

Newsletters

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Larry Jordan's Monthly Newsletter

Larry Jordan, Editor

Issue #36 — June 2007

Welcome to the latest edition of my monthly Final Cut Studio newsletter for June, 2007.

The goal of this newsletter is to provide information helpful to the professional user of Final Cut Pro. This newsletter publishes each month. Past issues are not archived. However, key articles are posted on my website for your reference. All software references are to Final Cut Studio unless otherwise noted.

Please invite your friends to visit my website -- www.larryjordan.biz. We now have over 150 tutorials to help you get the most out of Final Cut!

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Welcome

Thanks for joining us this month! There's a lot going on -- Final Cut Studio 2 has shipped, Apple's World-wide Developer Conference is under way, and the Mighty Ducks just won the Stanley Cup. I mean, how weird is that?

Anyway, lest we get caught up in the cosmic significance of it all, let's get started with the question everyone seems to be asking...

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When Should You Upgrade to Final Cut Studio 2?

I've been using FCS 2 for about a week and a half. As well, I've been talking with the team of Final Cut gurus that write for Edit Well. Finally, I've been keeping my eye on my email and the various forums out there. Based on all these sources, here are my recommendations:

- **Final Cut Pro 6** -- probably one of the most solid releases in its history. Definitely worth upgrading and using.
- **DVD Studio Pro 4** -- no changes since previous version. Solid and dependable.
- **Compressor 3** -- significant interface improvements with reasonable performance. Key features include: job chaining, better batch templates, and improved optical flow for speed and frame size changes.
- **LiveType 2** -- no significant changes. Solid. Motion is sexier, but LiveType does a great job when you just need to animate text.

- **Color** -- a solid release, but its interface will take a lot of getting used to. It also demands the absolute most from your system. Check Apple's system requirements VERY carefully before using this application. (The June issue of Edit Well has two excellent articles by Alexis Van Hurkman on what you need to know to use Color. These are MUST reads for anyone serious about using Color. The issue will be out the last week of June.)
- **Soundtrack Pro 2** -- I like what Apple has done, but the application isn't stable. Wait for a dot release before relying on it for serious work.
- **Motion 3** -- The new tools in Motion are amazing, but the stability is not yet there. Like Soundtrack, use it for experimenting, but wait for a dot release before relying on it for tight deadlines.

All-in-all, Final Cut Studio 2 is a huge step forward. I'm looking forward to learning, using, and teaching it over the next several months.

Keep in mind the two golden rules:

- **NEVER** upgrade in the middle of a project.
- **NEVER** upgrade when facing a deadline — give yourself time to learn what's new in the program.

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FCP Rescue Has Been Updated for FCP 6

Anders Holck has been hard at work updating the premier Final Cut Pro preference manager to support FCP 6. It is now available and still free.

You can download it here: <http://fcprescue.andersholck.com>.

Thanks, Anders!

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Thoughts on an Interface

At NAB this last April, I had the pleasure of interviewing Richard Townhill, Apple's Director of Product Management for the ProAps. (If you haven't heard that audio interview, we published 45 minutes of it in the April issue of Edit Well.) He made many excellent points and, during our interview, he spoke extensively about all the products in Final Cut Studio 2, including the upcoming Final Cut Server.

One of his answers, though, has been echoing in my head ever since.

At one point, I asked him why Final Cut's interface had not been updated with Final Cut Pro 6. Richard replied: "You change the Final Cut Pro interface at your peril. Final Cut became successful because of its interface and you don't want to do anything that will damage it."

I had not considered the issue from his perspective before and I realize, now, why Apple is reluctant to

make any major changes to the interface for fear of scaring off current or future users. If I were in his position, I would probably think the same thing.

However, I'm not. I use Final Cut every day to get work done. And there are many things about the Final Cut interface that just drive me nuts. Plus, I suspect, there are a few things you'd like to see changed, as well.

For instance, here's my top ten list of things that need to be changed:

1. Markers should be selectable and draggable both up and down the Timeline
2. Bezier control points should NOT be essentially the same size and color as motion path dots
3. If you can jump the playhead to a clip, you should be able to jump a clip to the playhead.
4. Buttons that change color should not go from a medium gray to a medium dark gray, or a medium dark gray to a medium dark green. They don't need to use radioactive orange, but I would like something a bit more, um, visible.
5. Text in any dialog, such as Reconnect Media, should be readable sitting two feet away from a 23-inch Cinema Display.
6. There should be an easier way to see if a filter or effect is applied to a clip without turning on Timeline keyframe editing and making all your tracks excessively tall.
7. Keyframes should be selectable individually or in groups
8. Either calculate the file name, as in the Log & Capture window, or don't calculate the file name, as in the Log & Transfer window. Pick one.
9. Allow label colors to be changed.
10. Allow tracks to be named.

I'm sure you have your pet peeves as well. So, here's the deal -- I'm sponsoring a contest with absolutely NO prizes of any sort - simply the warm glow that comes from doing a good deed for humanity.

I'm asking you to send me your **Top 10 list of interface changes** that you'd like to see in the next version of Final Cut. Here are the **rules**:

1. An interface change is something involving color, position, size, or shape of an existing Final Cut Pro element, screen, dialog or feature.
2. An interface change is **NOT** having Final Cut do something new, but how an existing feature looks or works.
3. Email your ideas to me using Interface Thoughts as the subject (anything else will *automatically* end up in my Junk Mail folder).
4. I'll summarize everyone's opinions and send them to the ProAps team at Apple as well as publish them in my next newsletter or website.
5. Remember, **NO** feature requests.
6. Please limit your list to 10 items
7. Write clearly and pleasantly -- remember, we want to impress Apple with our passion, not bludgeon them with it.

Final Cut is a great application - but there's no reason for odd interface quirks to linger just because we are afraid of change.

Oh, and did I mention -- **NO** feature requests? Good.

Send me your comments and let's see what happens.

Legal stuff

- There's no money in this.
- I have no control over Apple.
- Apple may not listen.
- None of your suggestions are guaranteed to be implemented.
- Your suggestions may be published on my website or in next month's newsletter.
- What better use can you make of your spare time, send in your ideas now!

Mike Horton did something like this once and it took him weeks to recover. In case I get buried, I'll get this sorted as quickly as possible.

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PowerUP Seminars Start in Santa Barbara



I'm starting my next **PowerUP with Final Cut Studio Seminar Tour** June 25 & 26 in Santa Barbara. These two days feature three different seminars:

- [Picking the Right Hardware](#)
- [Optimizing Your Final Cut System](#)
- [Mastering Final Cut Studio](#)

I'm also delighted to announce that [SmartSound](#) and [Automatic Duck](#) are joining us as sponsors for our tour! Thanks to sponsors like these, we can visit more cities, provide more seminars, and keep our costs down.

If you are new to Final Cut, you should plan to attend **Picking the Right Hardware** and **Optimize your Editing**. *Hardware* walks you through what you need to know to select the right computers, hard disks, monitors, and other gear you need to successfully edit with Final Cut Studio. We will have a special section on Color, as it's system requirements are especially stringent. [Here's the current agenda](#).

Optimize your Editing covers the software portion of your system: trouble-shooting, optimizing, file organization, moving files between applications, speeding up editing and trimming, and making the most of Final Cut Pro. [Here's the current agenda](#).

Mastering Final Cut Studio gives you the inside tips on working with Motion, Soundtrack Pro, Color and Compressor. Covering each of these applications takes far more than a few hours, rather we help you get past your fear and show you how to become productive so you can explore them further on your own. [Here's the current agenda](#).



[Santa Barbara in June is our pre-launch](#) -- I invite you to join us if you want to get a head start on all the new software. Attendees will get a detailed first look at the software, and help us decide what goes into Fall Tour because our "official" tour doesn't start until August.

Click here for pricing, details and registration -- www.larryjordan.biz/seminars.

If you need reassurance that you are not wasting your time or money, [click here to read](#) what other editors have said.

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Review: Matrox MXO



Wayne Andrews, the RT & MXO product manager for Matrox Video Products Group, saw me at the NAB SuperMeet and demanded that I take a look at what Matrox was doing.

Well, I will confess that Matrox has not been on my radar since RT-Mac did not make the transition from OS 9 to OS X. And, I had a number of client that had problems with the RT-Mac. Still, Wayne was insistent, and we were in the same room, so I headed over to take a look.

The Matrox MXO is a small silver box about the size of a paperback book that connects to the DVI monitor output on your computer. You then attach a second computer monitor which allows you to use the MXO for monitoring. While the MXO does not assist with capturing or digitizing, it solves two crucial problems faced

by editors working with HD media: How do you monitor it and how do you output it?

I've been working with capture cards and devices from [AJA](#) and [Blackmagic Design](#) for a while now. But what the Matrox MXO does that's so important is:

- It uses your DVI connector, which means it can work on either a laptop or tower system
- It displays your video to a second computer monitor, which is far less expensive than an HD video monitor.
- It displays interlaced video to this second monitor
- It displays the video using video color space (Y'CrCb), rather than the RGB color space used by computers.
- It can output either HD-SDI or HD-analog or, in real-time, downconvert to SD video in either analog or SDI format.
- It supports any DVI monitor that your Mac supports
- Best of all, to me, is that the monitor can be calibrated. This means that you can adjust the monitor to improve its accuracy.

One of the challenges in working with HD media is that many formats are interlaced. However, Final Cut Pro doesn't display interlacing unless you set your Canvas or Viewer to display images at 100%. However, this is not practical for editing in HD.

One of the concerns I've heard expressed about Apple's 23-inch Cinema Display is that it does a particularly poor job displaying black levels properly. I noticed this as well as I was calibrating the monitor because during the calibration, the black levels became unreasonably dark.

I asked Wayne Andrews about this and he wrote: "With the MXO, super whites and super blacks are now visible on a DVI monitor which overcomes this exact issue. We promote the Apple Cinema Display because of its popularity."



He continues, "The MXO supports all QuickTime-based applications that support the V-out component, i.e. After Effects, Soundtrack Pro and Motion. When the app has the ability to select a "Video Out", the MXO is in the mode we refer to as "Mastering Mode;" mastering to tape, if you will. It's this mode that really rocks!. The MXO actually takes the YUV (Yp Pb Pr) data before the graphic card has a chance to convert it into RGB, so there is no YUV/RGB/YUV conversion done providing the editor a true video signal out of the MXO for printing to tape or broadcasting for example.

"For applications that do not support the QuickTime V-out component, i.e. Photoshop, DVD Studio pro, Livetype, the MXO can still be used to check for "title placement", "DVD simulation" before burning, and

even "ringing" within a graphic are examples. This mode we refer to as "Presentation mode", that is, we are running it as an HD/SD Genlock-able scan converter."

(Larry again.) By the way, while a 20" monitor would be fine for 720p HD video, it is too small for 1080i. The Cinema Display is the smaller monitor that will allow you to see every pixel in your image. However, the MXO offers "Scale to fit" option in its control panel, The MXO will take any resolution, 1080 for example, and scale it to fit the 20" monitor native resolution something like 1650x1200. You won't see every pixel in the larger image, but if you don't work with 1080i very often, this is a good workaround. However, leave "Scale to Fit" off, in general, to avoid blowing up SD or 720p media when displayed on a larger monitor.

I found installation and setup surprisingly difficult. A "Read Me First" manual would be really helpful. Also, the correct drivers were not included in the box (all these new features require version 2 which started shipping in May). Second, it took me two days to find the User Manual. The manual was only available on-line and Matrox requires that you to register as a user before you can download the manual. This is an unnecessarily awkward step, in my opinion. (Wayne tells me that after I spoke with them about this, they have made all their manuals available on their website without requiring registration.)

Properly calibrating the monitor can also be tricky, however, the good news is that the MXO provides all the necessary tools to calibrate the monitor - it just takes a while.

Another problem is that the MXO provides so many different monitoring options, it is very, very difficult to pick the right one from the dozens available. Matrox should look to make this selection process easier -- either by limiting the number of different options during installation, or by finding a way to simplify the selection dialog (**View > Video Playback**).

Once I got everything working, using it was easy. I enjoyed the simplicity of pressing the space bar and watching my HD footage on a second monitor. I especially liked using it to verify interlace problems that my computer monitor did not show. And it's ability to quickly downconvert HD footage into any SD format is a real plus!

One thing I didn't do was to test it on a variety of monitors. As I did my testing at an Apple Dealer, the only monitors we had to select from were Apple.

If you are looking for better ways to monitor your HD footage, and you can't afford HD monitors that range in price from \$4,000 to \$24,000, the Matrox MXO should definitely be considered. There is no reason to use the MXO if you are working in SD, as a good SD monitor costs less than the MXO.

The MXO has a suggested retail price of \$995. It runs on both laptops and towers, and provides real-time video monitoring and HD-to-SD down-conversion. These are all excellent things.

Find out more by [visiting their website](#).

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Southern Louisiana Has a New Final Cut User Group

<http://www.aja.com> writes:

We've started a new Final Cut Pro User Group for Southern Louisiana and have met all Apple's conditions to be certified.

I'd be grateful if you could mention this to your readers. They can learn more about us at: <http://www.slfcplug.org>

Larry replies: Thanks, and best wishes for continued growth!

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Quick Web 2.0 Application Survey

The last time we did a survey, in January, the results were so fascinating that we developed our "[Grow Your Business](#)" webinar and [CD](#) from the results.

Well, we are working on some new ideas and we need your feedback again. This time, on whether you are using any Web 2.0 applications.

Social networking and video communication are exploding in entirely new ways and we are trying to figure out if this is simply using existing tools in new ways, or if we need to adjust our training to help editors understand this new environment.

That's where we need your help.

Please take a second and answer our one question survey on what Web 2.0 applications you are using. Even if you *DON'T* use them - that helps us, too.

Responses are *ALWAYS* confidential and we'll let you know the results next month.

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Growing Your Business CD



Thinking of surveys, last month, we presented a series of web seminars (webinars) on *Growing Your Business*, which was based on a survey we took in January. These webinars were very successful -- in fact, two of the three sold out.

We got lots and lots of comments, compliments and suggestions on ways to make this better and more focused on editors; all of which we implemented during the course of our seminars during May.

However, we also realized that this information could just as easily be presented via QuickTime movies on a CD, where you could view them at your convenience, plus, with a CD, we could include all the PowerPoint slides, so you don't need to take as many notes.

So, I'm pleased to introduce: Growing Your Business -- on CD! We took all your feedback, re-did all the content, recorded it as a series of illustrated QuickTime movies, and put it onto one CD.

Everyone who participated in our webinars will get a FREE copy. For everyone else, you can get dozens and dozens of tips you can use today to grow your business for the ridiculously low price of \$39.90.

[Click here](#) to learn more -- then order your copy today!

And, thinking about our store reminds me - we have a new store! Our new store is designed to better accommodate the needs of our customers and to improve the overall shopping experience.

Here are some of the features we've added:

- *Products Reviews* - You can now share your opinions on our products with other customers, and read what others have to say.
- *Permanent Shopping Cart* - Any products you add to your online cart remain there, even between visits, until you remove them, or purchase them.
- *Address Book* - We can now deliver your products to an address other than yours! And, you are able to save multiple addresses to your Address Book for future use.
- *My Account* - You can now view your purchase history and track the status of your orders.
- *Product Notifications* - You can now request email notifications informing you of product changes or updates.

It's taken us about three months to make the upgrade and I'm very excited about all the possibilities. I'd also like to thank our webmaster, Srithip, for all her hard work. Take a few minutes to explore and let me know what you think: www.larryjordan.biz/store.

By the way, we've added the excellent laminated keyboard shortcut guides from Loren Miller covering [Final Cut Pro 5](#), [DVD Studio Pro](#), [Soundtrack Pro 1](#) and [After Effects 6](#). These place-mat-sized guides can save you a ton of time in discovering the secrets to speed in each of these applications.

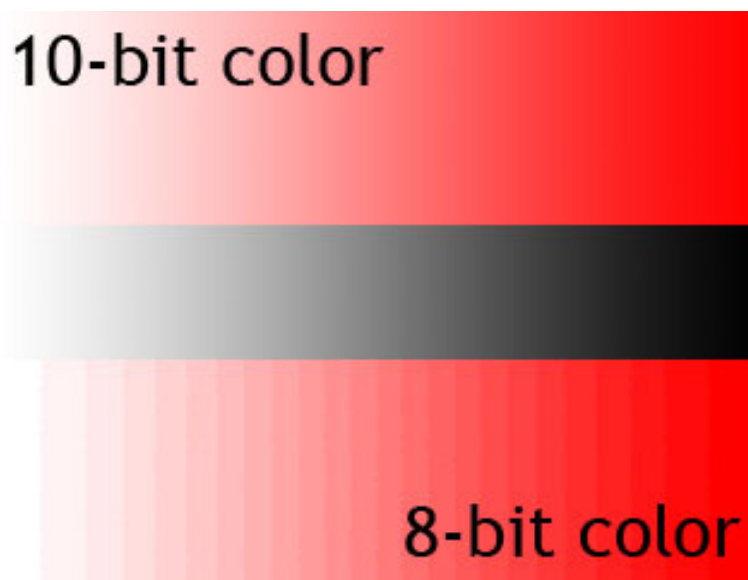
Oh, and if you are wondering which products can best meet your needs, take a [look at our Store Guide](#) for some advice.

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Why Video Bit Depth Matters

ProRes is the new QuickTime codec Apple released with Final Cut Studio 2. The reason it needed to be invented was that none of the HD codecs currently shipping with QuickTime supported both small file size and 10-bit quality. You could get one or the other, but not both.

The reason 10-bit quality is important is illustrated in this simulated picture.



All shades of gray, and shades of a color, are represented by a numeric value. In 8-bit video, these values range from 0 - 255. In 10-bit video, these values range from 0 - 65,536. In both cases, 0 represents the absence of something, either white or a color, while either 255 or 65536 represents the maximum amount of white, or a color.

Research has shown that an 8-bit gray scale is essentially sufficient to smoothly represent all the shades of gray our eye can perceive. However, 8-bit color shows banding, that is, clear divisions between different shades of color. I've simulated this in the lower portion of the illustration above.

To prevent banding, color needs to be stored in 10-bit files. This provides smaller differences between

color values, which prevents banding, but at the expense of much larger files.

DV, DVCPRO-50, DVCPROHD, HDV, XDCAM -- the formats that many of us use every day -- are all 8-bit formats. This means that they will have a tendency to exhibit banding in saturated colors.

This problem is made worse as we start using Color for color correction. This is because Color needs to render your color corrections into video files as part of its final output process. If you output 8-bit video, you could easily inject banding into your final masters.

To solve these problems, ProRes allows you to store both SD and HD video using 10-bit values, but at file sizes up to 33% smaller than uncompressed SD files and 90% smaller than uncompressed HD files. This allows us to take advantage of the improved image quality 10-bit video offers, without totally overloading our hard drives with massive files.

Here are some general rules you can use:

- 8-bit video files are smaller than 10-bit, however, color fidelity can suffer
- 8-bit files are perfectly OK for off-line and/or rough-cut uses
- 8-bit images are generally OK for images that don't have lots of color saturation or effects
- 10-bit files are better for mastering
- Using ProRes for mastering SD video will, probably, look better than native DV. Your file sizes, however, will increase to 65 GB per hour of video at a data rate of 18.125 MB/second.
- Using ProRes for mastering HD video will, probably, look better than native HDV, DVCPROHD, XDCAM, and the same as HDCAM or HDCAM SR. Your file sizes will be up to 99 GB per hour, at a data rate of 27.5 MB/second. These files will be much *bigger* than similar HDV or XDCAM, bigger than DVCPROHD and much, much *smaller* than HDCAM and HDCAM SR.

Note: Frame rate and image size will impact file size, these estimates assume worst case. Apple indicates under "normal conditions" we should expect file sizes about 30% smaller than my numbers.

As video editors we are constantly balancing image quality with file size. With ProRes, we have another tool we can use to help us in this process. While no one codec meets all possible needs, ProRes deserves to be seriously considered.

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Thoughts on the ProRes Codec

Chuck Spaulding has been involved in motion graphics and codecs for a number of years. Recently, he and I got into a discussion of video codecs and he provided his thoughts on Apple's ProRes codec.

Quality appears to be quite good, although I'm sure the folks at Cineform and SheerVideo will do a comprehensive evaluation and we'll learn the RMS error rate, what its weaknesses are and how it holds up in post. However image quality is only half the equation, workflow is the other half and I'm having a tough time figuring out a workflow that makes sense.

After seven or eight generations of ProRes re-compression there is a noticeable difference compared to the uncompressed original which means that the codec isn't lossless, which would seem to be a minimal standard for an editing codec. If ProRes progressively degrades

the image even when you haven't edited a single pixel, how can it possibly hold up under real-life situations where you're transforming, filtering, adding effects, compositing, color-grading, and so on?

So ProRes is a lossy codec, it is 4:2:2 [not 4:4:4], it is Y'CbCr [not RGB], and it does not support alpha channels. Nowadays, almost all commercial productions combine video (Y'CbCr) footage with digitized film (Cineon) and CGI (RGB), so the ability to handle and transport data equally well is imperative, as is the ability to convert between them without loss. It's hard to imagine a video or film production without compositing, yet Apple's ProRes codec, like their uncompressed Y'CbCr 4:2:2 and AIC codecs, do not support an alpha channel.

The lack of an embedded alpha channel means that compositing requires two streams of data for each overlay instead of just one, exacerbating the already painful bandwidth problems associated with high-definition video. Also, in SD, video professionals are accustomed to smeared chroma, there's a popular myth that sub-sampling chroma doesn't matter because the human eye doesn't resolve chrominance as well as luminance. In the human retina as a whole, it's true that color-blind rods outnumber hue-discriminating cones. In the fovea, however, which receives the part of the image we pay attention to, the retina has no rods at all - only cones. So while 4:2:2 may look good enough for standard definition video it is not good enough for anything beyond SD.

That doesn't mean that it isn't a step in the right direction and I'm sure FCP users will adopt it. However one real problem with this codec is that it is Apple-only, meaning it won't work with Premiere on the Mac Pro. This is a significant constraint of the workflow.

Larry replies: Thanks, Chuck. If anyone has additional comments, please send them and I'll update this article.

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Any Requests for Final Cut Pro 6 Training?

I'm back in the recording studio later this month for Lynda.com. We are redoing all our existing Final Cut Pro 5 training to update it for Final Cut Pro 6.

(By the way, I just finished a quick overview of the new features in Final Cut Pro 6 for them - it should be released by the time you read this.)

Anyway, since I have to re-record everything anyway, I wanted to ask if there is anything special you'd like to learn. We are creating two titles: one for editing and a second for effects.

Here's the [Table of Contents](#) for our current FCP 5 Editing title.

Here's the [Table of Contents](#) for our current FCP 5 Effects title.

[Send me an email](#) with your requests and I'll see what I can do to include it. Thanks!

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Thought for the Day #1

Dan Olderman sends in the following quote from Albert Einstein:

"If a cluttered desk is the sign of a cluttered mind, of what, then, is an empty desk?"

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This Month in Edit Well



Edit Well-- the rich-media newsletter for Final Cut Studio, which I edit and [Peachpit Press publishes](#), has the latest news on Final Cut Studio 2.

The May issue has the first published "First Looks" of:

- Color
- Soundtrack Pro 2

Plus, we also have articles on:

- Using Final Cut Pro patch panel
- Exporting still images and removing interlacing
- Creating animated backgrounds in Motion

On top of all THAT, we added:

- Audio highlights from the NAB SuperMeet
- Audio profile Bam Ross, about a business model for podcasting
- Video tutorial on creating a traveling matte

Edit Well contains the techniques and tips that you just can't find anywhere else. In Edit Well, you don't just read about it.. you also watch and listen to it. And, at only \$59 per year, this is a GREAT deal!

Click here to [view May's Table of Contents](#). Click here to subscribe: www.peachpit.com/editwell.

And coming up in June are four killer articles on Soundtrack Pro 2, Color and Final Cut Pro that you don't want to miss.

Edit Well is the perfect compliment to this newsletter -- if you like my newsletter, you'll love Edit Well. (If you have any problems subscribing, [send me an email.](#))

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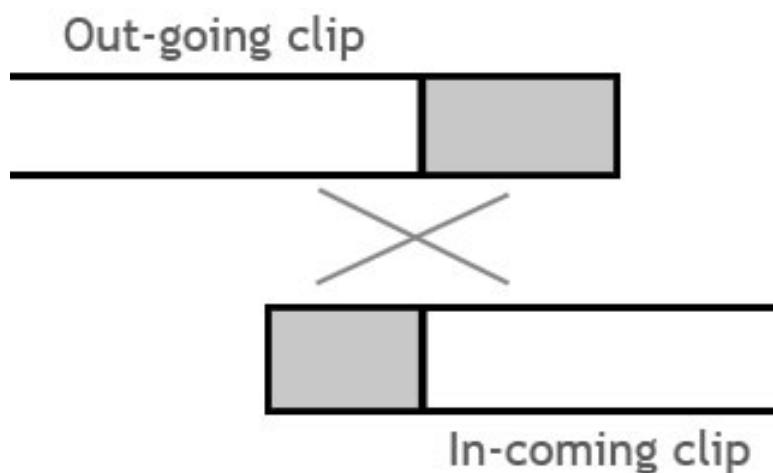
A Matter of Handles

Brian Pshyk, from Calgary, writes:

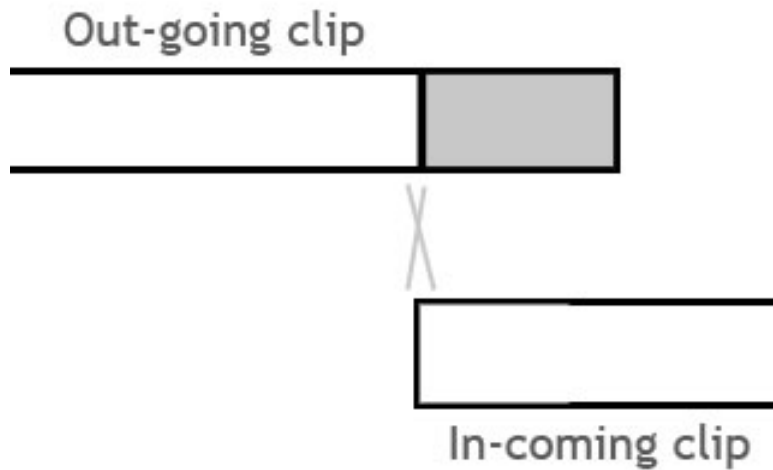
Every so often when I try to apply a cross dissolve between 2 clips (one a video clip and the other is a motion created piece) the transition defaults to a 1 frame transition and I cannot increase its length. The effect stays on the timeline as 1 frame in duration. Is this a known bug?

Larry replies: Nope. It's a lack of handles.

Handles are extra video before the In and after the Out. They are only relevant for Timeline clips. When you apply a transition, say a 30-frame dissolve, between two clips in the Timeline, during the course of that dissolve, Final Cut displays video from both the out-going and the in-coming clips. Both are on screen at the same time.

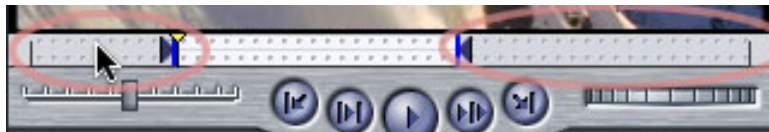


In this illustration, the gray area represents the extra video, or handles, after the Out of the top clip and before the In of the bottom clip. The X illustrates where both images are on screen at the same time during the dissolve. The calculation for a handle is that it needs to be 1/2 the length of your transition. Thus, a 30-frame dissolve requires 15-frames handles on each clip.



However, if one of your clips doesn't have any handles, as illustrated here where the bottom clip has no extra video before the In, the dissolve doesn't have enough extra video for both clips to appear at the same time during the dissolve.

So, Final Cut sets the duration of the dissolve to the longest amount of time that video from the two clips overlap -- in other words, one frame.



The easiest way to see the handles for a clip is to double-click it to load it into the Viewer and look at the how much video there is before the In and after the Out.

Note: Final Cut allows you to alter the start point of your transition so that it can:

- Start on the edit point (insufficient handles before the In)
- Center on the edit point (sufficient handles on both clips)
- End on the edit point (insufficient handles after the Out)



You can make these timing adjustments either by dragging the transition icon around the edit point, or by double-clicking the transition icon to load it into the Transition Editor and adjusting it by clicking one of the three triangles at the top.

Doing Stills the Hard Way

Mike Johnson writes:

Some of my students wanted to shoot stop motion then edit in FCP. So they used a digital stills camera and shot their film - at 3648 x 2736 which meant that each frame was 2.7 MB! I searched the web for ways of doing stop motion with FCP and couldn't find much of use. So we struck on our own formula for getting the stills into FCP since bringing them in directly as stills didn't work.

We opened the jpegs as an image sequence in QuickTime with a frame rate of 6 fps. The image was too big for the screen and the movie wouldn't play. But the stills were all there. So we exported it as a movie using photo JPEG as the compression type, setting the frame rate etc. On the size settings we used 912 x 684 (3648 x 2736 divided by 4) . This produced a playable movie. Then in FCP we set the sequence settings to 912 x 684 custom (4:3) square pixel, with a PAL time-base and the audio as DV defaults. Phew! It works. The movie fitted the timeline 100% and there was loads of definition to crop, zoom, pan and scan the frame. Is there an easier way for the next time!

Larry replies: Wow! That's doing it the hard way.

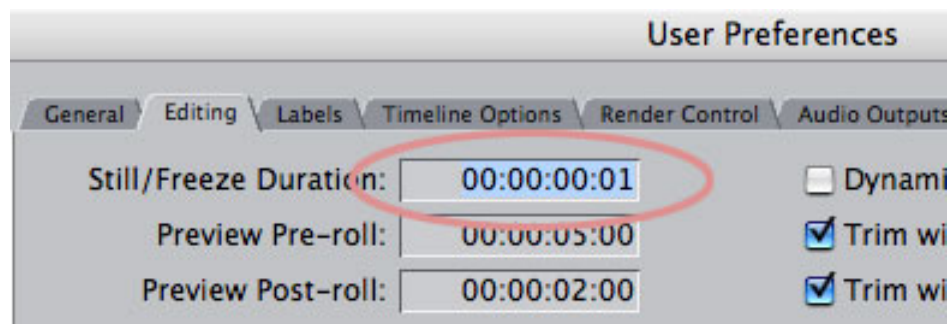
First, we need to clear up how you are using your stills. Are you using them as scans of images, where doing pan-and-scan is important or as individual frames of a movie, such as clay-mation?

In either case you need to compensate for the different pixel aspect ratios between the computer (square) and video (rectangular).

- A good image size for pan-and-scan in 4:3 NTSC is 1800 x 1350 x 72.
- A good image size for pan-and-scan in 4:3 PAL is 1920 x 1440 x 72.
- A good image size for full screen 4:3 NTSC is 720 x 540 x 72.
- A good image size for full screen 4:3 PAL is 768 x 576 x 72.

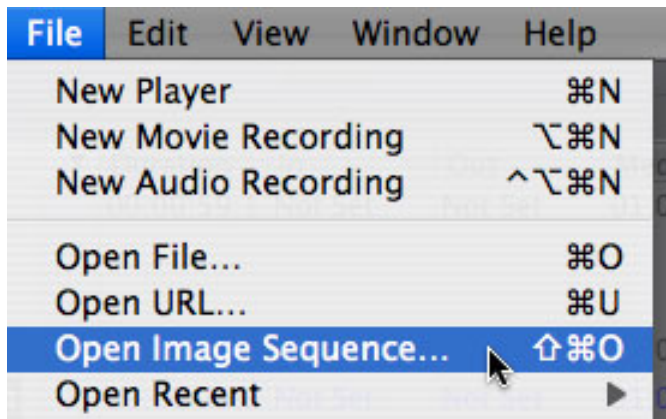
[Here's an article](#) that describes the differences between video and computer images in more detail, including a complete list of various image sizes for different aspect ratios.

If you want to bring individual frames into Final Cut, go to **Final Cut Pro > User Preferences > Editing tab...**



and set the Still/Freeze Duration to **00:00:00:01**. This sets the duration of all imported still images to one frame.

However, an even easier way to do this is to use QuickTime Pro.



Put all your still images in one folder and number them in the order you want them to play back. Then, select **File > Open Image Sequence...**

QuickTime will import all your images in order and allow you to export them as a single QuickTime movie. You can then import this movie into Final Cut and edit it as you would any other video file.

For highest quality inside Final Cut, set **Final Cut Pro > Easy Setup** to **Uncompressed 10-bit** (either NTSC or PAL). The file sizes will be huge, but the quality will be as good as it gets.

Your resulting files can then be output to video tape, or compressed for a DVD for final distribution and playback.

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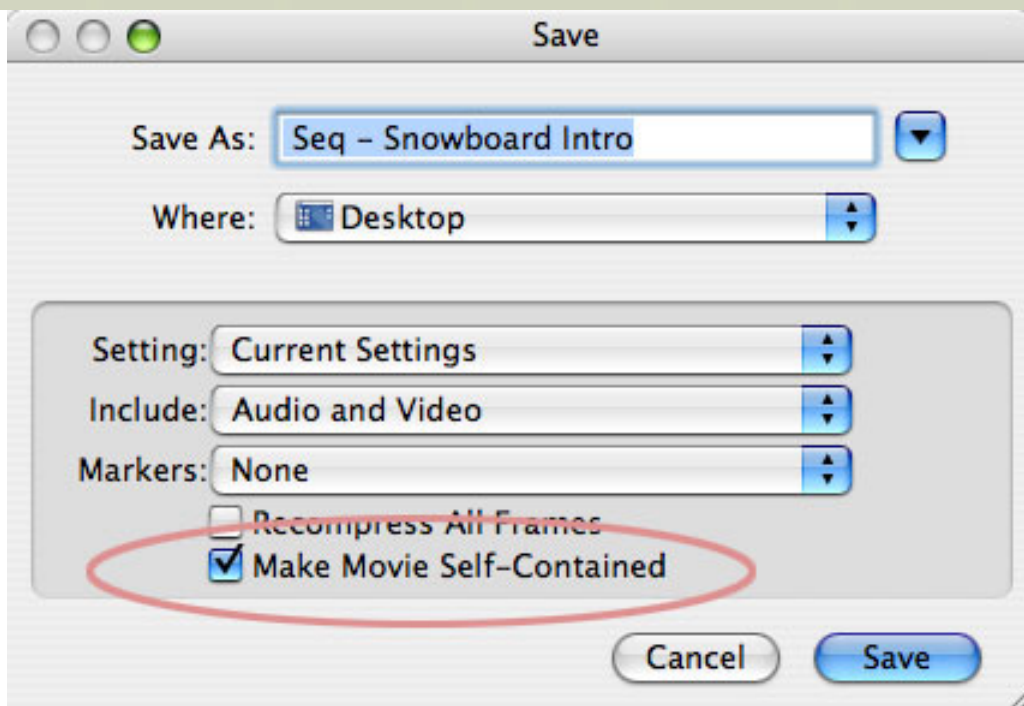
Suggestions on Printing to Video

Don Breinlinger, from IDS Interactive, writes:

In last month's newsletter you spoke about reference, vs. self-contained movies. We export a self-contained movie and the use it to print to video, to output a 30 min. DV NTSC show. It's our understanding that it's easier for FCP to print one track of video and two of audio from a self-contained movie, than to print the finished sequence, which might have upwards of 20 tracks.

My question is, is print to video using a reference movie any different than just printing from the timeline? I'd love to skip exporting a self-contained movie, but not at the risk of FCP dropping frames when outputting.

Larry replies: The short answer is: "No."



First, a quick definition. When you select **File > Export > QuickTime Movie**, at the bottom of the dialog box is a checkbox.

When **Make Movie Self-Contained** is checked, you are creating a QuickTime movie that contains all your video, all your render files, and all your audio complete and fully mixed in one gigantic file.

When **Make Movie Self-Contained** is not checked, you are creating a QuickTime movie that contains all your audio, fully mixed, and pointers that point to where the video and render files are stored on your system.

The first type movie is called a "self-contained" QuickTime movie, the second is called a "reference" QuickTime movie.

Reference movies are smaller and much faster to export, but they will only play on your system. In general, these are a good choice when you only need the video for a short period of time.

Now, to answer your question, whenever Final Cut gets ready to Print to Video, or Edit to Tape, it ALWAYS renders all tracks and effects so that when it plays back, FCP is ONLY playing one video track (either source video or render file) and two audio tracks (unless you've customized your audio output for multiple tracks).

In other words, there is no need to export anything, because Final Cut is automatically doing it for you. This is why earlier versions of Final Cut could play broadcast quality video in real-time on very slow computers (compared to today's models).

So, my recommendation is not to export anything, just print your sequence to video. If you are having output problems and your sequence just won't play, then follow these steps:

1. Export your sequence as as self-contained QuickTime movie
2. Create a new project
3. Create a new sequence that matches the format of your exported movie

4. Import your movie
5. Select **File > Print to Video**.

In almost all cases, this will solve the problem.

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A Whole Bagful of John Gallagher Tips

John Gallagher is relocating his editing offices to Edinburgh, Scotland. During this last month, while waiting for the move, John decided he had too much time on his hands, so he sent in a whole batch of tips. Who am I to turn down such a wonderful gift?

Thanks, John!

What a Drag! - John Gallagher

Cheesy title, I know. Do you fancy dragging a window in Final Cut, but don't want to be bothered having to drag on the fiddly title bar to do it? Well, just on the off-chance that you "give a monkeys" as we Brits say, if you hold **Command+Option**, you can drag a window by dragging anywhere within it.

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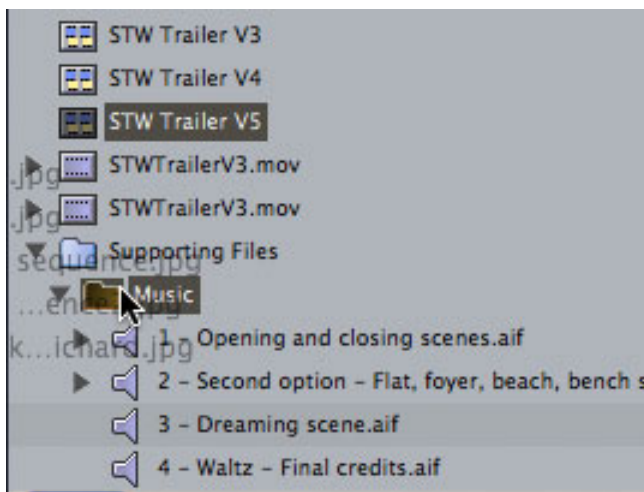
A Faster Way to Import Clips - John Gallagher

Do you need to import some files into Final Cut, but maybe, like me, you are trying to do too much at once and you've got Photoshop, Preview, Mail, Firefox and, of course, Final Cut all open at once.

Well, select and drag the files from the Finder window you want and whilst you are holding down the mouse button, press **Command+Tab** repeatedly until Final Cut is highlighted, or move the cursor over the Final Cut icon. Let go of the Command key (whilst still holding the mouse button) and hey presto! You can now drag the files into the Browser.



You could also drag the files straight into the sequence you're working on, but I think it's better to put them in the Browser first. This way you can see all the appropriate information about them and organize them with the other files.



What's the advantage of this Command-Tab technique over **File > Import > Files (Command+I)**? Well, first, it's faster. However, the most compelling reason for me is that you can directly import the files into a specific bin, which, at least on 5.1.2, you cannot do just using the Import function. If you want to explore a bin that is closed, hold the files over the bin for a few seconds and in true "spring loaded folder" style, the bin will open.

This shortcut can be used with any application - it's system-wide. One last thing, I can't really see how this would be of use, but you can, should you wish, drag these files into the Viewer in FCP. If you have dragged more than one file, the Recent Items button allows you to see the others you have dragged.

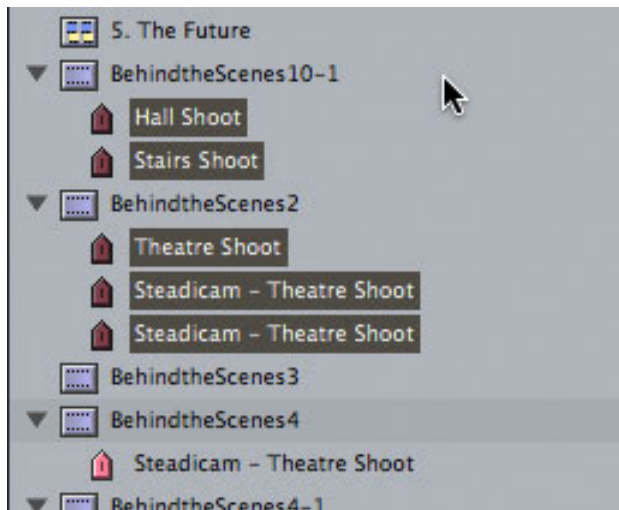
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Markers Update - John Gallagher

Last month I reported that you could create multiple overlapping markers. A bit more exploring and I have a

couple of other tips on using markers.

First, you can select multiple markers in multiple clips by Command-clicking the markers you want to select. Then either **Command-U** or drag these markers to a bin (as per Larry's great tip) to convert them into subclips.



Second, you can load just the marked section of a clip by double clicking on the marker. This will open just the range the marker covers in the Viewer. However - beware. If you now try to add markers in this section of the clip, they disappear into something I've christened the "Marker Black Hole". Unless I'm missing something, FCP just deletes them as soon as you load any other clip into the viewer.

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You need Q! - John Gallagher

I'm well aware that you can use **Command-1**, **Command-2**, and **Command-3** to switch between Viewer, Canvas and Timeline respectively. This is all very well, but when I'm editing, I found myself hankering for something faster and easier to press. Thankfully, Final Cut didn't disappoint and after a quick peruse of the **Tools > Button List (Option+J)** I found my saviour - the **Q** key.

Provided you're in the Viewer, Canvas or Timeline window, you can easily use this handy shortcut to navigate between windows and edit faster.

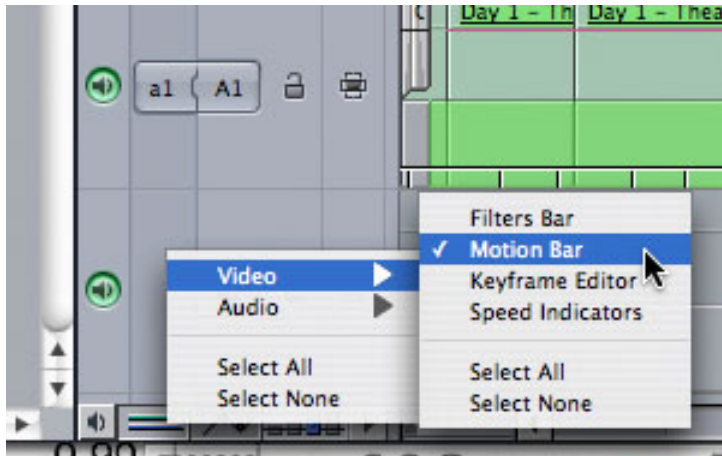
If you're in the Timeline window, press **Q** and you'll switch to the Viewer. **Q** again will switch to Canvas. From the Canvas you can perform most of the key commands you need to edit, the main exception being when you need to change the view in the Timeline.

I love my Q key!

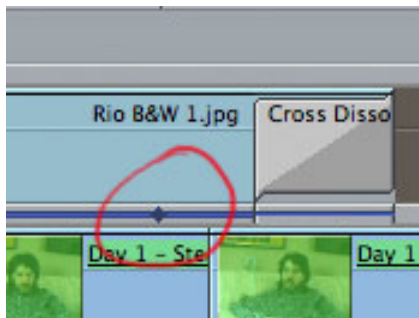
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Adjusting Cross Dissolves - John Gallagher

I'm sure this is old hat to any editor with the vaguest grasp of FCP, but it didn't occur to me until quite late in the day, so it's included here in the hope that it will help someone else. If you set up a Ken Burns effect (i. e. a key-framed move) on a photo, then add in a cross dissolve to another photo, the Ken Burns effect will stop either before or in the middle of the dissolve. I used to have to fiddle around with the clip in the viewer before I realized that's what editing keyframes in the Timeline using Clip Keyframes is for.



Press **Option-T** and you should see motion keyframes in bars below your clips on the timeline. If not, you need to make sure it's switched on by right clicking on the Clip Keyframes button in the Timeline then going to **Video > Motion Bar** and making sure this is ticked.

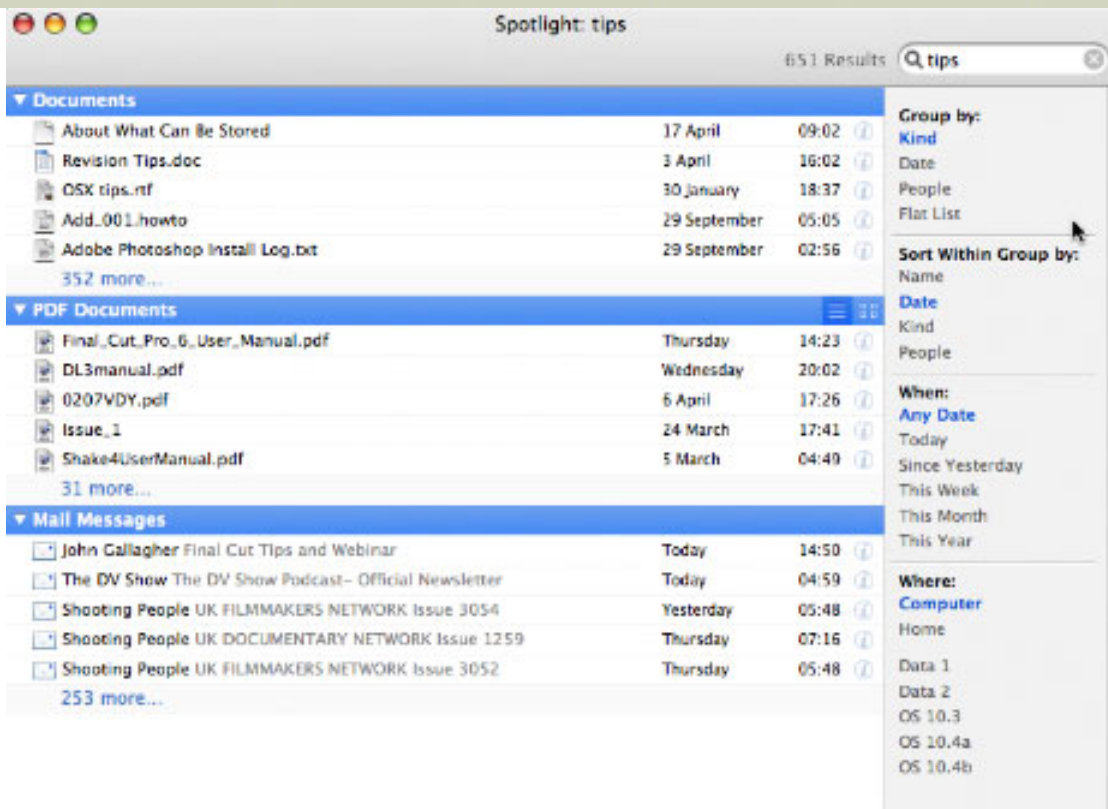


You should see a Blue bar with diamonds for the points at which you've set the Keyframes. Drag these diamonds to the correct position at the end of the dissolve and you're done. If you have snapping on, they will even snap to the end, centre or start of the dissolve. Handy.

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Spotlight Window - John Gallagher

This isn't strictly an FCP tip, but it can be handy to find files. If, like me, you don't really like the **Command-Space** Spotlight interface, there is an alternative.



Press **Command-Option-Space** and you'll get a proper window with extra options on how to sort or find files. There's also the **Command+F** Find command from the Finder which can be useful too.

John, thanks for all these great tips.

Reader Mail

Telling the Difference

Christopher Ridder writes:

I wanted to pass on a very simple way to always know if you are reading timecode in drop or non-drop mode inside or outside of FCP. Just look at the last time separator...



If the last time separator uses a colon the video is non-drop frame. If it uses a semicolon, the timecode is drop-frame. This distinction is only necessary for NTSC, PAL and HD always use non-drop-frame timecode.

Larry replies: Thanks. For those of us who have been in the industry for a while, we often forget that folks just starting can really use this tip.

- - -

Thought for the Day #2

Dan Olderman sends in the following quote from Albert Einstein:

"Only two things are infinite, the universe and human stupidity, and I'm not sure about the former."

Larry adds: Every time I read this, there are two past clients I think of immediately....

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"Best" Video Compression

Ken Cooper, from MultiVision in Tampa, writes:

We have more and more clients that want videos on the web that are 30 min. to 1 hour long. I always try to get them to put up four 15 min. segments. Part 1, part 2 etc. Many of these are training videos they sell. We encode them into Flash with On2 Flix Pro. Is this the best way, or maybe you have some better ideas. I know our business is going to be doing so much more of this, I just want to make sure we are on top of what is really BEST.

Larry replies: "Best" is such a vague concept. Does it mean highest quality, smallest file size, fastest download, easiest to encode...? Because there's no one codec that meets all these competing demands.

For great quality, H.264 is a wonderful codec, but the compression times are very long. Flash is also a good choice if you want to integrate your movie into a web page.

Based on your description, you are doing perfectly fine.

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Disposing of Old VHS Tapes

Gene Fozard writes:

I would venture a guess many of your readers have tons of old video tapes gathering dust, taking up space, attracting mold, and just begging to be disposed of.

I personally have boxes & boxes of Umatic, VHS, & SVHS tapes I'd like to dispose of in an environmentally friendly way. I do not at all feel comfortable doing the dumpster thing.

Do you have any suggestions?

Larry replies: I'm clueless -- however, if any reader has a suggestion, I'll be happy to pass it along.

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Creating a PAL Image Sequence

Jacob Hodgman, of Corporate Communications, South Australian Police, writes:

Here's one that I'm not sure about.

The client wants to show a photo montage (Ken Burns-style), at a one-time-only exhibition, for which they have hired a 42 inch 1024 x 768 (PAL) television monitor.

Before I knew the resolution of the final display medium, I created the montage with all effects in standard 720 x 576 DV PAL with the plan of providing an SD DVD for use on the day. (This needs to be simple because they only want to use a DVD player and TV rather than a computer display.) While I can create a 1024x768 sequence in FCP, it's not supported once you get to DVDSP.

Since I can't create a 1024x768 DVD to match the monitor, what would be your approach? It will never be broadcast. It needs to play on a stock standard DVD player.

As I'm only using photos, I'm not hassled by the fixed frame size of any video formats. Quality over speed is my priority here.

Larry replies: I love puzzlers like this.

Since you are limited to a DVD player, you are also limited in your video options. SD PAL is your only choice - 720 x 576 for a 4:3 image.

However, since your monitor is 16:9, you can create your montage for this aspect ratio and it will look better. So, create your images at 1024 x 576, then import them into a DV PAL Anamorphic sequence.

If you were able to feed the screen with a computer, your options become much wider.

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More on Deinterlacing Stills

Steve Lyons, of Lyons Den Video, wrote in with a comment on last month's article on deinterlacing ([click here to read it](#)):

In addition to what was mentioned in your monthly newsletter, when deinterlacing in Photoshop using interpolation, you can limit the area to be deinterlaced by selecting only the areas where there is noticeable movement to be deinterlaced. This results in a more detailed still.

Larry replies: Steve, you were the first of several people to suggest this. This is a great tip to retain as much image quality as possible.

(By the way, shortly after my newsletter was published, Tom Wolsky wrote a detailed article on this for the May issue of Edit Well. It's still current, [subscribe today](#) and learn more ways to deinterlace.)

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Testing Multi-core CPUs

Greg Hydie, from Colorado, wrote:

I'm still skeptical about the multi-core support... it KILLS me to see 8 cores NOT working anywhere close to 100% when compressor is the only thing actively computing on the system. Even on my Quad... the results are bleak and tiresome.

Larry replies: Greg, that's one of the benefits we are looking forward to in Leopard (OS X 10.5). However, BareFeats did some additional benchmarks using the 8-core Macs and Final Cut Pro 6 that might reassure you that things are getting better: <http://barefeats.com/octopro5.html>

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Wrap-up

Well, that's it for another issue. Please take a few minutes and:

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Until next month, take care, and edit well.

Larry

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