too Much Too Soon (TMTS) filters from Mattias Sandström have been around since the early days of Final Cut Pro; there were 18 of them as of the time of writing. You get a mix of filters, transitions, and generators — check out the Clock generator if you need a digital clock, for example (see Figure 1). The Flashframe and the Wind

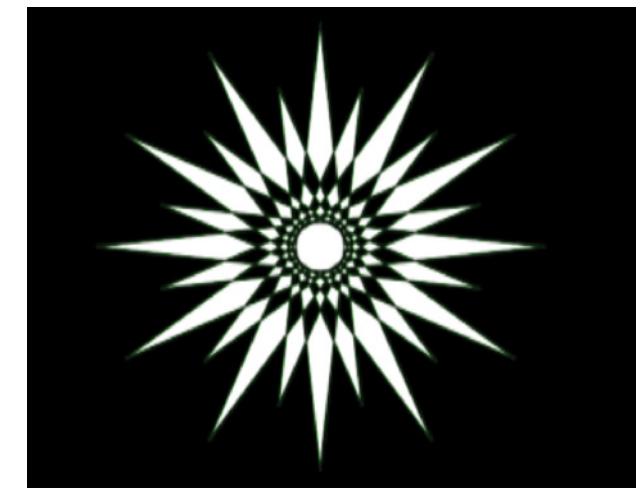


Figure 2: The results of using Stib's Star generator 2.0.

Blur/Cross transitions are interesting as well. There are a bunch more technically oriented filters for deinterlacing footage, removing scratches, chroma resampling, and anamorphic squeezing.

Another venerable old-timer to FCP is the Eureka! plug-ins. The free package contains 6 filters, 2 text generators, and a nice transition called Vapor Across.

Next up are Stib's free plug-ins, all recently updated for Final Cut Pro 5. You get 8 transitions, 13 filters, and 7 generators. The Star and Arrow generators are useful for ➤





Third-Party Plug-ins continued

quickly creating those shapes without going into another application (see Figure 2).

Want to create a vignette effect but you're frustrated using shapes, masks, and composite modes? Download Marcus Herrick's free vignette plug-in. You'll also get his Facelight plug-in.

Have a bunch of subtitles in Final Cut Pro that you want to get into DVD Studio Pro? No problem with Spherico's TitleExchange. A big time-saver, and the Lite version is completely free.

Looking to create a "film look" on your video footage, but don't have any budget for a more full-featured plug-in? Consider Perfectly Polite Pictures' QuickLook, which is currently in prerelease and therefore available for free. For other "film look" options, be sure to check out Film Effects and Magic Bullet for Editors, discussed below.

River Rock Studios offers three free plug-ins: Jitterbug, Chromatic Glow, and Day for Night.

At Lyric Media is a neat free plug-in called Shadow-Highlight that lets you open up shadows and reduce highlights à la the tool of the same name in Photoshop.

Feel restricted by Final Cut's lowly eight-point garbage matte? Tom Henderson hears your pain — and comes to the rescue with a 50-point Bezier Matte that allows for curves between points — and it's free.

Adam Wilt has created two plug-ins for blurring and offsetting chroma information. H. Chroma Blur is useful for footage that will be keyed; Chroma Offset is handy for correcting Y/C delay errors in analog footage.➤

INSTALLING PLUG-INS

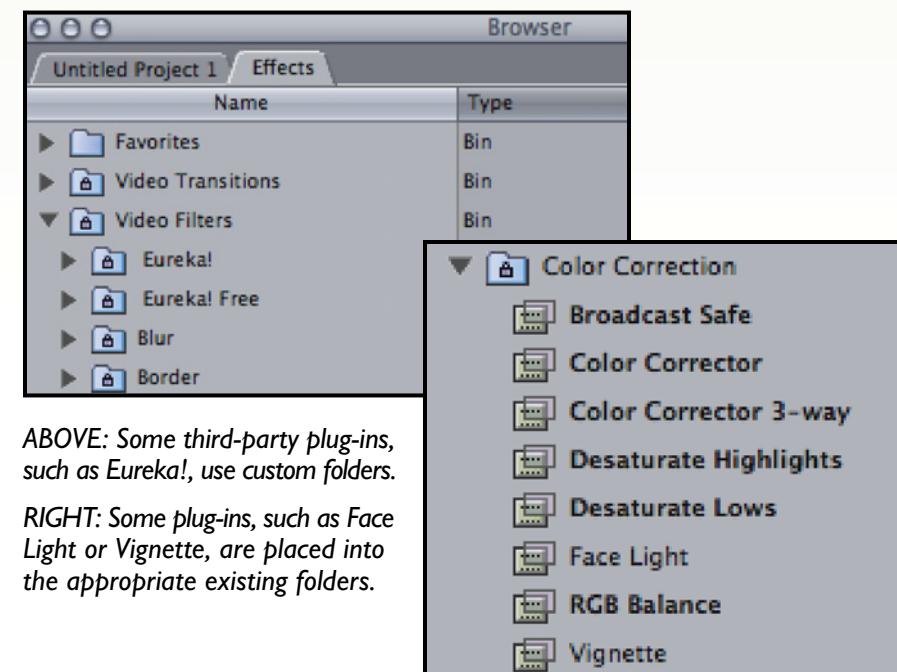
Where to put them and where to find them

All Final Cut Pro plug-ins are placed in the same location:

/Library/Application Support/Final Cut Pro System Support/Plugins

That's the Library of your root drive, not your user Library.

You'll need to quit and relaunch Final Cut in order to have access to your new plug-ins. To apply them, either go to the Effects tab of the Browser or to the Effects menu. Some third-party plug-ins create their own new folders; others are placed into an existing effects category: filters, transitions, generators.



ABOVE: Some third-party plug-ins, such as Eureka!, use custom folders.

RIGHT: Some plug-ins, such as Face Light or Vignette, are placed into the appropriate existing folders.



Third-Party Plug-ins continued



Figure 3: CGM's FXScript DVE flip transition.

are quite nice. If you don't have FCP 3, you can buy any of CGM's filters, discussed below.

With many of the free plug-in packages, you may find some that are useful and some that don't quite live up to your expectations. But don't throw the baby out with the bathwater — there are usually at least a few useful filters in each of the bundles above. As with anything that's free, instructions can be sparse to nonexistent, and not every plug-in is updated to work with the latest version of Final Cut Pro, so test each one before you have your heart set on building your whole project around it. Finally, if you get a lot of mileage from some of these free plug-ins and the vendor has other plug-ins for sale, consider checking out the paid versions — that support keeps the free stuff coming!

Free plug-ins are great — but they get you only so far. Next month, we move deeper into the plug-in jungle and discover a wide variety of incredible effects from plug-ins; all of which are less than \$200.

Next month: Great 3rd Party Plug-ins continues, plus *Creating Your Own Effects with FX Script*. [EditWell](#)

If you've been using Final Cut for awhile, you may be familiar with CGM's FX-Script DVEs — a package of filters, transitions, and generators that shipped with FCP 3 (see Figure 3). If they're not installed with your current version of Final Cut, dig up your FCP 3 install disk and get them in there — the transitions in particular

Final Cut Pro **FREE** plug-ins

Click manufacturer's name to browse to their site

Manufacturer	Plug-in
Mattias Sandström	Too Much Too Soon
Kafwang	Eureka!
Stephen Dixon	Stib's free plug-ins
Marcus Herrick	vignette, Facelight
Spherico	TitleExchange Lite, Shifter, FCP Record Timer, SyncTime
Perfectly Polite Pictures	Quick.Look
River Rock Studios	Jitterbug, Chromatic Glow, Day for Night
Lyric Media	Shadow-Highlight
Tom Henderson	50-point Bezier Matte
Adam Wilt	H. Chroma Blur, Chroma Offset
CGM	FXScript DVEs
Patrick Sheffield	Two-strip and three-strip Technicolor





Converting NTSC, PAL, and Film Formats

While Compressor can convert between NTSC and PAL video, calling it extremely slow would be a compliment. A much better utility is Standards Conversion (version 2.5), published by Nattress Productions (www.nattress.com).

This plug-in contains six modules:

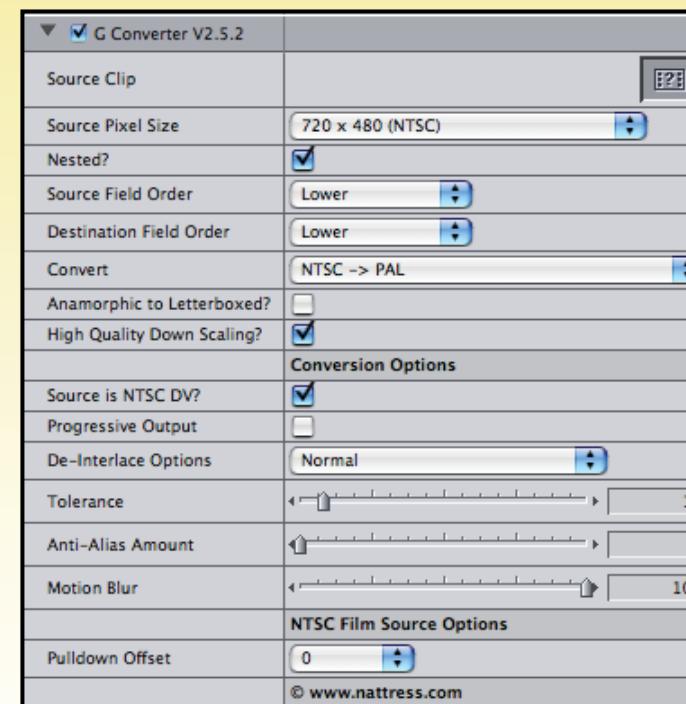
- G Standards Converter
- G Film Converter
- G Advanced Pulldown Converter
- G Add Pulldown
- G Remove Pulldown
- G Map Frames

The Standards Conversion package contains two filters that have been designed to convert among the three video standards: NTSC video (29.97 frames per second), PAL video (25 frames per second), and 24p (24 frames per second progressive).

In addition, this toolkit contains other useful filters that work in a manner similar to that of the main filters. G Remove Pulldown and G Add Pulldown allow you to add and remove

pull-down frames from the timeline. G Map Frames enables you to manipulate frames and fields, as well as produce nice slow-mo from interlaced footage. G Advanced Pulldown Converter can be used if you've shot the wrong mode; for example, on a Panasonic DVX100.

This plug-in works best on individual clips, rather than complete sequences. Recommended for FCP 5 and later. Retail price \$100 (US).



Sample filter settings for G_Conversion to convert NTSC video to PAL.

Audio Exclusive —



*click
to play*

Paul Saccone Interview

Listen to Apple's product marketing manager for Final Cut Studio explain how Apple balances the needs of the market and Final Cut users; as well as a system to report bugs. (TRT: 11:52)



*click
to play*

Kym Rogers Interview

Final Cut Studio is a world-wide phenomenon. Listen to Kym Rogers, Pro AV Dealer in Adelaide, Australia, about some unusual uses of Final Cut in the world "down under." (TRT 7:30)





Getting Great Results Using Compressor 2

By Bruce Nazarian, "the DVD Guy"

One of the most mysterious techniques in DVD creation is the "black art" of video compression. For those who are new to DVD, and have had no prior experience with video compression, making great video for a DVD can seem a daunting task. In reality, though, some pretty simple rules can get you launched on the right path to success. We'll cover a few of those rules in this article:

1. Know the encoding "sweet spots."
2. Make a "bit budget."
3. Use the right source file.
4. Use the right MPEG format.
5. Edit the content properly.
6. Set chapter markers in FCP or Compressor before encoding.

Know the encoding "sweet spots"

MPEG-2 encoding doesn't have a linear relationship between the encoding bitrate used and the quality of the finished bitstream. Typical average DVD encode bitrates are between 4.5 and 8 Mbps, depending on the length of the content. With encode rates at or below 3 Mbps, it's difficult to get a satisfactory-quality bitstream with any encoder, let alone Compressor. (The optical image flow analysis in Compressor 2 should provide better results in general, but it takes a lot longer to compress.)

Note: Bitrate as used here means the average encoding rates set for the MPEG encoder; bitrates are always specified in megabits per second (Mbps). Encoding means compressing your audio or video elements so that they can be played on a video DVD.

Likewise, encode rates above 6 Mbps may not be needed, as most content can be encoded at or below that rate. I typically quote three encode rates as general benchmarks:

- An average bitrate of 4.5 Mbps fits about 120–130 minutes on a DVD-5.
- An average bitrate of 6 Mbps fits about 90 minutes of content.
- Content of 60 minutes and under can use video bitrates of up to 8 Mbps.

Rates higher than 8 Mbps are tempting because of the perception of higher quality, but can cause difficulties in playback in some DVD players.

Note: All these rates assume that you're using Dolby Digital stereo (AC3) at 192 Kbps.

Be wary of using PCM (AIFF) audio files, which can gobble up DVD storage space and 1.6 Mbps of your data bandwidth, reducing your video encoding rates accordingly. AIFF files also don't allow you to ➤

Compressor Upgrade

If you've been frustrated by the video quality of Compressor 2, consider upgrading to Final Cut Studio 5.1. According to Paul Saccone, Final Cut Studio's product marketing manager, the latest version of Compressor (v2.1) has been significantly reworked for both performance and quality. Paul says they have specifically fixed a number of bugs related to VBR compression.

This feature alone might justify upgrading to 5.1.





Compressor continued

create 5.1 surround sound programs, while Dolby Digital does.

Make a “bit budget”

Avoid guesswork when calculating the encoding rates needed for your video and audio streams. Making a “bit budget” will verify that you’ve allocated sufficient space on the disc, and determined the proper average and maximum video encode rates correctly before encoding. Average bitrate is used in all encoding setups, while the maximum bitrate is used only in variable bit rate (VBR) encoding, which we cover later.

Your bit budget helps you use the size of your DVD to determine the encode bitrate based upon the total running time of your video, audio, and subtitle streams, as well as motion menu content. The end result is confidence that you have properly specified the encode rates for your video, and your encoded streams will all really fit on your DVD.

Since bit budgeting involves a lot of messy mathematics, a bit budget tool can help you to determine the proper results faster, and with fewer errors. Download a free “Make a Bit Budget” Excel worksheet from my web site. Just sign up for our Yahoo! Group and the worksheet is yours.

Use the right source file

MPEG-2 is a lossy compression format, and good quality results are very dependent on having the highest-quality master possible. This may seem a simple idea to grasp, but I’m continually amazed at the number of video professionals who try to make great-looking

DVDs from inferior sources or from previously compressed files.

While the DV codec is great for casual shooting, it’s not a great choice for advanced things like titles and graphics. Choosing and using a better codec will give your MPEG-2 video a fighting chance of emerging from the encode process unscathed. If you can capture uncompressed 8-bit (or even Photo JPEG or Motion JPEG) and encode from there, you’re likely to have better results with titles and graphics. If not, up-converting the DV content to a better codec (such as uncompressed 8-bit) while editing will give you better MPEG-2 results.

Use the right MPEG format

While you can use MPEG-1 for your DVDs, and in some cases benefit from the additional running length available without too much of a quality compromise, MPEG-2 is far and away the most desired format.

MPEG-2 has many formats, though, and sometimes making sense out of them can be confusing. Let’s sort them out.

CBR—One-pass constant bit rate (CBR) encoding is convenient and fast, but doesn’t always allow the highest-quality finished product at lower ➤

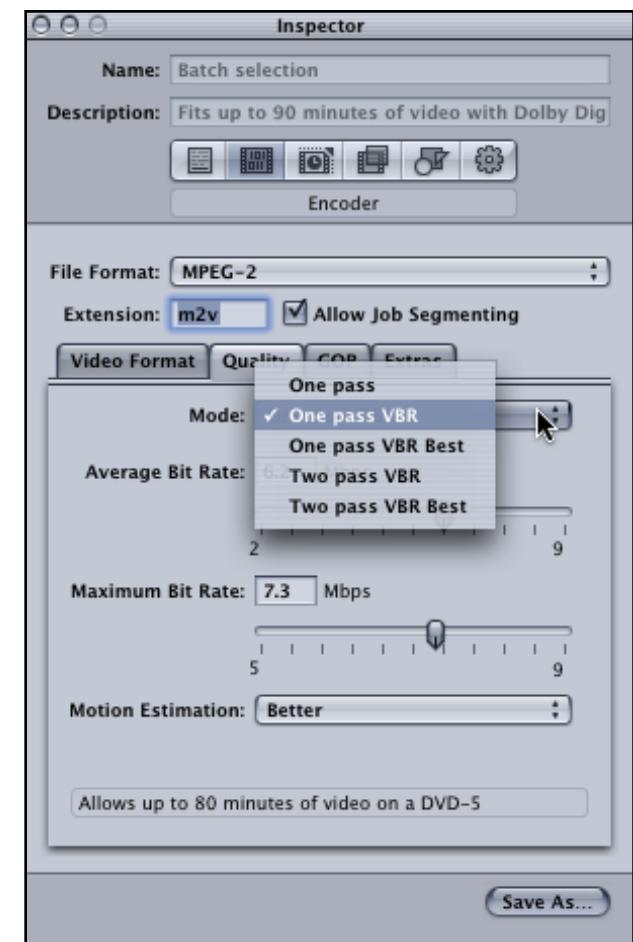


Figure 1





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Compressor continued

bitrates. If your program run time is less than 60 minutes, you likely don't need to lower the encoding bitrate low enough to make a difference. But a CBR encode can't change the bitrate to match the complexity of the picture as it varies. Sometimes, this capability makes a difference!

VBR—Variable bit rate (VBR) encoding formats are great. In theory, VBR encodes can extract greater quality from the source files than CBR can provide. Compressor offers a number of VBR encoding formats, both one-pass and two-pass. One-pass VBR is good, but two-pass VBR lends better image analysis and greater quality.

Note: Unfortunately, Compressor 2 seems to have some VBR encoding bugs that surface as undesirable motion artifacts on dissolves and fades. While the advantages of VBR are preferred, using CBR is a better choice until these bugs have been worked out. You'll still get a great encode by using CBR. (See the sidebar *Compressor Upgrade*.)

In general, VBR works best on longer encodes (greater than 30 minutes), where it has the chance to actually optimize the encode. Shorter encodes don't provide this opportunity to optimize, so the extra processing power is wasted.

Elementary versus multiplexed streams

While Compressor allows you to create an MPEG-2 multiplexed file (called a program, transport, or system stream), where audio and video are interleaved, this is not what you want for DVD authoring.

Multiplexed streams are used for certain video LAN or broadcast applications. Individual files containing just MPEG video or just Dolby Digital or PCM audio are mandatory for DVD.

If you use the DVD presets in Compressor, your movie files are automatically separated into these individual "elementary" video and audio streams during the encode process.

Edit the content properly

If you're creating a long-form video and hope to use segments of the video individually, it's always best to edit the video properly with fades to and from black between the segments. These fade sections (containing a minimum of one second of black) provide the ability to place chapter markers between the segments, allowing for clean navigation. This is especially valuable if you're planning on using stories in DVD Studio Pro to define the segment beginnings and endings.

Set chapter points in FCP or Compressor before encoding

MPEG-2 groups individual frames into a group of pictures (called a GOP) during encoding to make the final compressed file as small as possible. The Apple MPEG Encoder defaults to a 15-frame GOP length for NTSC video, 12 frames for PAL. Because you can put chapter markers only at the beginning of a GOP, this means that you're limited to placing two chapter markers per second of run time. To work around this limitation and place your chapter





Compressor continued

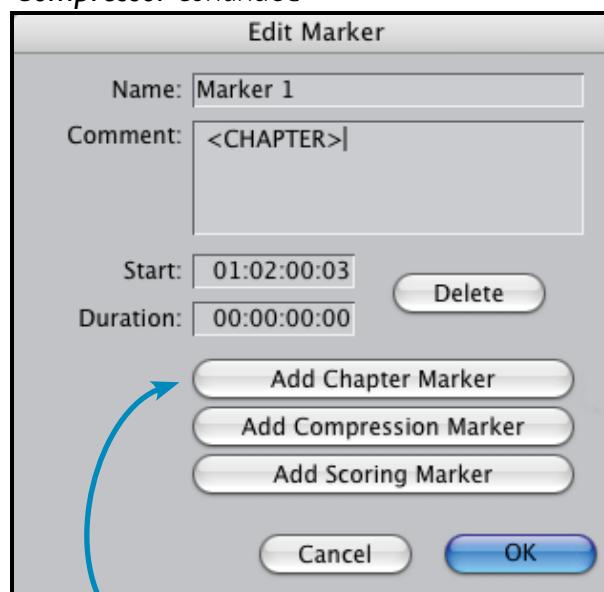


Figure 2 Add Chapter Marker

markers in better context with the overall program, you can set chapter markers into the video edit in Final Cut Pro, Final Cut Express, or from within Compressor, prior to encoding the MPEG-2 stream.

If you don't set chapter markers prior to encoding, you'll be limited to setting chapter markers only on the 0th or 15th frames; which may not be as accurate as you would like.

To assist Compressor in processing difficult scene changes without setting a chapter point,

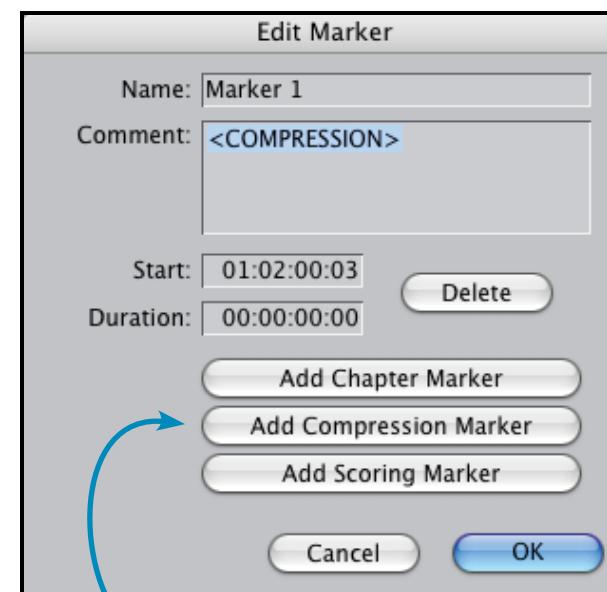


Figure 3 Add Compression Marker

use Final Cut Pro to set a compression marker instead. This technique forces the encoder to create a higher-quality I-frame at that point, without creating an I-frame header and restarting the GOP sequence.

Using these tips will ensure that your encoding forays are less troublesome, and your DVD authoring endeavors more profitable. [EditWell](#)

Video Exclusive —

A dark rectangular thumbnail with a textured background. In the center, the title 'Troubleshooting your Final Cut Pro System' is written in white, with '— Problems & Solutions' below it. At the bottom right, it says 'Larry Jordan' and 'www.larryjordan.biz'.



click
to play

Tutorial: Troubleshooting your Final Cut System

In this video tutorial, Larry Jordan demonstrates techniques you can use to troubleshoot and optimize your Final Cut system. (TRT: 14:22)



Techniques to Better Color Correction

Part I: Understanding Video Scopes

By Larry Jordan

To help you get your images looking great, this starts a multi-part series on color correction. In this article, I'll explain how to use Final Cut's built-in scopes, because scopes are critical to any color work. (See *Problems with Final Cut's Scopes*.)

Next month, we'll build on this introduction and show you how to use these scopes to help you make color correction decisions.

To access the scopes, either select **Window > Arrange > Color Correction**, or select **Tools > Video Scopes**.

Final Cut has four built-in scopes: Waveform monitor, Vectorscope, RGB Parade, and Histogram (see Figure 1). Of the four, the Histogram is the least helpful, and we won't cover it in this article, except to say that it displays the same information in Final Cut as it does in Photoshop.

The View pop-up menu (upper right) controls which image the scope displays. To switch to a specific scope, use the Layout pop-up menu (upper left).

While all scopes are useful, the most important one to understand is the Waveform monitor, so our tour will start there.

Waveform monitor

While the Waveform monitor shows you everything you need to know about the black, white, and grayscale levels of an image, it tells you nothing about color.

In Figure 2, for example, I've created a gradient that shades from pure white on the left to pure black on the right. The white diagonal line represents the grayscale value of all the pixels in the picture. The higher the white line, the whiter the image.

Notice that the left side of the scope coincides with the left side of the image ➤

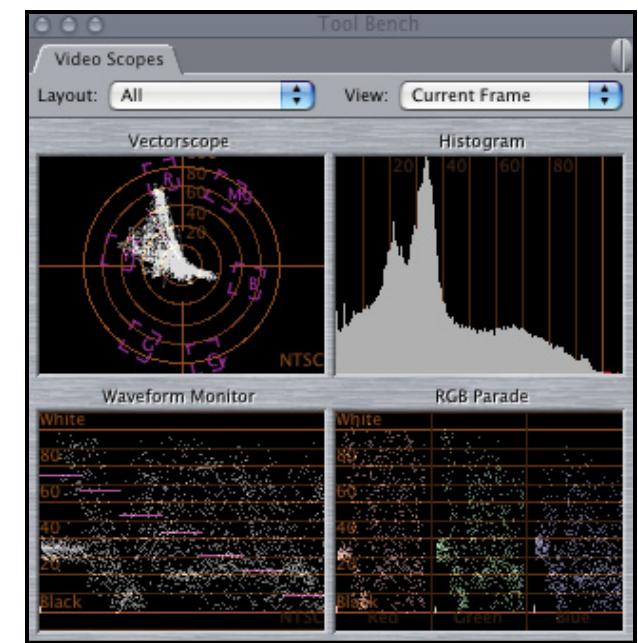


Figure 1: The four scopes of Final Cut.

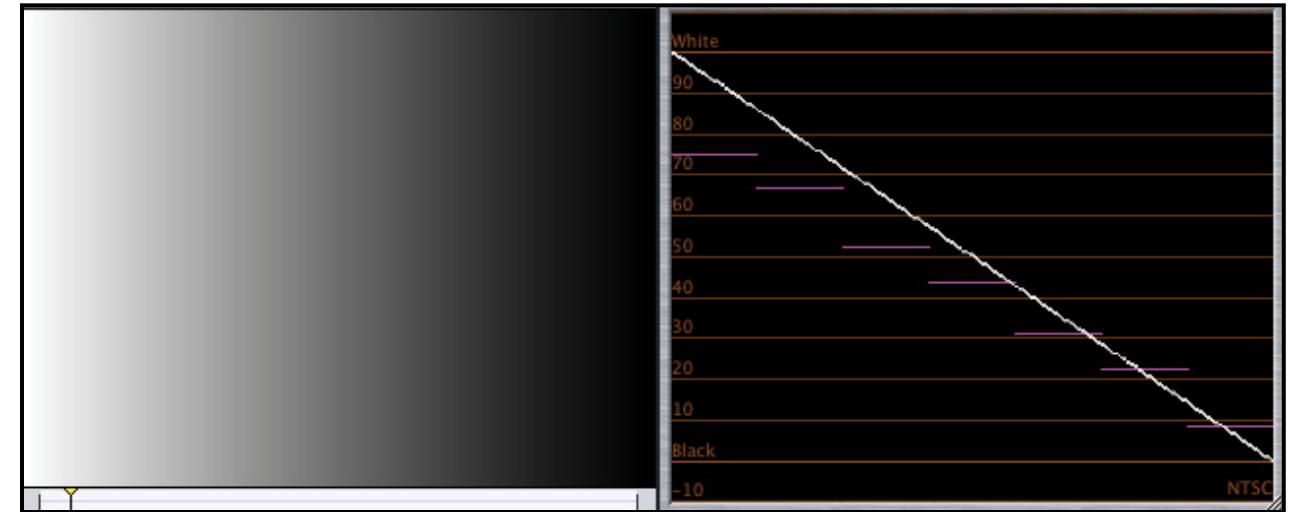


Figure 2: A gradient ramp in the canvas and on the Waveform monitor.



Scopes continued

and the right side of the scope represents the values on the right side of the image. The pixels shade from 100% white on the left, to 100% black on the right.

An image is considered broadcast safe if the black levels don't go below 0 and the white levels don't go above 100%. (However, many digital video formats shoot a white level greater than 100%, called "super-white," that often needs to be corrected before outputting to tape for broadcast or distribution.)

Let's consider another image that will better illustrate how to use a Waveform monitor.

Figure 3 shows an evening picture. Notice how the individual white dots, which represent pixels in the image, are shading toward black. There's a bump about two-thirds of the way across, which corresponds to the setting sun, and a large clump of nearly black pixels on the right side that represent the shadows of the trees.

In contrast, notice how the pixels in the Figure 4 winter scene are up near 80% white, representing the snow and sky, while the trees, though darker, barely get below the 50% gray level.

However, the Waveform monitor tells us nothing about color. For that, we need the Vectorscope. ➤

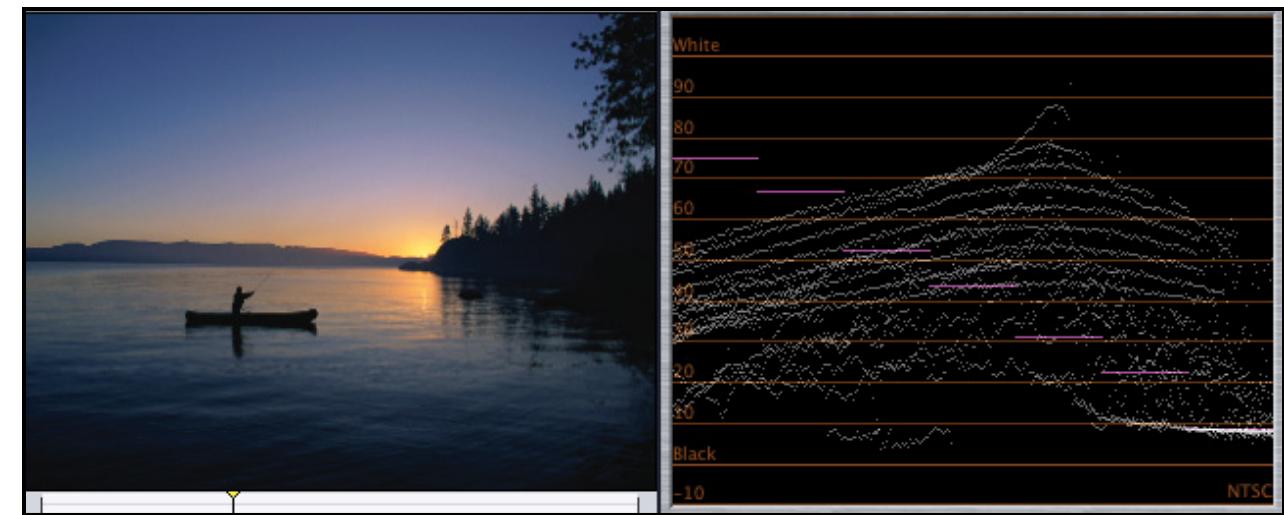


Figure 3: Note how the waveform reflects the differences in gray-scale in the picture.

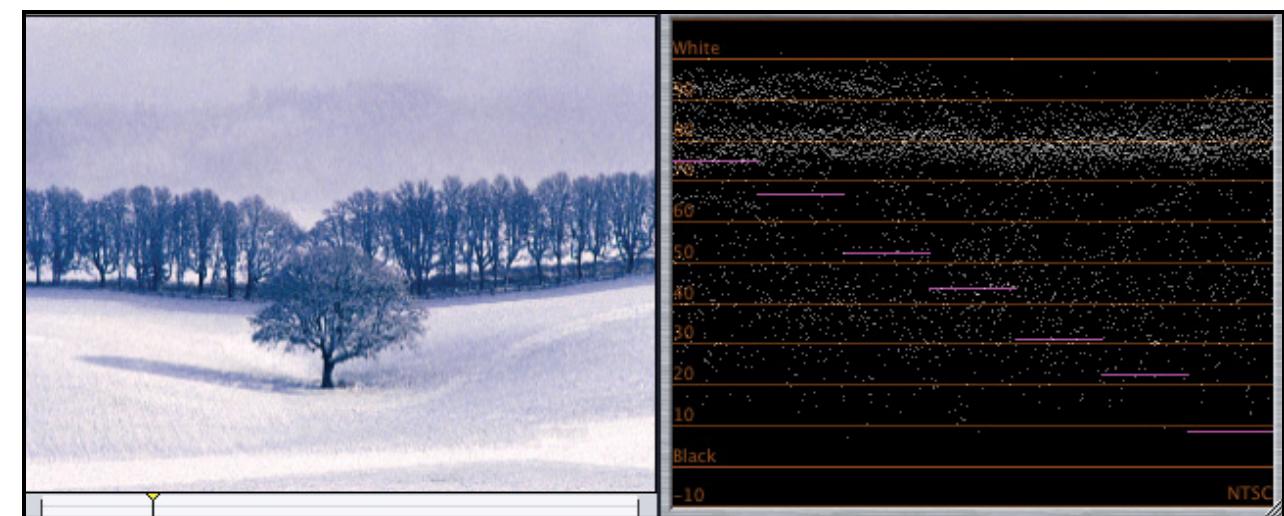


Figure 4: The two shades of white and gray are repeated in the Waveform.



Scopes continued

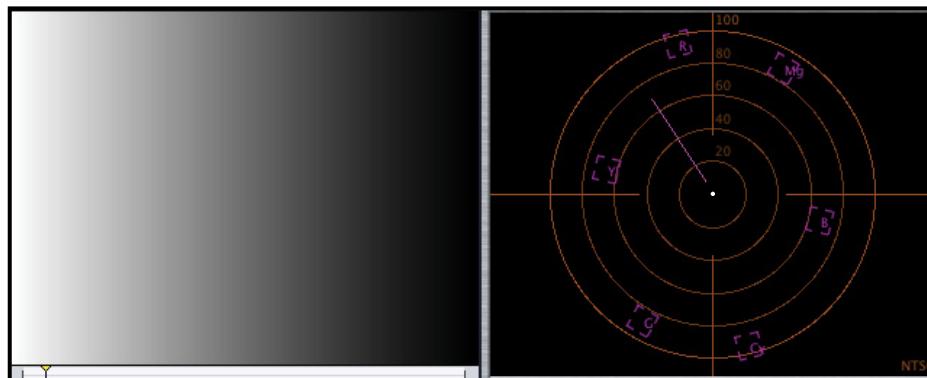


Figure 5: All shades of black and white are a single dot in the center of the Vectorscope.

VectorScope

Unlike the Waveform monitor, the Vectorscope shows all white, black, and gray levels as an itty-bitty white dot in the center of the scope (see Figure 5). The Vectorscope is only used to display color.

Look at the color tubes in Figure 6. In the Waveform, the pixel values vary from about 10% to 90%. But notice what's happened in the Vectorscope, shown in Figure 7. There are strong clumps of color for yellow, orange, red, green and dark blue.

The Vectorscope contains six purple boxes, called color "targets," representing the three primary colors (red, green, and blue) and three secondary colors (yellow, cyan, and magenta). Colors are represented by their angle (hue) and the distance out from the center (saturation). Red is at the top in the 11:00 position, followed in clockwise order by magenta, blue, cyan, green, and yellow.

With the Vectorscope, an image is considered broadcast safe if all the color values are contained inside a polygon connecting the tops of each of the six boxes (see Figure 8). In our example, the yellow color is oversaturated, and should be corrected before final lay-back to tape.►

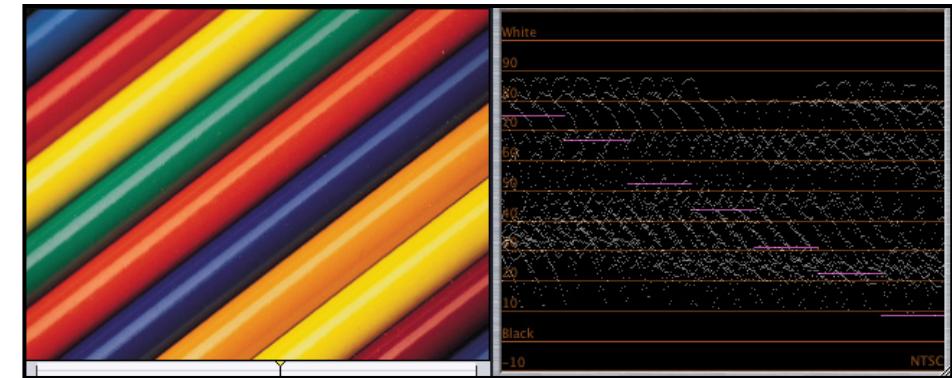


Figure 6: The colors are clear and striking, but the gray scale values are much more complex.

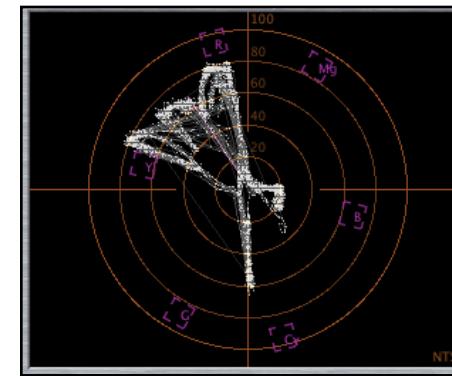


Figure 7: On the Vectorscope the colors of the crayons are clearly displayed.

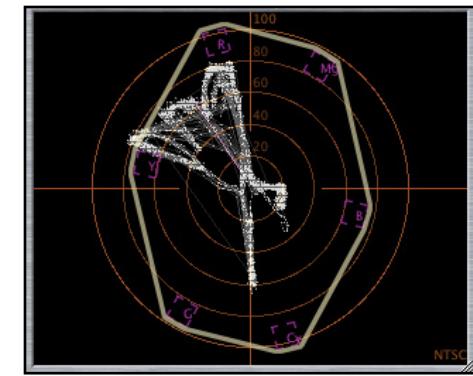


Figure 8: Broadcast safe colors are contained inside the borders of a rectangle connecting the tops of each of the six color targets.



Scopes continued

Figure 9 contains a somewhat more typical example. Notice that while there are lots of colors in the image, the Vectorscope displays a more shaded picture, with spikes for red and blue, but lots of variations spreading from red to yellow, representing the variety of different colors and intensities in the image itself.

This is more typical of the Vectorscope – a color image contains lots of shades and a few spikes showing direction, but very few clumps of color.

RGB Parade

The RGB Parade is a special form of the Waveform monitor, in that it shows the amount of red, green, and blue in the picture (see Figure 10).

You interpret it just like the Waveform monitor; reading from left to right, darker shades appear toward the bottom and lighter shades toward the top. The difference is that you're able to distinguish the shading of each of the three primary colors.

The RGB Parade comes in very handy when you're color balancing an image that contains no white or gray. For now, it's enough to know that the RGB Parade is a specialized form of the Waveform monitor.

Reading skin tones

When working with skin tones, all three scopes can be very helpful. Assuming proper lighting, Caucasian skin runs between 45% and 60% on the Waveform monitor; darker skin is 20–45%.

In Figure 11, for example, notice that the Waveform monitor shows lighter shades on the left from the white wall behind the subject, and darker tones throughout from the shadows in her hair. Most of the midrange is skin tone. ➤

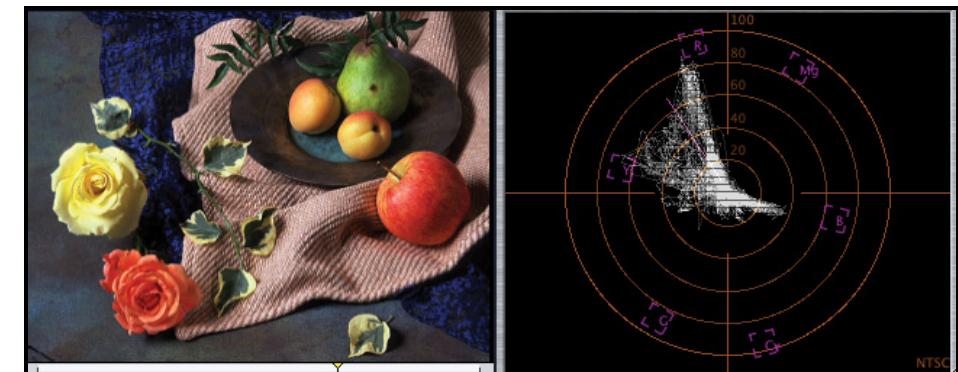


Figure 9: The Vectorscope shows the variety of color shades in this color still-life.

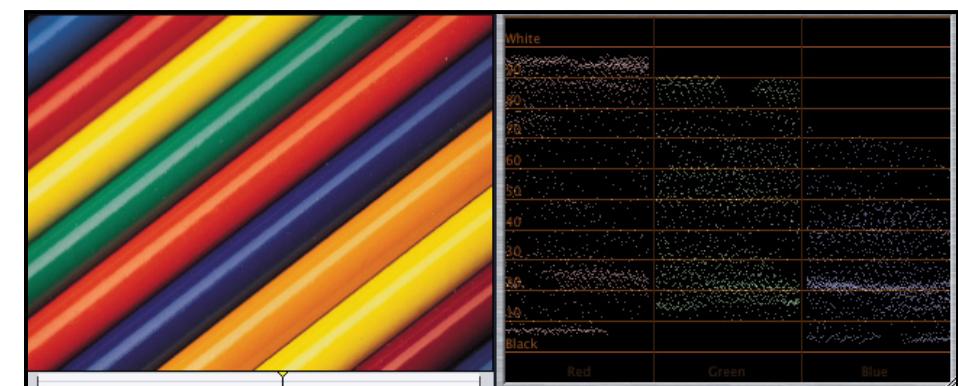


Figure 10: The RGB Parade shows the values of each of the three color components of a video image: red, green and blue.

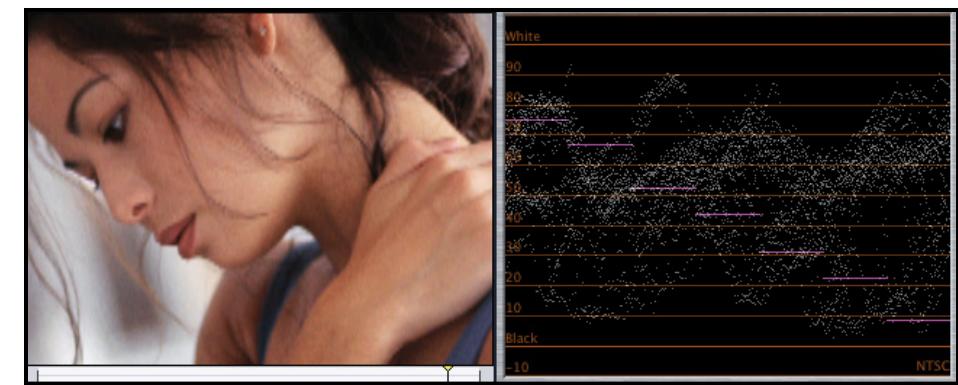


Figure 11: Caucasian skin tones generally range from 40–60% on the Waveform monitor.



Scopes continued

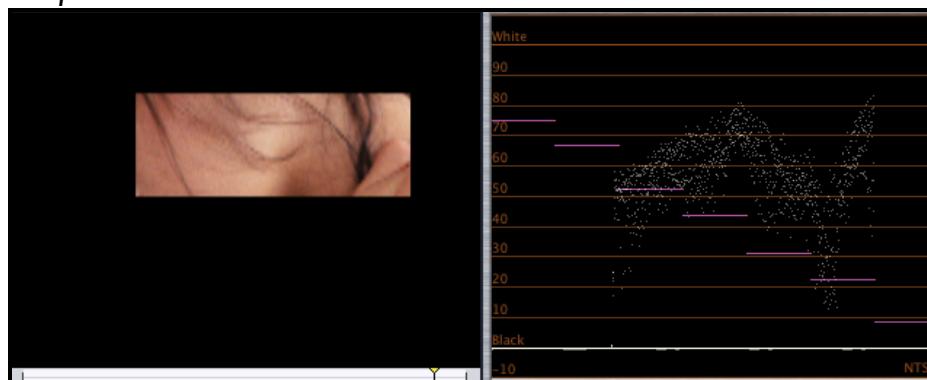


Figure 12: Cropping helps to isolate a specific section of an image to help display its values on the Waveform monitor.

If we crop the image to remove some of the extraneous visual clutter, as in Figure 12, you can see more clearly how the skin tone is ranging from 50-60%.

Figure 13 shows the same image on the Vectorscope (left) and RGB Parade (right). While the RGB Parade isn't particularly helpful with this image, the Vectorscope highlights the last important point I want to make: The thin purple line pointing northwest is called the Flesh Tone line.

I like this line. Whether you're black, white, red, brown, or any other skin tone, your skin is given its color by the red blood pulsing just below the skin's surface. The Flesh Tone line in the Vectorscope represents the color of blood under skin; if the skin tones in your image are not positioned on or really close to this line, it's an excellent indication that you need to color-correct your shot.

In this example, the subject's skin tone is rolled a little bit toward red, but not enough to worry about.

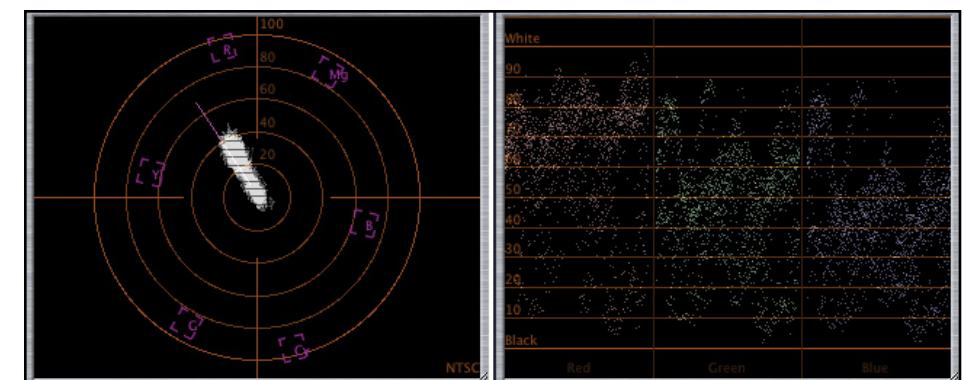


Figure 13: This the image of the girl in Figure 11 on the Vectorscope and RGB Parade.

Summary

Here are the key points to remember as you work with scopes:

- The Waveform monitor shows video levels as shades of gray.
- The Vectorscope displays color information.
- The RGB Parade shows the video levels of the red, green, and blue components of an image.
- The Flesh Tone line shows whether skin tones in an image are correct.
- White levels over 100% are outside the broadcast safe zone.
- Saturation levels outside color targets are not broadcast safe.
- Most caucasian skin tones fall between 40–60% on the Waveform monitor.

With this introduction as background, next month we'll show you how to use the scopes to color-correct a variety of scenes effectively. **EditWell**





Problems with Final Cut's Scopes

Helpful as the scopes in Final Cut are, they aren't perfect.

The problem with the scopes in Final Cut is that they don't sample every line of video in your image. Worse, they ignore all portions of the image outside Action Safe. This means that if you have a hot specular outside Action Safe, the scopes won't pick it up.

The scopes are accurate for what they show. It's what they don't show that's important.

Here's an easy way to test this: Create an image of 50% gray and add a couple of pure white and pure black patches outside Action Safe. Notice that the waveform monitor shows

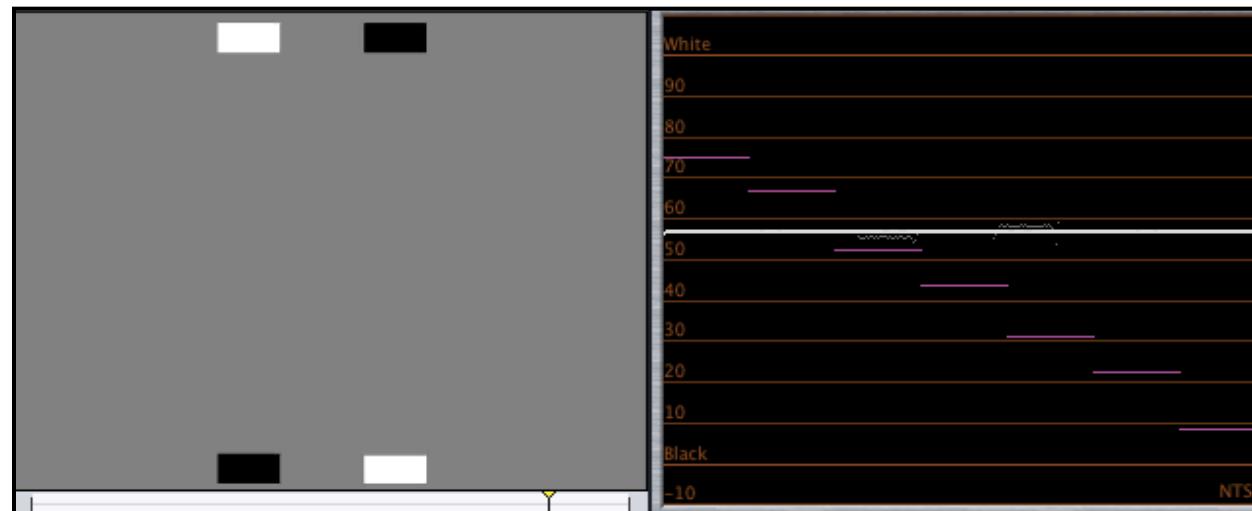


Figure 1: Notice the white and black boxes are not displayed on the Waveform monitor.

the gray perfectly, but doesn't display the black or white patches (see Figure 1).

Frankly, I find this omission ridiculous. I've mentioned this issue to Apple, as have others, and my hope is that one of these days it will get fixed — it's been broken since scopes were first added.

For now, however, be forewarned that if you have images with hot spots on the edges, the waveform may not pick it up properly.

You can solve this problem by using an external scope. [Tektronix](#) makes excellent ones. However, their standard-definition scopes range from \$2,000 to \$8,500.



KEYBOARD SHORTCUTS PLAYBACK

Shortcut	Result
Space bar	Plays clip— but you already knew that.
Shift+space bar	Play backwards
Shift+p	Play from playhead to Out
\	Plays around the playhead
Shift+\	Plays from the In to the Out
J+K	Plays backward at 1/3 speed
K+L	Plays forward at 1/3 speed
J+J	2x reverse
L+L	2x forward
J+J+J	4x speed reverse
L+L+L	4x speed forward



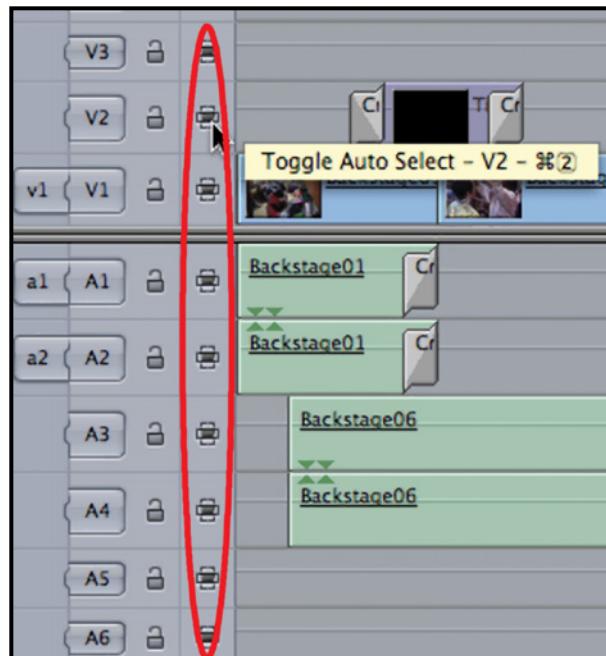


Figure 1: Auto Select buttons.

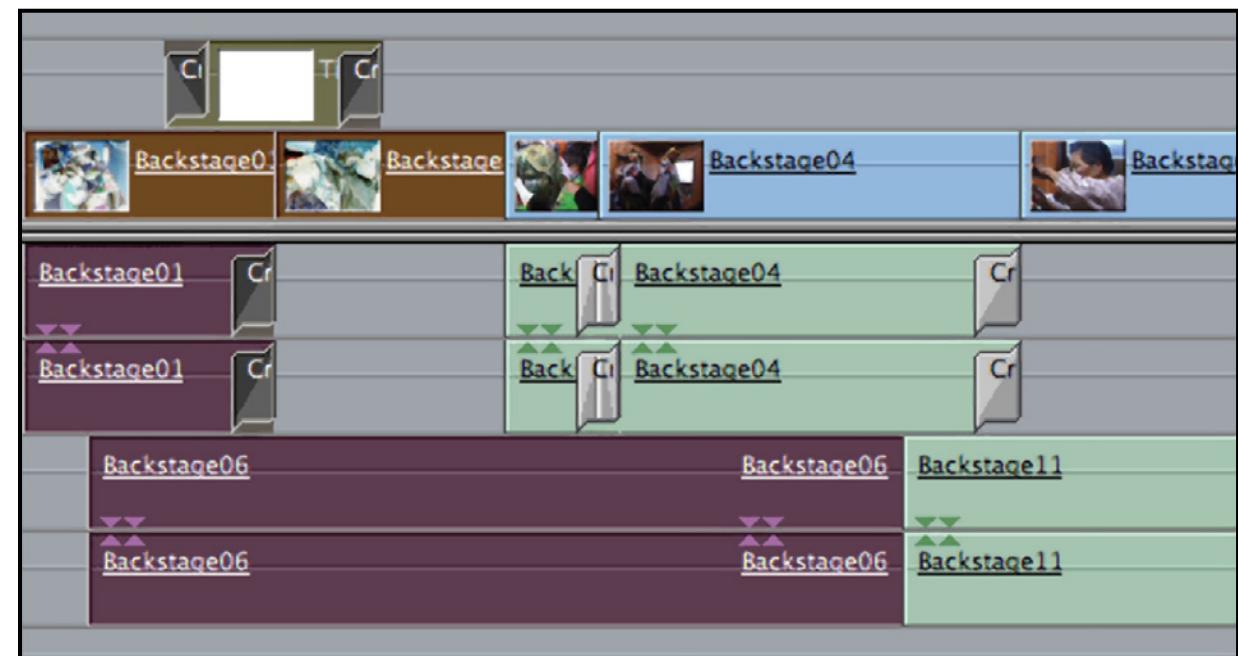


Figure 2: Manually selected clips.

Solving the Mystery of Auto Select

By Tom Wolsky

Those gray buttons on the left side of the Timeline are a mystery to many. In this article, I'll show you how they work and how to use them to control your timeline in ways you may not have imagined possible.

These buttons, and their behavior, were introduced in Final Cut Pro 4, and have been met with reactions ranging from simple shrugs and avoidance to angry, heated resentment and loathing. Matters were not improved by the fact that the Auto Select behavior changed in many interim versions of the application from v4 to v5.

I'll bet even a serious user like you still ignores Auto Select, and for much of the time that strategy probably works fine—that is until you want to do something with multiple tracks. To help you with that, here are some practical selection techniques, copying and pasting tips, shortcuts and other smart ways to use these handy little buttons.

Selecting Clips and Ranges of Clips

There are a number of ways of selecting items or portions of a sequence. You can select items manually by clicking them with the Selection tool, by using the >





Auto Select continued

Auto select OFF →
Auto select ON →

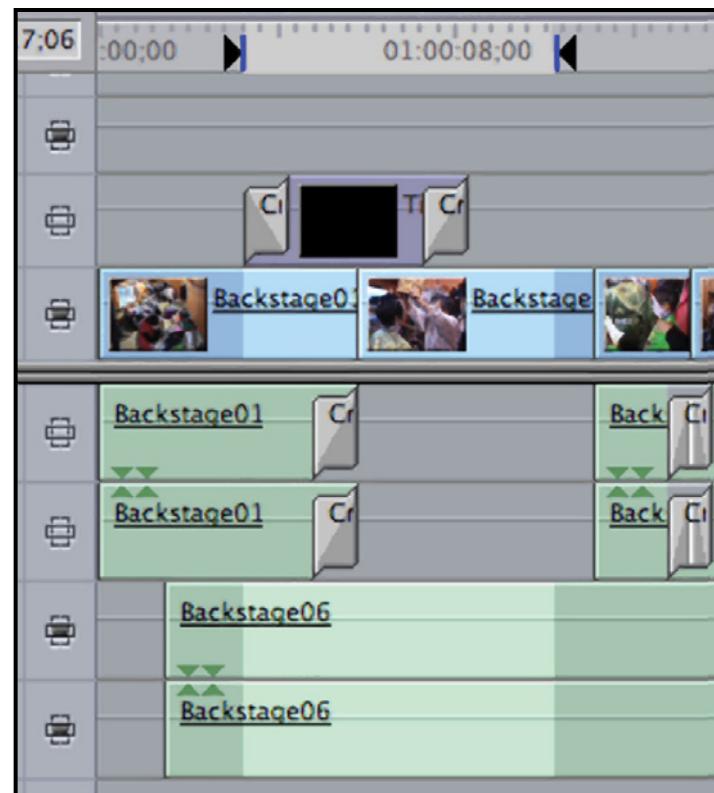


Figure 3: Highlighted areas on V1, A3, and A4 have been auto selected.

Shift or Command key, by dragging a selection, or by using the range selection tool. (Range selection allows selection on only one track, however.) When these types of manual selection are made, the items turn brown, as shown in Figure 2.

You can also select items by marking In and Out points in the Timeline. When nothing is manually selected, these In and Out points define a selected area, and the Auto Select buttons control which

items on which tracks are selected (see Figure 3).

Notice the areas that appear highlighted on tracks V1, A3, and A4. These areas have been selected (their Auto Select buttons are dark), which means that those selections can be copied or deleted as a group. Notice the relationships of which items have the highlighted areas and which tracks have Auto Select turned on. The items on V1 and A3/A4 are the only ones selected; the title on V2 and the audio on A1/A2 are not selected and will not be copied or deleted. The Auto Select buttons provide the only way to perform this kind of complex copy or delete function; and this technique is most useful when working with clips on multiple tracks.

Auto Select vs. the Patch Panel

The patch panel in FCP controls the destination tracks and in turn is controlled by the contents of the Viewer. The connections that appear in the patch panel are determined by what's in the Viewer. If the Viewer contains a single-layer graphics file, there will be only one patch connection, for the video track; there will be no patch connections for the audio. (Multilayer graphics files, or multilayer sequences open into the Viewer, will allow you to set multiple video destination tracks, and using the Command key will allow you to edit multiple video tracks at once.)

Think of the patch panel as what controls how material is edited into the Timeline from the Viewer. The Auto Select buttons, on the other hand, control what's edited out of the sequence, or edited into the sequence by pasting. The patch panel controls the





Auto Select continued

Canvas Edit Overlay, the edit keyboard shortcuts (F9, F10, and F11), and the Canvas edit buttons. Once a clip is on the Timeline, the Auto Select buttons control pretty much everything else in terms of track selection.

Pasting

After copying items, you can use the same Auto Select buttons to control where those items will be pasted. If you don't change any Auto Select buttons, the default behavior in the current version of Final Cut is to paste back to the same tracks from which the items came. If you want to override this arrangement and paste to different tracks, use the Auto Select buttons to activate the tracks to which you want to paste. By default, selections are pasted to the lowest Auto Selected track number. So if you want to paste to V3, turn off the Auto Select for V1 and V2 (deactivated buttons are gray). Audio tracks work in the same way. If you want to paste to A5/A6, A1 through A4 have to be switched off. Figure 3 shows active (black) Auto Select buttons, and inactive (gray) Auto Select buttons.

Editor's Note: My rule for using the Auto Select buttons for copying and pasting is: A clip will paste to the same track from which it is copied, unless, after you copy the clip, you change the Auto Select buttons. In which case, the clip will paste to the lowest-numbered track whose Auto Select button is dark.

Shortcuts

Option-clicking an Auto Select button selects that track and deselects all the others. Similarly, if a single track is Auto Selected, Option-clicking the Auto Select button turns selection back on for all the tracks. Setting video and audio tracks is done independently.

Pressing Command and a number on the keypad toggles auto selection on and off for the video track with that number. Pressing Option and a keypad number toggles auto selection on and off for the audio track with that number. Although this is the default keyboard configuration, be aware that if you switch to the keyboard Multicam Editing layout these keyboard controls are no longer set to controlling Auto Select functions, but to switching and cutting multicam material.

Other Auto Select Functions

Track selection for copying, pasting, and deleting are the primary functions that the Auto Select buttons control, but there's much, much more.

You can cut through tracks with a keyboard shortcut that behaves like the Blade tool. The shortcut is **Control-V**. The Auto Select buttons control which tracks are cut with the shortcut. Any track with an active Auto Select button will be cut. Any tracks not auto selected will be left uncut. If you need to cut across all the tracks when only some are auto selected, press the B key twice for the Blade All tool and then hack away.➤





Auto Select continued

The Auto Select buttons also control the match frame function. When you use match frame, the **F** key will go to the lowest auto selected track, unless the clip under the playhead is actually selected by clicking it. (There are instances in which this trick doesn't work, but it should function as advertised for most material.)

The Auto Select buttons also provide a way to load a clip into the Viewer. If you press the Enter or Return key while the Timeline is active, the clip underneath the playhead is loaded into the Viewer. The Auto Select buttons let you control which clip from which track in the vertical stack is loaded. Final Cut always loads the clip on the lowest auto selected track.

Another function controlled by the Auto Select buttons is the sequence search. Here you have the option to select searching only auto selected tracks (see Figure 4).

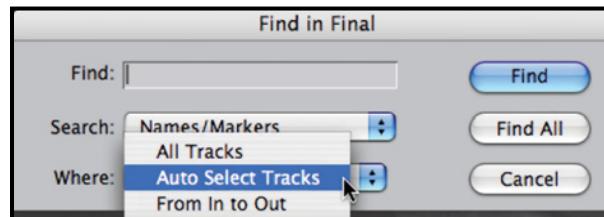


Figure 4: Sequence search dialog.

Using the **X** key to mark a clip or a gap is also controlled by the Auto Select buttons. If the track is not auto selected or if only the

video or audio track is auto selected, then only that track area will be marked by the **X** key.

The Auto Select buttons also give you a way to measure sections of a program or to prepare for editing into a sequence. Take a look at Figure 5. We all know that **X** marks the clip under the playhead in the Timeline. In Figure 5, I've marked the area with the missing audio section; it's on tracks A1 and A2. The Canvas duration display tells me it's 7:14. I can use the Timeline In and Out to edit a piece of sound directly into that hole. Because only A1 and A2 are auto selected and have material on them, only that area is marked with the **X** key.

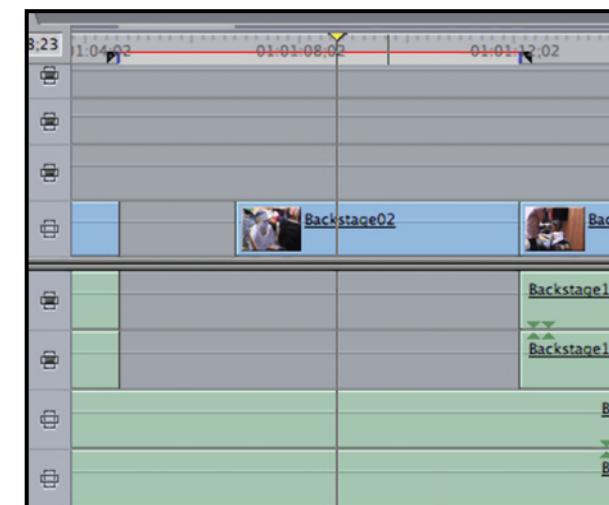


Figure 5: Track-specific selection area.

Shift-K and **Option-K** move forward and backward between keyframes in the Timeline.

The Auto Select button lets you control which keyframes on which tracks you move between. Again, the keyboard shortcuts will move between the lowest auto selected tracks.

Similarly, using **Control-plus** and **Control-minus**, **Control-[** and **Control-]** to raise and lower audio levels is controlled by which tracks are auto selected. The clips on any auto selected tracks will be adjusted. Clips on tracks with Auto Select disabled will not be affected.

Although sometimes Auto Select might seem to get in the way, making what should be simple more complicated than it needs to be, Auto Select also allows you to do much more, adding functionality that simply would not be possible without these handy little buttons. [EditWell](#)

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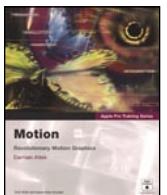
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—Ric Getter, MacDirectory Magazine



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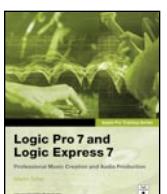
—Steve Douglas, KenStone.com



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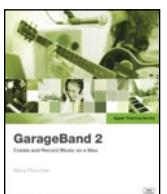
—Alex Alexander, CreativeCOW.net



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—Manuel Fernandez, www.maccompanion.com



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—John "Nemo" Nemerovski, MyMac.com

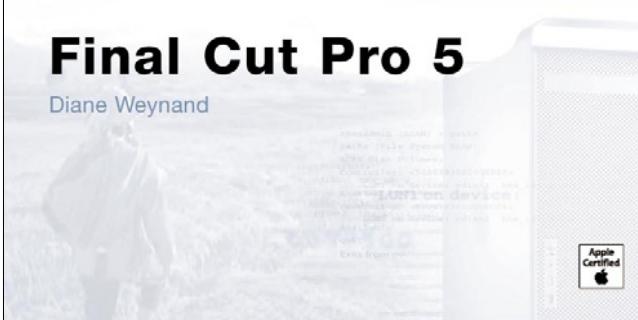


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