



Chapter 1

# WHAT EVERY EDITOR SHOULD KNOW BEFORE A SHOOT



You may be wondering why topics such as audio sample rates, QuickTime preferences, and Mac OS X are at the forefront of a Final Cut Pro 6 book. The truth of the matter is, if you are not aware of some key issues when capturing your initial footage, you could be setting yourself up for a big headache in post production well before you even make the first cut. Being unfamiliar with the nuances of OS X and how they affect Final Cut Pro could lead to some serious frustration for you. Many a project has been botched because hard drives fell asleep during a long render, resulting in corrupt media files.

GeniusDV, a digital video training center, receives calls on a daily basis about audio mysteriously slipping out of sync, and hardware and software that are not compatible with Final Cut Pro. It's crucial to check the version of your operating system. Visit [www.apple.com](http://www.apple.com) and verify that your OS X version is compatible with Final Cut Pro. It's also a good idea to not haphazardly update your operating system every time a new update is released. It is not possible for the software engineers to test every feature within Final Cut Pro for every OS X update. Final Cut Pro is a magnificently well-oiled machine, but I personally wait a week or so to see if the update has any minor issues. Usually there are no problems.

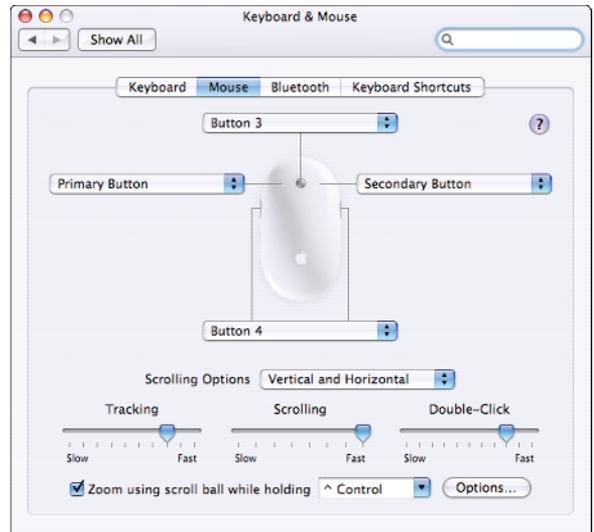
## SYSTEM REQUIREMENTS

Before you spend your hard-earned money on a piece of equipment, make sure that the particular camera or deck that you are looking at is compatible with the latest Final Cut Studio software. Fortunately, Apple posts a Qualified Devices Guide (go to [www.apple.com/finalcutstudio](http://www.apple.com/finalcutstudio)).

In addition, you should read through the technical specifications. Final Cut Studio 2 is a powerhouse application that requires a relatively new Mac. It is also important to take a look at the graphics card installed in your computer. In particular, Apple Motion requires a high-end graphics card. Many Apple G4 owners may be forced to upgrade.

## CONFIGURE THE MOUSE

If you have the Apple Mighty Mouse, you may not realize there are actually four buttons that you can configure, as shown in figure 1-1. Configure the Mighty Mouse so it works with left- and right-clicking; also, you need to adjust the speed of your mouse to fit your particular screen resolution. It is truly interesting how few editors know to do this. Final Cut Pro contains many contextual menu elements that are available by right-clicking the mouse or Ctrl+clicking. The USB mouse that you use with your PC works just as well.



1-1

If you have a display such as an Apple high-resolution cinema screen, you may wish to change the speed of your mouse.

For large display screens, set the tracking speed to Fast. This helps you navigate over long screen distances within Final Cut Pro.

## THE MAC OS X MENU BAR

The Mac OS X menu bar is located at the top portion of the screen. Navigating to the Apple symbol and choosing About This Mac displays the basic information about your current version of Mac OS.

Since Final Cut Pro is no longer offered as a stand-alone program, you have to approach the system requirements from the perspective of the entire studio. Final Cut Studio 2 requires a minimum amount of RAM. As of this publication, the absolute minimum required RAM is 1 gigabyte (1GB). The minimum required operating system is version 10.4.9, and you also need QuickTime version 7.1.6 or later.

The About This Mac dialog box shown in figure 1-2 is an easy way to find out your current version of system operating software. This box also shows you the amount of RAM and the processor type installed. If you see a (2 X) next to the processor speed, it indicates that the computer has dual processors.



1-2

After verifying the version of Final Cut Pro software that you are running, you may want to periodically check for updates. One of the nice features about updating the Mac operating system is that it also updates any of the professional applications that you have installed on your machine. This includes all of the updates for Final Cut Pro.

### PRO TIP

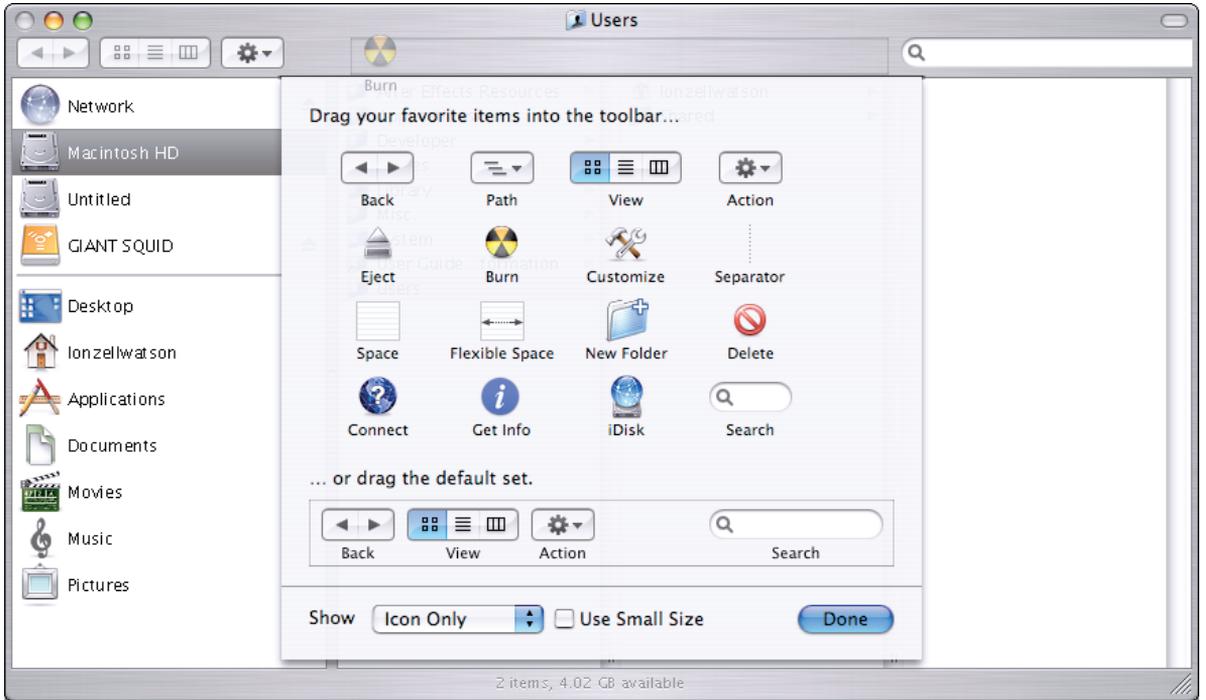
Never update your version of Final Cut Pro while in the middle of a project. Always finish your current project before performing any updates.

## THE MAC OS X TOOLBAR

The icon for the Macintosh internal hard drive represents your operating system (Mac OS X) and all of the programs installed on your computer. Double-clicking on the Macintosh hard drive icon opens a Mac OS X window. The toolbar is located at the top of each window. If the toolbar is not visible, click the clear oval-shaped button in the upper-right corner of the window. This shows or hides the toolbar icons.

Clicking on the yellow Minimize button shrinks the window into the dock; you can bring it back by navigating to the dock and clicking on the minimized window's icon within the dock.

You can add program icons or functions to the Mac OS X toolbar for easy accessibility. To do this, highlight any Mac OS X window, choose View, and then click on Customize Toolbar in the Mac OS X menu bar.



In figure 1-3, a list of favorite items appears in the window. Simply drag a favorite item into the Mac OS X toolbar area, and you can easily access it at a later time. In this example, the Burn icon has been dragged into the toolbar area. When you've finished, click on the Done button.

## NAVIGATIONAL WINDOW VIEWS IN FINDER

Figure 1-4 displays a list of files in the Finder window by using a picture icon. Double-clicking on a folder replaces the window contents with what is inside the folder.

Figure 1-5 displays a list of files and folders based on column headings. Clicking on a column heading sorts the files alphabetically.

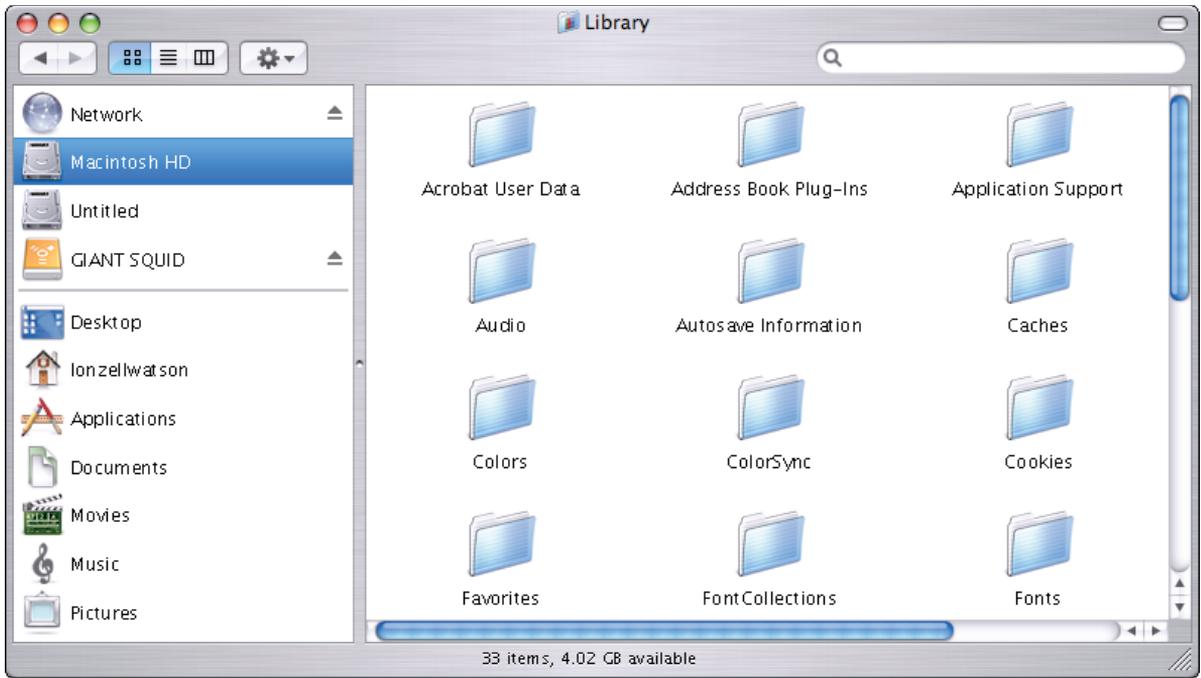
You can also reposition columns by simply dragging the individual column heading to the left or right.

Figure 1-6 displays the hierarchy of files and folders within the hard drive. This view enables you to preview your video files before you import them into Final Cut Pro. You are also able to pinpoint the exact path of a particular file.

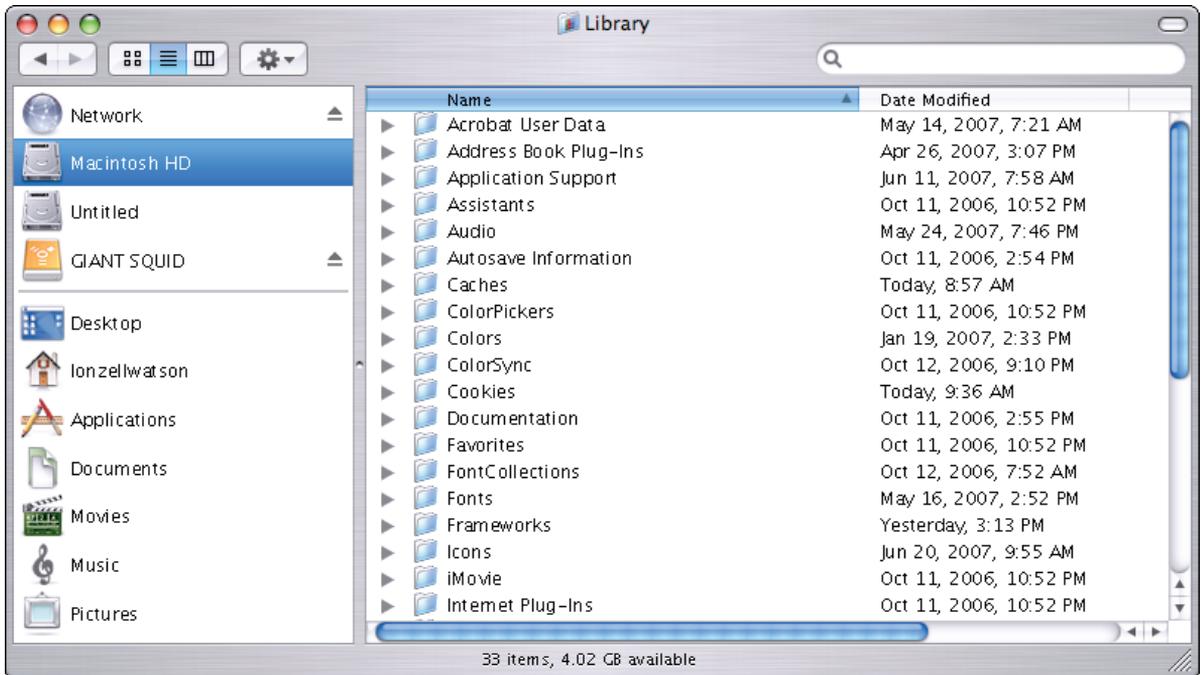
## DEACTIVATING THE MAC OS X EXPOSÉ

Many video editors find it beneficial to deactivate the Exposé function while editing due to its interference with Final Cut Pro shortcuts. By default, if you press the F9, F10, F11 or F12 keys, Exposé sorts all of the open windows you may have open on your desktop by either showing all windows, showing all application windows, showing the desktop, or showing the Dashboard.

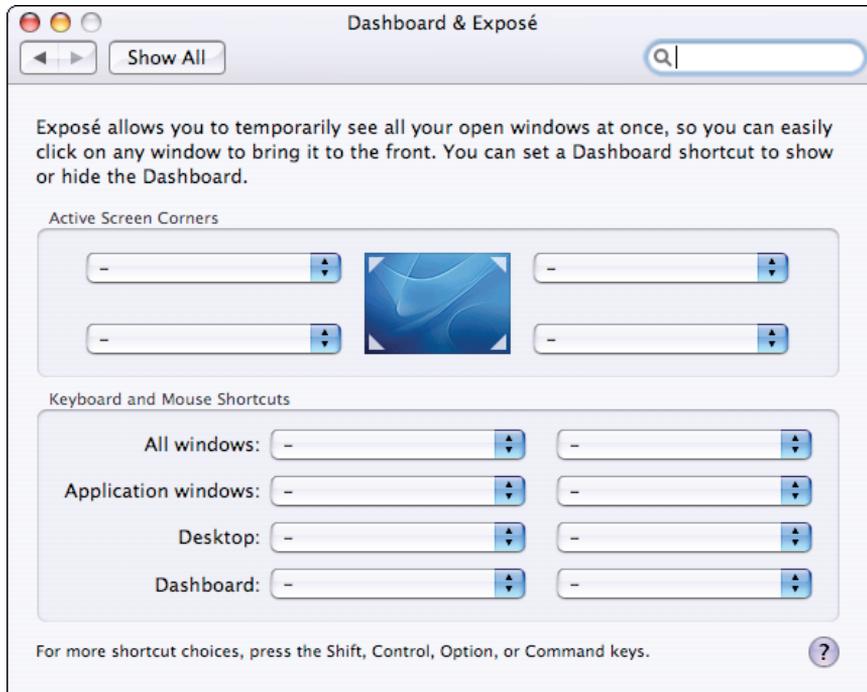
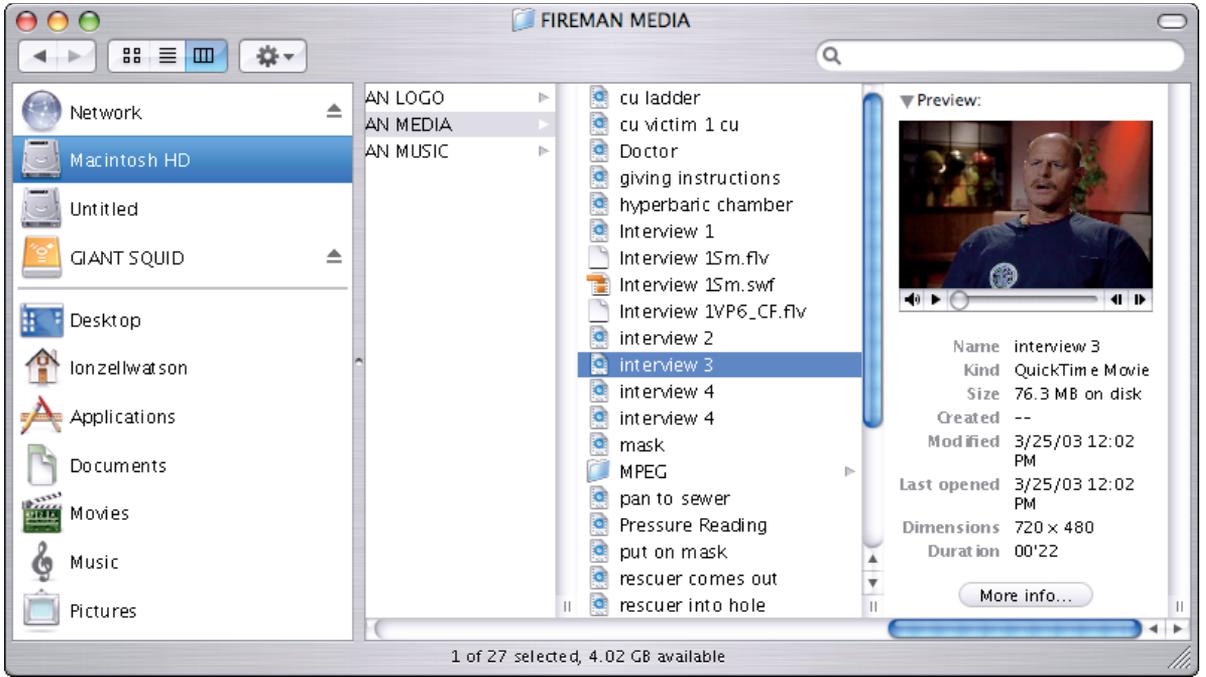
To turn off this function, simply go the Dashboard and Exposé settings located in the OS X Preferences and choose the minus symbol for each activation key in their respective pop-up menus, as shown in figure 1-7.



1-4



1-5



## MULTIPLE USER DESKTOPS IN OS X

When a new user account is created in OS X, the new user does not have the ability to access another user's home folder. Therefore, it is important to recognize that each desktop is unique to the individual user.

In work environments where multiple editors collaborate on projects, having multiple user logins can cause quite a lot of confusion. Remember, the Final Cut Pro System Preferences are all tied to each individual user login, so if one editor has set the scratch disk to a different location or has changed the autosave location, the next person to work on that project does not know where to look for it. This scenario may only sound like a mere nuisance, but I have seen it create havoc in production boutiques. Limit the confusion and just have a common Mac OS X user login ID for everyone.

The example in figure 1-8 shows the directory path in column view. This shows where a user's desktop is located. It is also important to note that each user has a separate documents folder.

### ADJUSTING AUDIO MONITORING LEVELS

If you can see audio levels in Final Cut Pro but can't actually hear any sound on your project, check your audio monitoring levels before panicking.

In the upper-right corner of the Mac OS X desktop, there is a slider that allows you to adjust the audio monitoring level for the Mac.

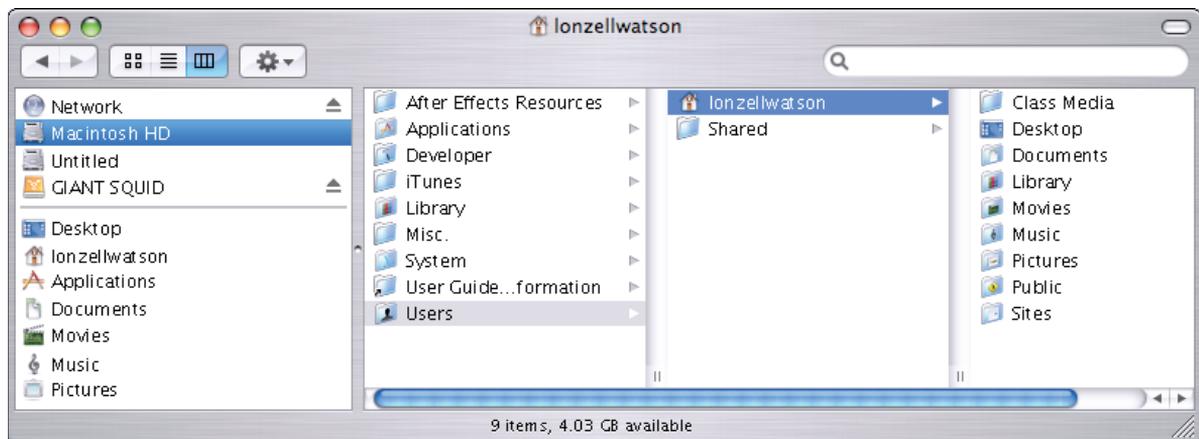
If you have the standard Mac keyboard that ships with the G4 or G5 desktop model, you can adjust the volume by pressing the two speaker keys located in the upper-left portion of the keyboard's numbered keypad. The keypad is not available on a Powerbook or MacBook Pro. You can use the F3, F4, and F5 keys to access volume control.

### CHANGING THE MAC OS X SYSTEM PREFERENCES

Clicking on the System Preferences icon inside the dock launches the System Preferences dialog box. You can also find the System Preferences dialog box by navigating to the Apple symbol and choosing the System Preferences menu.

The System Preferences dialog box displays a list of features that can be modified. Remember, these changes only affect the user currently logged into the system.

The System Preferences dialog box is divided into five categories for easy reference: Personal, Hardware, Internet & Network, System Categories, and Other.



## ADJUSTING DOCK SETTINGS

The dock is an area on the desktop that allows easy access to commonly used items. Applications that are running in the background are indicated by a small black triangle next to their respective icons on the dock. Be aware of this and close unnecessary programs to maximize the RAM available to Final Cut Pro. Finder, whose icon is shown in figure 1-9, is the visual front-end of the Mac operating system and is always running.

### PRO TIP

Since the dock can interfere with the Final Cut Pro interface, some editors may choose to make the dock smaller, and move its position to the right or left side of the screen. I prefer to set my dock to automatically hide at the bottom.

1

What Every Editor Should Know Before a Shoot

## FINAL CUT PRO HARDWARE SETTINGS

Verify that your display settings are set for optimal viewing when running the Final Cut Pro software. The higher the resolution, the better. For a 20-inch cinema display, the recommended resolution is 1680 x 1050; for a 23-inch, it is 1920 x 1200; and for the highly sought-after 30-inch, it's 2560 x 1600.

If you are running a MacBook Pro, use Apple's recommended resolution for the LCD screen on your specific model, which is the highest resolution supported. For optimal viewing, set the number of colors to millions.

Before starting a project, make sure that you turn off any energy-saving features within Mac OS X when running Final Cut Pro.

Finder



Within the Energy Saver dialog box under the System Preferences is a slider you can use to adjust when the computer goes to sleep after a period of inactivity (see figure 1-10). Set this slider to Never. This is important because if the computer falls asleep while the Final Cut Pro software is rendering, it may not wake up properly. Uncheck the Put the hard disk(s) to sleep when possible option. Otherwise, this can cause the system to crash and possibly corrupt your data.

## FINAL CUT PRO AUDIO/VIDEO SETTINGS

Before you begin editing, you should be aware of certain audio and video settings that may affect your Final Cut Pro editing system.

In the top menu, navigate to Final Cut Pro and the Audio/Video Settings menu. This brings up the Audio/Video settings dialog box.

### SUMMARY TAB

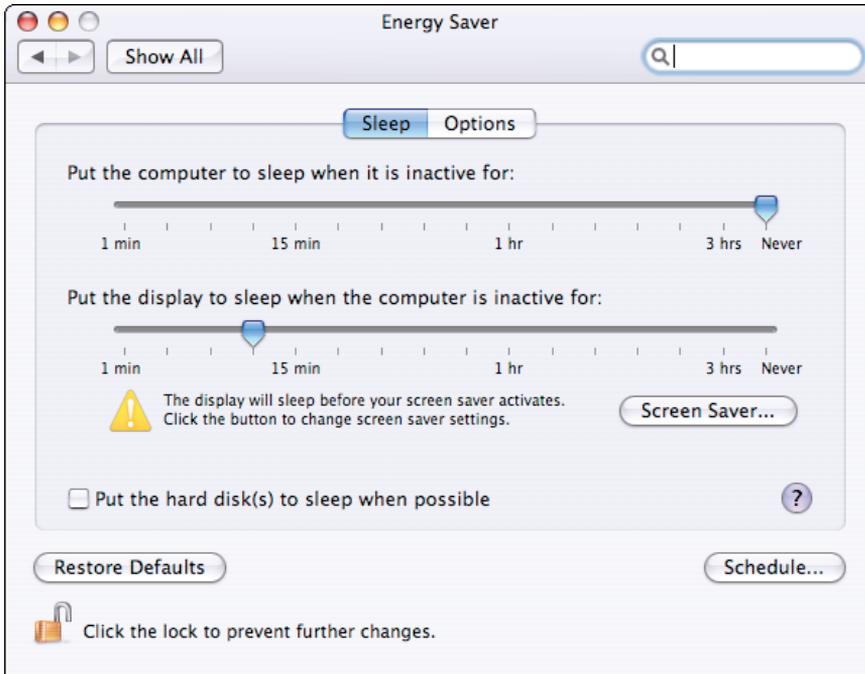
The Summary tab in Final Cut Pro displays a basic breakdown of all your audio and video settings.

The default settings appear in figure 1-11. The Summary tab displays a general overview of the current configuration.

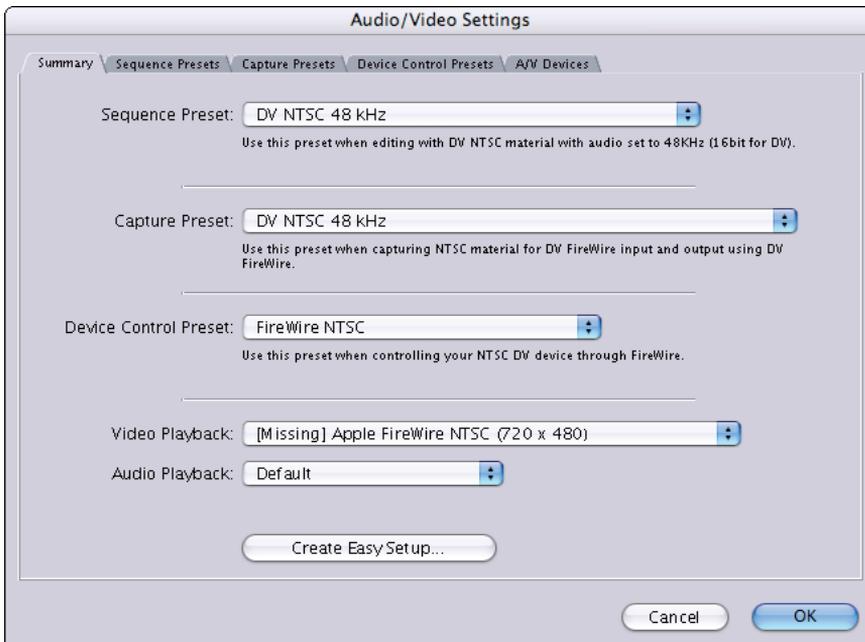
### PRO TIP

Some default presets are locked, and you cannot edit a locked preset. Final Cut Pro automatically creates a duplicate preset if you attempt to edit a preset that is locked.

1-9



1-10



1-11



## SEQUENCE PRESETS AND THE OPEN FORMAT TIMELINE FEATURE

With the Open Format Timeline feature in Final Cut Pro 6, you have little to do in this in tab. You can now mix footage of various formats, frame rates, scan rates, and field dominance into the same sequence without having to touch your sequence presets. In Final Cut Pro User Preferences under the Editing tab, just make sure that you have the Auto conform sequence option set to Ask or Always to take advantage of this ability. It is important that you designate the appropriate final output setting for the project by going into the Audio Video Settings under the Sequence Presets tab. Final Cut Pro will conform all of your unmatched footage to whatever setting you have chosen here.

## CAPTURE PRESETS

Under the Capture Presets tab shown in figure 1-12, you can adjust the parameters for how Final Cut Pro captures video.

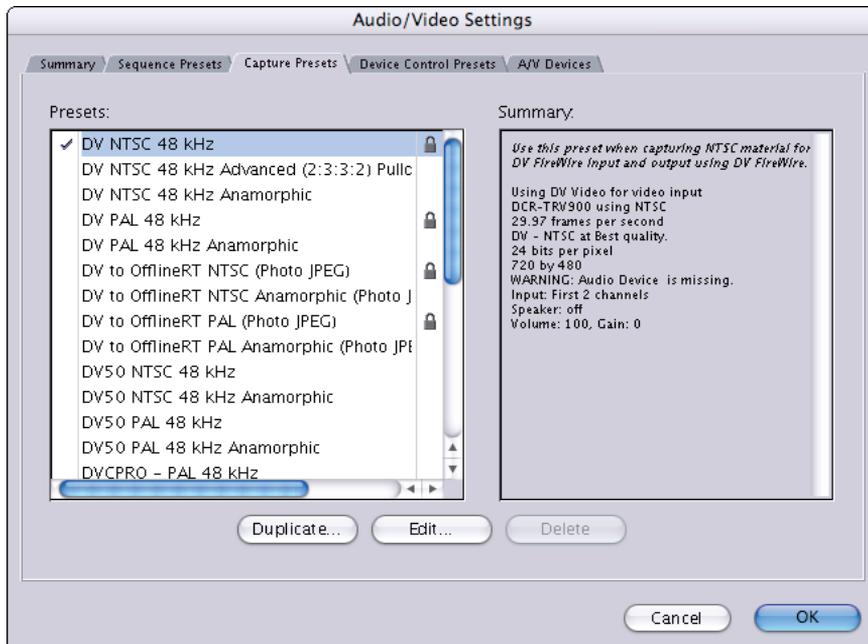
If you are using a basic Final Cut Pro system with the FireWire connection for input, make sure to select in the Presets column either DV NTSC 48 kHz or DV PAL 48 kHz for PAL footage. The HDV option is the same for Europe as well as the United States.

## DEVICE CONTROL PRESET EDITOR

For advanced Final Cut pro users, there are a couple of options you may want to adjust in this window. If you choose to edit your locked preset, make sure that you give your new preset a name.

If you are experiencing problems in Final Cut Pro with a particular camera or DV device, one of the first options you may want to adjust is the FireWire protocol. Try changing this option to Apple FireWire Basic, as shown in figure 1-13.

The next option you may want to change is the Default Timecode. The default setting for Final Cut Pro is the Drop Frame timecode. If you are unfamiliar with the caveats of timecode, don't bother changing it.



1-12



1-13

Drop Frame Timecode compensates for the fact that color NTSC video plays back at 29.97, and not 30 fps. To compensate for the actual-time clock, two timecode numbers are dropped every minute, except on every tenth minute. This method of counting was developed for broadcasters, because of our time system. By using Drop Frame Timecode, an hour-long program is exactly one hour. Drop frame timecode is displayed with semicolons between the hours;minutes;frames in the timecode display box.

Nondrop timecode is useful for shows or programs in Final Cut Pro that will not be broadcast. By using nondrop timecode, the counting method remains consistent for the length of your sequence. This means that after one hour of playback, the timecode would read 00:59:56:12. It is important to remember that no actual video frames are lost. Only the numbering system is changed.

Nondrop frame timecode in Final Cut Pro displays with colons between the hours:minutes:frames in the timecode display box.

By checking the Auto Record and PTV after option in figure 1-14, Final Cut Pro automatically engages a FireWire-compatible camera into record mode after using the Print to Video command under the File then Print to Video menu in Final Cut Pro.

If you do not enable this command, Final Cut Pro remains inactive until you click Okay to start the video recorder.

When using the Print to Video command, Final Cut Pro must render everything in your current sequence before it can play it back out through the FireWire port.

The Auto Record and PTV after option is important if you have a large sequence in Final Cut Pro that requires a long time to render.



1-14

## A/V DEVICES TAB

If your Final Cut Pro system experiences performance issues, or if you have a slower system, you may wish to adjust the external video settings under the A/V Devices tab.

By unchecking the Mirror on desktop option, during playback you free up some of the computer's resources required for Final Cut Pro to play back video on your computer screen. That being said, I still prefer to keep this option checked, as shown in figure 1-15.

Normally within Final Cut Pro, you would leave this option turned on. However, some optional capture cards may require that you turn this option off in order to have real-time effects enabled when viewing full-motion video on an NTSC monitor.

The Mirror on desktop option requires additional resources for displaying the video on the computer

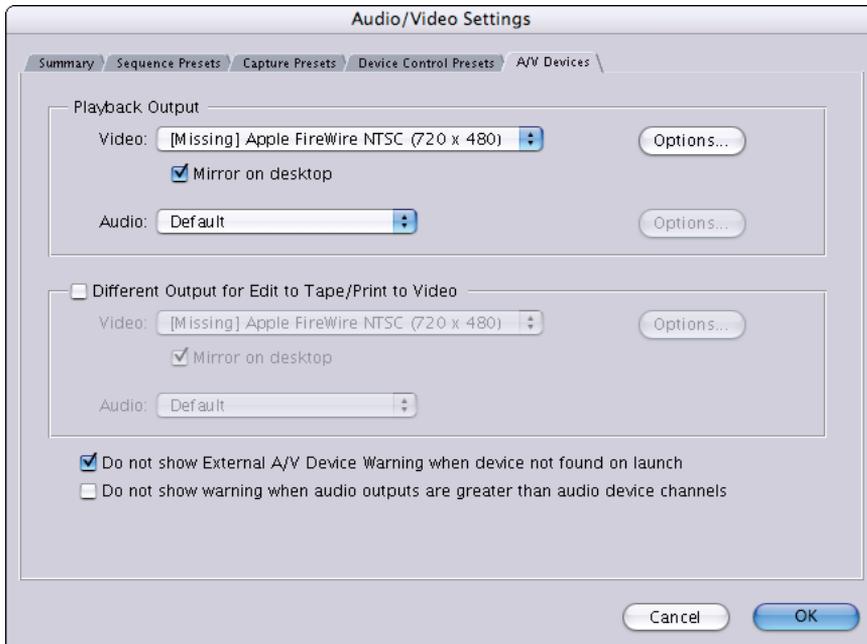
monitor while a sequence is recording back to tape. If your Final Cut Pro system drops frames when recording back to tape, you may want to uncheck this option to free up some processing power.

## CREATING AN EASY SETUP

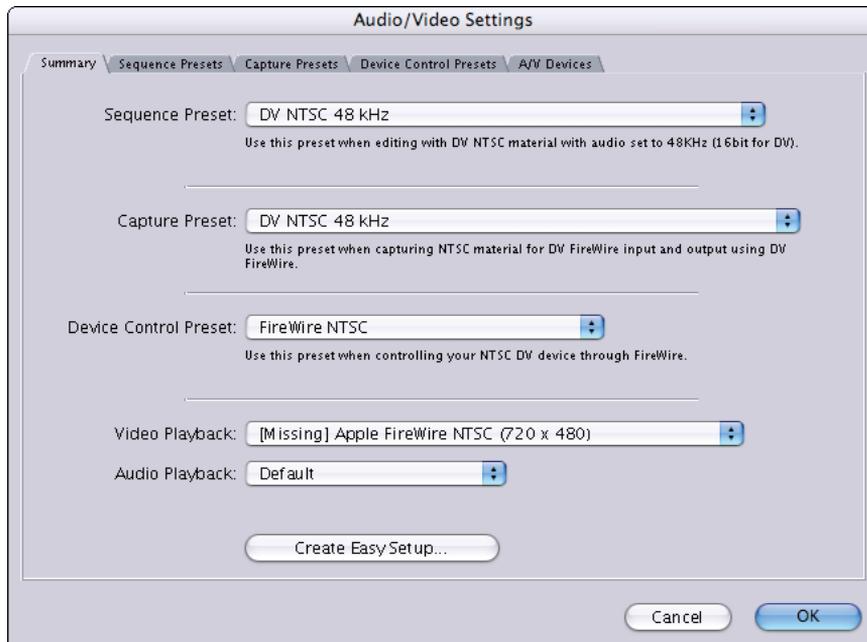
Once you have made adjustments to the audio/video settings, you can create an easy setup menu that allows you and other users to easily access all of the same settings.

The Summary tab within the Audio/Video settings window gives a quick view of the major presets. The next step is to click Create Easy Setup (shown in figure 1-16), and give your configuration a name.

Once you have named your Final Cut Pro easy setup configuration, click Create.



1-15



1-16



When you navigate to the Final Cut Pro ⇔ Easy Setup menu, a dialog box appears that shows all of the available custom configurations.

By default, as you can see in figure 1-17, Format is set to (all formats) and Rate is set to (all rates). This allows you to take advantage of the new Final Cut Pro 6 Open Format Timeline feature, which enables you to combine SD, HD, NTSC, PAL, 4:3, 16:9, and footage with various frame rates in the same Timeline.

Clicking Setup conforms all of the audio/video settings to match the easy setup configuration.

Remember, the changes you made in the audio/video settings do not apply to existing Final Cut Pro sequences. They only apply to new Final Cut Pro projects.

## AUDIO SAMPLE RATES

Before you hit the record button on that video camera, make sure that you know whether you are recording audio at 12 or 16 bit. Go into the camera menu to determine this. If you already know beforehand that your project will be distributed on DVD, 16

bit is where you want to be for DVD-compliant audio that is the highest quality. Once you know at which sample rate your source footage was recorded, go into the sequence and capture presets to make Final Cut Pro aware of the sample rate.

The 48k (48 kHz) audio setting in Final Cut Pro is currently the industry standard for producing Standard Definition DVDs. This is not to say that 48k audio is the best quality — HD DVDs and Blue Ray DVDs can use rates up to 192 kHz — but it is the most compatible format for Final Cut Pro users. Make sure that you, and the people shooting for you, acquire audio at 16 bit in-camera, and that Final Cut Pro is configured to handle 48k audio. Most cameras have two settings: 12 bit or 16 bit, 12 bit being equal to 32 kHz. Remember, anything other than 48k is not DVD-compliant, so keep your sample rates consistent across the board. Capture settings as well as sequence settings should all be uniform at 48k audio.

A current trend is for producers to send their finished work straight to DVD or the Internet. A whole generation of producers, both novices and seasoned



veterans, don't even consider laying back to tape. A fast-growing number of filmmakers are also doing away with the notion of trying to get their films into festivals; instead, they're designing their own high-end Web sites to premiere their work. Products such as Apple iLife have made it so simple to create and maintain a personal Web site that a video editor looking for work only has to get business cards made with his or her Web site address on it, and pass them out to prospective employers for quick access to a résumé and reel.

## PREVIEWING YOUR VIDEO

If you do not have an NTSC or PAL preview monitor on which to preview your work in Final Cut Pro, you can use one of your computer monitors to see a full-screen preview. Follow these steps to preview your video:

1. Simply go to View ⇨ Video Playback ⇨ Digital Cinema Desktop Preview-Full Screen.
2. Go to View ⇨ External Video ⇨ All Frames so that Final Cut Pro knows to send the information found in your project frame by frame to the external monitor.

You may already have the hardware to preview to an external monitor such as a television set. If you have an inexpensive Mini-DV camera with FireWire and S-Video ports — I'm talking about the type of Mini-DV camera that you would commonly take on a vacation, and a television set with S-Video — then you're in luck! Simply follow these steps:

1. Run the FireWire cable from your computer to the Mini-DV camera.
2. Run an S-Video cable from the Mini-DV camera to a television set. Make sure your camera is in VTR mode and not in Camera mode.

3. Go to View ⇨ External Video ⇨ All Frames.

4. Go to View ⇨ Video Playback ⇨ Apple FireWire NTSC (720 x 480).

Your audio source has to be connected to the Mini-DV camera for you to be able to monitor the audio. Now, you have a relatively inexpensive VTR. Make sure that you check your camera's documentation to see if it supports the pass-through functionality required to do this.

If you use either an inexpensive Mini-DV camera or your primary shooting camera to capture your footage, keep the following two facts in mind: The heads on your camera will eventually wear down and become unusable, and capturing from a cheap camera can sometimes result in drop frames. I know facilities that have used this type of configuration and claim to have had no problems with drop frames, but this configuration should in no way be substituted for a professional tape deck. The example I just covered is a quick temporary fix only, so use it with caution.

## FIX POOR-QUALITY QUICKTIME MOVIES

If your QuickTime movies have poor-quality playback, it may be because you haven't turned on the Use high quality video setting when available option within QuickTime Pro. Final Cut Pro users often complain about low-quality rendering of graphics or titles, when in fact they simply aren't viewing the full-resolution QuickTime movie.

Take a look at the sample text in figure 1-18 that was exported as a QuickTime movie and blown up twice its original size using the standard DV-DVCPRO codec. Notice that the quality is fairly decent, considering DV is compressed 5:1. The text that is not played back at high quality in the movie appears muddy, as in figure 1-19.

If you encounter poor-quality playback with QuickTime movies using the DV codec, you need to make sure the high-quality video setting is turned on within QuickTime Pro.

To fix the problem, launch QuickTime Pro and navigate to the QuickTime preferences. Make sure the Use high-quality video setting when available option is checked. This dramatically increases the visual quality of your DV QuickTime Movies.

Some users may not realize that the default setting is unchecked. This setting is also available for the PC version of QuickTime.

If you require a higher-quality render than what the DV codec provides, you can always change your Final Cut Pro sequence settings to Uncompressed 10-bit and then export your movie. You may want to also consider exporting via the Animation codec.



1-18



1-19



### **I don't have a Mighty Mouse and have been using the same old PC mouse for years. Can I use it with my Final Cut Pro system?**

As long as it's a USB mouse, yes, you can use it with your Final Cut Pro system. You could use your PC mouse without even having to configure the right-click.

### **I have a MacBook, not the MacBook Pro. Can I run Final Cut Studio 2 on it?**

The Final Cut Studio installer allows you to perform the install, but due to the graphics card, the MacBook does not meet the system requirements to run the Studio applications. I have tried to run Apple Motion on such a system configuration and it would struggle to launch the program.

### **When I change my QuickTime setting to Use high-quality video setting when available, the QuickTime movies I export from Final Cut Pro still look the same.**

The Use high-quality video setting when available option in QuickTime is not dynamic, meaning that when you change this option, you have to restart the program for it to take effect.

### **Is it good for me to perform system updates whenever updates come out for the Mac OS and Final Cut Pro?**

Yes, but I usually wait a couple of weeks after the update's release before I initiate an update to my system. I would also advise not updating while in the middle of a project. It is impossible to know how an update may effect the work you are doing a current project. Most likely, everything will transition smoothly, but why take the chance? It is impossible for the engineers to foresee every potential bug.

### **Why is the external NTSC monitor not in sync with the Final Cut Pro sequence?**

When you output from Final Cut Pro (using the View menu ⇨ All Frames), you are sending your final sequence out through the FireWire port. Most users tend to monitor their audio from the audio speaker on the back of the Mac. Converting the data stream from the FireWire port to NTSC video requires some processing time. Therefore, you will notice a delay between your NTSC monitor and the audio monitoring from Macintosh. If you monitor your audio strictly from the FireWire connection, then you will not notice a delay.

### **I can't seem to preview out to my NTSC monitor; what am I doing wrong?**

If you are trying to monitor your video via a FireWire connection to a DV device, make sure that you have your video playback set to Apple NTSC FireWire (Go to View ⇨ Video Playback ⇨ Apple NTSC FireWire) and your external video set to All Frames (View ⇨ External Video ⇨ All Frames).

