Knight Digital Media Center Multimedia Training

Final Cut Pro

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For updates and discussion on this tutorial, visit:
http://kdmc.berkeley.edu/tutorials/finalcut/

Introduction

Final Cut Pro is a very sophisticated video editing program made by Apple. It is the editing software of choice for multimedia journalists using Apple computers, and is comparable to Adobe's Premiere video editing program. Final Cut Pro does not make a version for Windows.

Final Cut Pro is particularly popular with video journalists working in the field who want to edit their video on a laptop computer.

Scratch Disk Settings

You need to configure Final Cut Pro so it will find the drive and the project folder where you will be capturing your video clips and creating your Final Cut Pro movie.

This is a crucial step in the importing process. Without directing the computer to your file location, you will not be able to edit your video.

The drive and project folder are called your "scratch disk," which could be a portable firewire drive on which you are storing all your video files.

Note: when using a firewire drive, the drive must be turned on and mounted before opening Final Cut Pro.
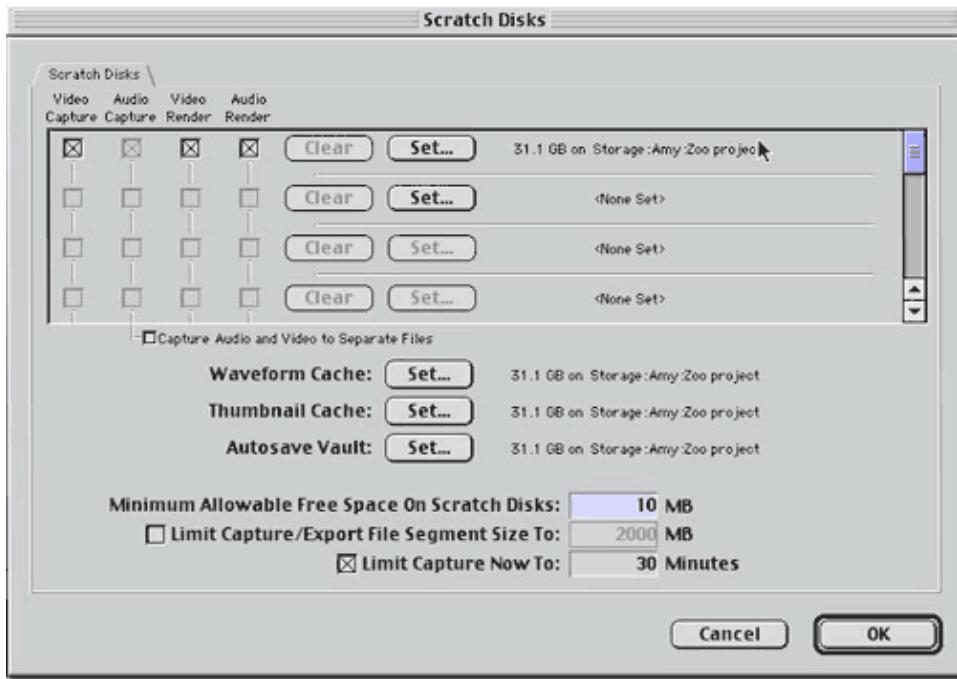
Start Final Cut Pro.

In the menu at the top click on **Final Cut Pro...System Settings**

Then select the **tab** for:

Scratch Disk Settings

Near the top of the screen that appears you'll see a series of checked boxes for **Video Capture, Audio Capture, Video Render and Audio Render.**

These should be checked so you can set all of them to the scratch disk drive and folder for your project (so when you capture your video and audio it will be stored in the right folder, and when you do rendering of your movie it also will be stored in the right folder).

To the right of those click on the button labeled:

Set

Then use the **Choose a Folder** box to navigate through the computer's directory to your scratch disk drive.

If you already have a folder for your project, just click on it.

If you don't have a folder, then click on the **New Folder** button to create one and give a name to it.

When you've created your folder, again just click on it.

With the project folder selected, click on:

Choose

For example, if you're using a **portable firewire drive, click on Set** and **Choose a Folder** to find the icon for the firewire drive on the desktop and open it. If you have already created a folder on the firewire drive for your project then just click on it. If you don't have a project folder on your firewire drive, then click on the **New Folder** button to create and name one and again click on it. Then after selecting the folder click on **Choose**.
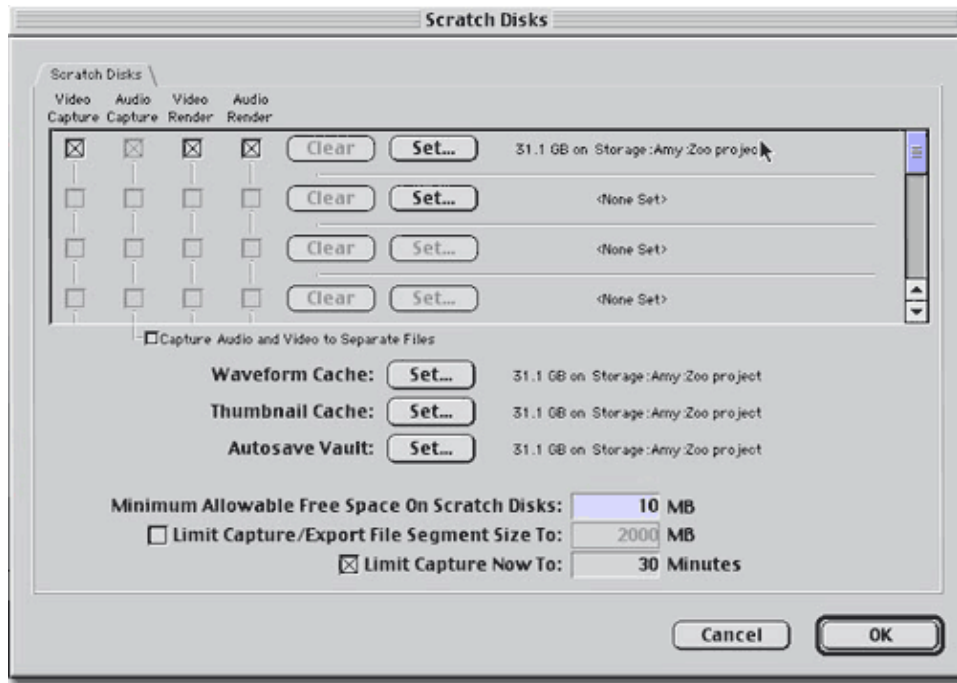
Now click on **OK**.

You should now be back at the Scratch Disk Settings screen.

This time look further down on the screen for the other three buttons labeled Set:

Waveform Cache Set

Thumbnail Cache Set

Autosave Vault Set

These are three other Final Cut Pro settings, each of which also needs to be set to the same scratch disk as the first one.

It is especially important that you set the Autosave Set button to the same scratch disk, as this is where Final Cut Pro will periodically save copies of whatever you're working on so you don't lose your work if the computer crashes. You want to be sure that these automatically saved files are being saved to your scratch disk drive and folder.

So click on each of the three **Set** buttons in turn, and follow the same directions as above to use **Choose a Folder** to **set each of these to the same scratch disk** (such as a firewire drive and the project folder within it). Click on **Choose** and **OK** in each case.

When you're done and back at the Scratch Disk Settings Screen, leave the default settings **for the other options, such as** Minimum Allowable Free
Space on Scratch Disks, Limit Capture...Size and Limit Capture Now.

And click on the button at the bottom labeled:

OK

Now start a new project in Final Cut Pro by clicking on:

File...New

Click on:

Save Project As...

Give your project file a name and then navigate through the directory tree to the **same scratch disk drive and project folder** you used in the Scratch Disk Settings instructions above.

Save the Final Cut Pro project file in that folder.

Once you've completed these settings, they are now stored in the copy of Final Cut Pro on the computer you're using.

The next time you launch Final Cut Pro, it will look for that scratch disk. If someone else has used that computer in the interim for a different Final Cut Pro project, they probably set it to use a different scratch disk. In that case at the prompt you'll need to reset the scratch preferences to your disk, as described above.

Connecting the Video Camera to the Computer

To capture video off your digital camera you need to connect it to the computer with a cable - usually Firewire.

Firewire is the standard for Apple computers and a firewire port is built into each one. It also is used by Windows PC computers to do video capture, although in some cases you'll have to purchase a firewire card to insert into an expansion slot in your PC to create a firewire port.

You connect one end of the cable to the firewire port in the back of your computer. Then connect the other end to the firewire jack in your digital video camera.

On the Sony TRV900, the firewire jack is on the right front side of the camera under the gray flap. It's the jack for DV in/out and has an icon of an I next to it.

Then turn on the camera, setting it to **VTR** or playback mode, and put the mini-DV tape you want to capture video from into the camera.

When you launch Final Cut Pro it now will detect the camera and allow you to control playing of your mini-DV tape using your computer monitor, including selecting clips to capture.

Browser and Viewer

Launch Final Cut Pro by clicking on its icon.

Then in the Final Cut Pro menu at the top click on:

File...Open

And open the project file you created in the Scratch Disk Settings section of the tutorial.

The Final Cut Pro screen is divided into four main areas - **Browser, Viewer, Canvas** and **Timeline**.
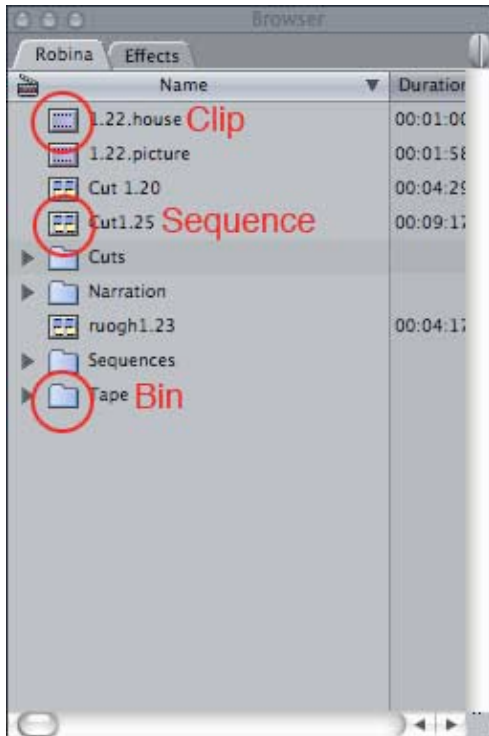

There's also a floating **Tool Pallette** with various tools you'll select to use in editing.

Note: to make sure you're displaying all the main sections of the Final Cut Pro screen, click in the menu at the top on:

Window...Arrange...Standard

Browser

The upper left of the screen is your Browser, which is like a file cabinet for your project within which you put your media files - audio, video, still pictures, etc.

You can create folders - which are called bins - within each project in the Browser to organize your media files.

To see what's in a folder, just click on the tiny triangle to the left of its name.

The files can be individual files, such as individual clips, or sequences, which are the sequences of clips you will create in the Final Cut Pro Timeline.

You can get more details on the files in your Browser by dragging the lower right corner of the Browser window further to the right. The new columns will tell you which files are video, which are audio, which are both video and audio, how many tracks of audio there are, the duration of each clip, etc.

Viewer
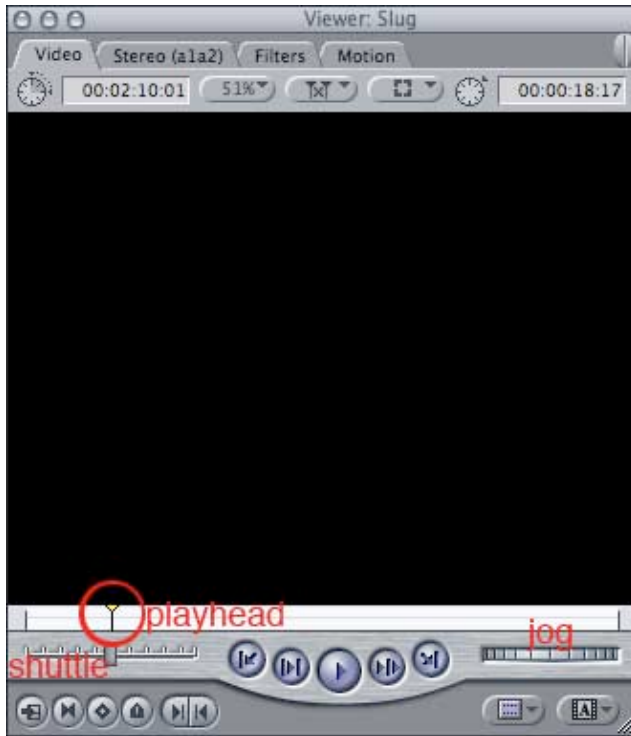
Just to the right of the Browser is the Viewer, where you can display and play individual video clips you select in the Browser.

So if you double click on a video clip in the Browser directory, it will be displayed in the Viewer.

Just below the clip in the Viewer is the **playhead,** a small yellow triangle in the white horizontal box that you can click on and drag to the left or right to move or scrub through the clip.

Beneath the playhead is a **Play/Stop** button you can use to play or move through a clip.

You also can play a clip in the Viewer by pressing the **spacebar** on your computer. To stop playing the clip, just press the spacebar again.

To the right of the Play/Stop button is a **jog** control you can use to move very slowly or very quickly through a clip.

Click on the control and drag your mouse slowly to the right to move through a clip frame by frame. Click on the control and drag your mouse quickly to the right to move rapidly through a clip. If you click and drag to the left, it similarly will allow you to move backward through a clip either slowly or rapidly.

To the left of the Play/Stop button is a **shuttle** control you can use to vary the playback speed of your clip.

Click on and drag the control to the points just to the right of center to make a clip play very slowly. Click on and drag the control to points further to the right to play the clip at faster than normal speed. If you click on and drag the control to the left of center, it similarly will allow you to vary the speed of a clip playing in reverse.

Above the clip are time duration and time code boxes. The box on the left shows the duration of the clip currently displayed in the Viewer. The box on the right displays the time code - the time stamp showing where

the current frame of the displayed clip exists on the mini-DV tape from which it was captured.

There also are tabs at the top of the Viewer that will change depending on the type of media you've selected in the Browser. Thus if you select an audio clip, or a video clip that has audio in it, you'll see an audio tab at the top of the Viewer.

You click on a clip in the Viewer, hold down your mouse and drag and drop the clip into the Timeline below to begin putting together a movie.

Later, when you're doing more editing ofyour clips on the Timeline, you can double-click on a clip there and it again will be displayed in the Viewer.

Timeline and Canvas

Below the Browser and Viewer is the **Timeline**, where you assemble your video and audio clips into a sequence to create a movie.

On the upper far right is the **Canvas**, which will play whatever sequence of clips is in your Timeline.

Timeline
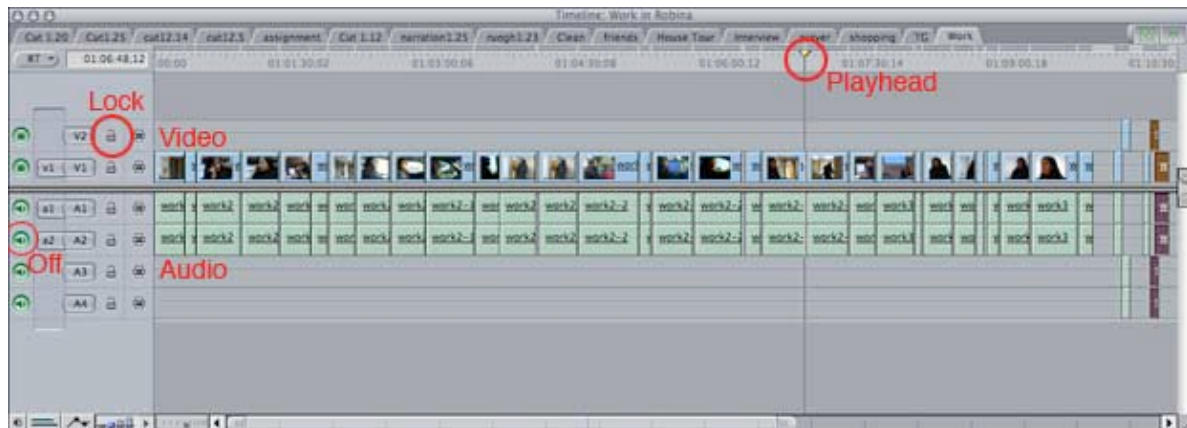
You can click on and drag video and audio clips from the Viewer (or the Browser) into the Timeline.

The Timeline displays video tracks in blue and audio tracks in green. You can have up to 99 tracks of each stacked on top of one another.

Thus if you drag a video clip that also has two audio tracks from the Viewer into the Timeline, it will be displayed in the Timeline as a single blue horizontal video track, with two separate green horizontal audio tracks underneath.

If you then drag another clip down from the viewer you could drop it onto the timeline to the right of the first clip, so it would play after that first clip in your sequence.

You can continue this process to create a sequence of clips along your Timeline.

Just above the top video track in the Timeline is the **playhead,** a tiny yellow triangle you can click on and drag to the left or right to move or "scrub" through your sequence of clips.

To see the entire sequence of clips, on your keyboard press **shift Z**. Final Cut then will try to squash all the clips in your sequence together into a single screen view on the Timeline.

To the far left of each track are buttons that can be selected to **turn off** each individual track. Thus if you had a video track with audio, but wanted to substitute different audio to accompany the video, you could use the button to turn off the existing audio track. Then you could drag a new audio clip to a different green audio track in the Timeline to play instead of the original audio.

Also to the left of each track are buttons with tiny **lock icons** that can be selected to lock a track. This means you will not be able to edit or change it accidentally. Cliick on the icon again to unlock the track.

Linking and Snapping Clips

To the far right of the Timeline and above the top video track is a small light green button you can use to **link** or **unlink** video and audio tracks from each other (if you pass your mouse cursor over the button the words **Linked Selection** will appear).

If you want to unlink the tracks, in the Timeline select the tracks you want unlinked, and then click on the unlink button (which then will turn gray in color). This will allow you to separate the audio from the video, and then move them to different places in the timeline or delete one or the other.

Also the far right next to the link button is another small light green button that sets your playhead and clips to **snap** into place on the Timeline (if pass your mouse cursor over the button the word **Snapping** will appear).

With snapping on, your playhead will snap to the nearest marker point on the Timeline when you release the playhead. Thus if you release your playhead near the beginning of a clip on the Timeline, it will snap back to the beginning of the clip. If your playhead is near the end of the clip and you release it, it will snap to the end of the clip.

With snapping on, your clips also will snap together when you place them next to each other on the Timeline, so there's no empty space between them.

When snapping is similarly activated on an audio track, the playhead will snap to the nearest beat and the audio tracks will snap together.

You also can set markers within a clip so the playhead snaps to those points within a clip.

To turn snapping off, select a clip and click on the snaping button on the right (which then will turn gray in color). You then can place clips near to each other on your Timeline, but keep empty space between them.

Canvas
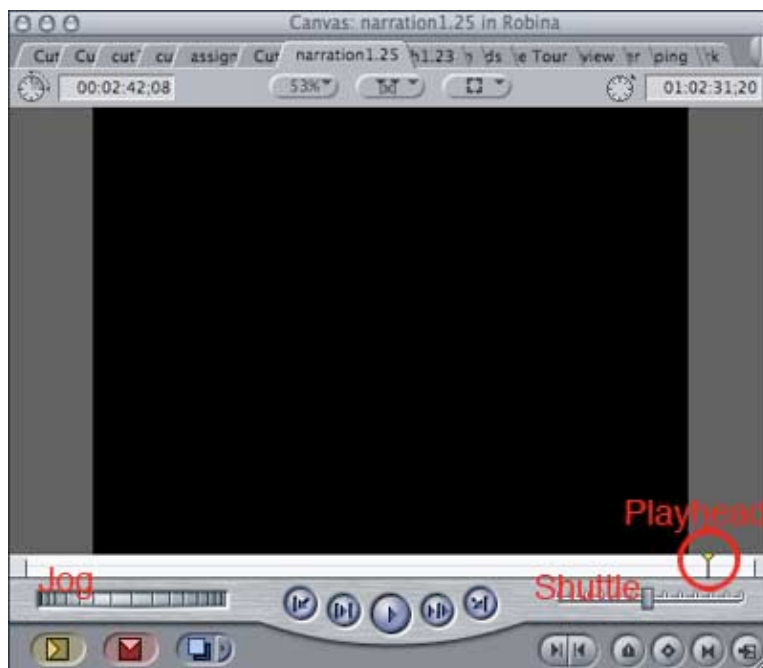
The screen in the upper right is the Canvas, which will display whatever clip or frame is selected in the Timeline below. It also will play a clip in the Timeline, or an entire sequence of clips in the Timeline.

Just below the clip in the Canvas is the **playhead,** a small yellow triangle in the white horizontal box that you can click on and drag to the left or right to move or scrub through a clip in the Timeline.

Beneath the playhead is the **Play/Stop** button that you can use to play or move through a clip or through a sequence of clips.

You also can play a clip or sequence of clips in the Canvas by selecting them in the Timeline and pressing the **spacebar** on your computer. To stop playing the clip, just press the spacebar again.

To the left of the Play/Stop button in the Canvas is a **jog** control that you can use to move very slowly or very quickly through a clip.

Click on the control and drag your mouse slowly to the right to move through a clip frame by frame. Click on the control and drag your mouse quickly to the right to move rapidly through a clip. If you click and drag to the left, it similarly will allow you to move backward through a clip either slowly or rapidly.

To the right of the Play/Stop button in the Canvas is a **shuttle** control that you can use to vary the playback speed of your clip.

Click on and drag the control to the points just to the right of center to make a clip play very slowly. Click on and drag the control to points further to the right to play the clip at faster than normal speed. If you click on and drag the control to the left of center, it similarly will allow you to vary the speed of a clip playing in reverse.

Above the clip in the Canvas are time duration and time code boxes. The one on the left shows the duration of the sequence of clips in your Timeline. The one on the right displays the time code for the sequence at the point where your playhead is placed - in other words how many minutes, seconds and frames you are into your sequence at the point of the playhead.

If you would like to rearrange the Canvas or Timeline windows, click in the menu at the top on:

Window...Arrange

Or to make sure you're displaying all the main sections of the Final Cut Pro screen, click in the menu at the top on:

Window...Arrange...Standard

Logging and Capturing Video

To capture video using Final Cut Pro - that is to take the video on a mini-DV tape and download it into your computer as a digital file - you first need to <u>connect your camera to the computer</u> before you launch Final Cut Pro.

Then start Final Cut Pro. You should get a screen stating Final Cut Pro has found the camera. If not, check your connections between the camera and the computer, and make sure the camera is turned to VCR/VTR/playback.

Now in Final Cut Pro click on:

File...Log and Capture

(the hotkey combination is **apple key | 8**)

A new window will appear, and you should see the words **VTR OK** near the bottom of the screen.

To the right are some tabs you can use to change the settings for the video you want to capture. The settings include:

Capture Settings

Be sure the **Device Control** is set to **Firewire NTSC.**

Leave the **Capture Input** at the default (**DV NTSC 48MHz**).

Scratch Disks

These are the same settings you <u>initially selected</u> to make sure your media is being stored in the proper scratch disk - the drive and folder for your Final Cut Pro project. So just check with the top **Set** button to make sure your scratch disk is selected. If it's not, then go through the <u>instructions for setting the Scratch Disk Settings</u>.

Clip Settings

You can set this to capture **Audio Only, Video Only** or **Audio and Video**. In most cases you'd select Audio and Video (you might select Video Only if the audio for that clip is unusable, or you might select Audio Only if you used your camera to record a voice-over for use with other video clips).

Leave the audio setting at **Channels 1 & 2,** to capture all the audio.

Logging

Log Bin

This should be the name of the folder where you want to capture your video.

Reel

Give a name to the reel of tape you're about to log and capture. It's probably best to use the same name that you used for your mini-DV tape.

Playing Your Tape

Your tape will be displayed in the Viewer window during the log and capture process.

To begin playing your tape, you can use the **Play, Stop, Pause, Fast Forward** and **Rewind** buttons below the Viewer window.

You also can play a clip in the Viewer by pressing the **spacebar** on your computer. To stop playing the clip, just press the spacebar again.

Just below the clip in the Viewer is the **playhead,** a short vertical line in the white horizontal box that you can click on and drag to the left or right to move or scrub through the clip.

To the right of the Play/Stop buttons is a **shuttle** control that you can click on and drag horizontally to play the clip more quickly.

To the left of the Play/Stop buttons is a **jog** control that you click on and drag horizontally to move through a clip frame by frame.

Above the clip are time duration and time code boxes. The one on the left shows the duration of the clip currently displayed in the Viewer. The one on the right displays the time code - the time stamp showing where the current frame of the displayed clip exists on the mini-DV tape from which it will be captured.

Final Cut Pro has two basic ways to capture the video you're playing - immediate capture and log and capture.

Capture Now

You can immediately begin capturing a video clip by starting to play the clip at the point where you want to start capturing it, and then clicking on the button labeled:

Capture...Now

That will begin capturing the clip from that point.

To stop capturing, on the upper left of your keyboard press the:

escape key

You'll notice the clip will then appear as a file in your Browser area to the left.

You can continue this process to capture other clips, by just moving through the tape to the next point that you want to capture, playing the tape and then again clicking on **Caputure...Now** and then the **escape key**.

Note: It's not good practice to just capture all the video you have on a tape. Instead go through your tape and capture only the segments you think you might use in your video project.

Capturing everything will make it more difficult to edit later, because you'll have far more material than you need and you'll have to play through all of it to find the segments you might want to use.

Also remember that even a small segment of video can take up a huge amount of space on your hard drive or on a portable firewire drive. As a rule of thumb, every 5 minutes of video you capture will take up about 1 GB of space on your hard drive.

Log and Capture

The other way to capture video clips is to first go through your tape and log the clips you want to capture by creating in and out points.

Then when you're done selecting all the clips you want, you can do a Batch capture to capture them all at once.

Start by moving through your clips to the beginning of a segment you want to log and starting to play the clip.

Then on your keyboard click on the

i key

Which will create an in point to begin logging the clip.

When the clip has reached the point where you want to stop capturing it, on your keyboard click on the:

o key

Which will create an out point to stop logging the clip.

Then click on the button for:

Log Clip

Give a name to the clip (you also can type in some notes describing the clip if you want).

Then click **OK**.

Then play the video until you reach the point where you want to log another clip, again click on the i key, and then the o key. Click on Log Clip, give this clip another name, and click on OK.

You'll notice that as you do this, your clips will show up as files in the Browser to the left. But the files will have red slashes through them, indicating they have been logged, but they have not yet been captured to the computer).

When you're done logging all the clips you want to capture, click on the button on the right for:

Batch

You'll be given some options:

Capture All Items, Capture Selected Items, or Capture Offline Items - Select **Capture Offline Items.**

Make sure the **use logged clip settings** box is **checked**.

Make sure the **add handles** box is **checked** and the time is changed to **00:00:01:00** to slightly increase the length of each captured clip (adding a handle means adding a little bit of video - 1 second in this case - at the beginning of each clip you've logged and at the end of each clip you've logged. This gives you a little added wiggle room when you're doing your final editing, such as allowing you to include a tiny bit more of a clip than you originally selected when you logged its in or out points)

Then click on:

Ready

When you get a box stating **X clips ready**, click on:

Continue

Final Cut Pro now will go through your mini-DV tape, finding the clips you've logged and capturing each of them to the computer.

When capturing is completed, you'll get a screen stating the process is done, at which you point should click on:

Finished

You'll notice the clips that were displayed as files in the Browser to the left no longer have the red slashes through them, as they have now been captured to the computer.

Undoing Changes

Before we start describing how to edit clips, you should know how to undo any editing changes you make that aren't what you intended or that you change your mind about.

To undo any change either click on **Edit...Undo** in the Final Cut Pro menu or press the **Apple and Z keys** on the keyboard simultaneously.

Spliting Clips at Scene Changes

You can quickly break a long clip into segments by activating **auto-detect clip scenes**. By using this feature, Final Cut Pro will automatically determine when a divide occurs in your video, (such as when you stopped and started the camera for a scene change), and create a new clip for each different scene.

To use this feature, double click on a clip in the Browser so it appears in the Viewer.

Then in to the Final Cut Pro Menu at the top click on:

Mark...DV Start/Stop Detect

Final Cut will then place markers on the clip wherever a scene change occurs. And you will see sub clips appear beneath the file for the main clip in the Browser, with each sub clip representing a different scene or segment in the master clip.

At this point you might want to create another bin and drag and drop the clip segments into that bin. That will make copies of the segments that you then can drag into your timeline, while also leaving the main clip and the original copies of the segments in the original bin.

Editing Clips in the Viewer with In and Out Points

You can edit clips in the Viewer so you don't have to load your entire clip into the Timeline when you want to create your movie.

You can choose a smaller selection to add by double clicking on the clip in the Browser so it displays in the Viewer. Then start playing the clip.
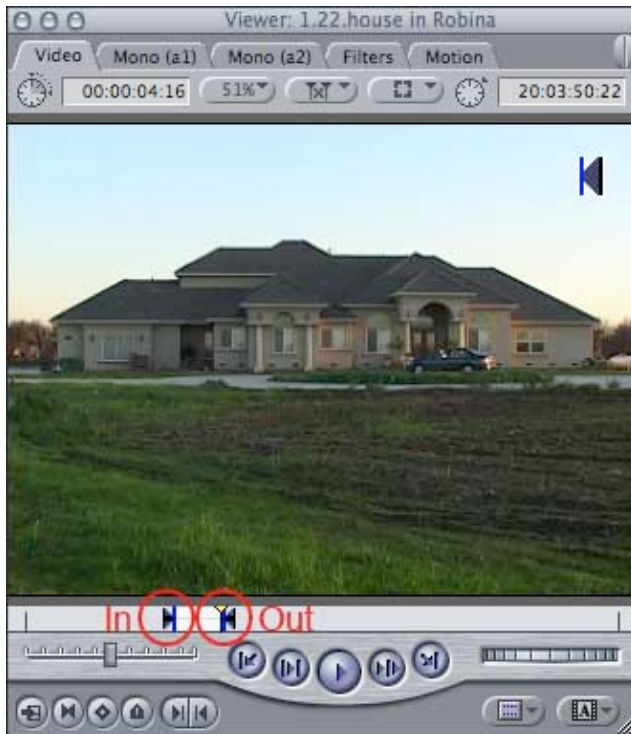
Press the **I Key** (for IN) at the desired point where you want your clip to start playing. Then hit the **O Key** (for OUT) at the point you want your clip to end. You will see arrows appear in the window at the points you pressed the I and O keys.

These points can be moved later by clicking and dragging on the arrows.

When you have the clip set with in and out points you want, you can click on the clip in the Viewer and drag the clip into the Timeline. Only the portion of the clip where you set your in and out points will be placed in the Timeline.

Moving Clips to the Timeline

You can move a clip into the Timeline by double clicking on it in the Browser, which then will display the clip in the Viewer window to the right.

Then click on the clip in the Viewer and drag it down into the Timeline below. If it's an audio-only clip, you need to click on the tiny hand in the upper right of the Viewer above the waveform, and then hold down your mouse button and drag the audio clip down into the Timeline.

If the clip is just video, it will be displayed in the Timeline as just a green segment in the upper video track area.

If the clip is video with one or more audio tracks, it will be displayed in the Timeline as a green segment for the video, with the audio tracks displayed underneath as blue segments.

If the clip is just audio, it will be displayed in the Timeline as just a blue segment in the lower audio track area.

If you want to add a second clip at the end of the first one on the same track, double click on the second clip in the Browser, which will display the clip in the Viewer window to the right. Click on the clip in the Viewer and drag it down into the track on the Timeline to an area to the right of the existing clip.

Destination Tracks

If you want to add clips to <u>different tracks in the Timeline</u>, a good way to ensure you place them on the correct track (and don't accidentally overwrite an existing clip in the Timeline) is to select a destination track in the Timeline.

To do that, first double click in the Browser on the video clip you want to place on a new track, so the clip is displayed in the Viewer to the right.

Now look on the far left of the Timeline below at the second column in from the left. There you'll see gray buttons labeled V1 (for the video clip you've selected) and possibly A1 and A2 (the A1 and A2 buttons will appear if the video clip you've selected has audio attached to it).

Drag the V1 button to the new Timeline track where you want to insert the video clip (and drag the A1 and A2 buttons to new audio tracks if there's audio with our video clip).

Now drag the playhead in the Timeline to the point where you want the new clip to begin.

Then click on the clip in the Viewer and drag it to the right to the Canvas and release it (see also the section on Insert vs. Overwrite Edits). The clip (and any attendant audio tracks) will be inserted onto the new track in the Timeline and at the point you specified with the playhead.

Adding Additional Video or Audio Tracks

If you need more tracks to move additional audio or video clips in the Timeline, in the Final Cut Pro Menu click on:

Sequence...Insert Tracks

The type into the boxes the number of additional audio or video tracks you want.

Working with Multiple Tracks of Video and Audio

If you have multiple tracks of video and audio:

- Whatever video is on the top track will play, and any other video clips underneath will not be displayed.
- All audio tracks will play simultaneously no matter which ones are above or below the others on the Timeline.

If you want to stop the video from playing on the top track you can:

- Turn off the video for a particular track in the Timeline by selecting the hide button to the far left to hide the track.

If you want to stop the audio from playing on a particular audio track you can either:

- Turn off the audio for a particular track in the Timeline by selecting the hide button to the far left to hide the track.

- Double click on the audio track in the Timeline, which will open up an audio editing box in the Browser above. Then you can click on the horizontal black audio level line in the middle of your audio track and drag it to the bottom to lower the audio level to zero.

Insert and Overwrite Edits

Once you have some clips in your Timeline and you want to add more video clips or additional audio tracks to the tracks for your existing clips, there are two basic ways to do this.

- You can do an **insert edit**, in which the new clip will be inserted into an existing clip in the Timeline. This will preserve the entirety of the existing clip, and move segments of it to the left and right to make room for the new clip.
- You can do an **overwrite edit**, in which the new clip will overwrite or replace portions of your existing clip or clips. The portions replaced will be equal to the duration of the new clip you're moving to the Timeline.

In both cases you begin by clicking on the Playhead in the Timeline and positioning it at the point where you want to place the new clip.

Then there are several ways you can do an insert or overwrite edit of a new clip.

The easiest way is to click on the clip in the Viewer that you want to add to the Timeline, and hold down your mouse button. You'll see a small version of the clip appear where you've selected it.

Now drag the clip down to the track on the Timeline where you want to place the clip, and position it at the point where you positioned the Playhead.

If you see a **downward pointing arrow** appear, that means the clip will overwrite or replace the existing clip (that is, a portion of the existing clip will be overwritten by the new clip). Release your mouse button to do the overwrite.

If you see an **arrow pointing to the right**, that means the clip will be inserted into the track and then push the segments of the existing clip to the right and left (thus preserving all of the existing clip). Release your mouse button to do the insert.

The same principles apply if you're adding an audio track from the Viewer to the Timeline.

Note: Even if you're adding the new clip to an empty track above some existing video in the Timeline, you still have the option of doing an insert or overwrite edit.

If you see a downward pointing arrow, then the new clip will appear on a new track on top of the existing clip below, which means that when you play the video, the clip on top will be displayed, while the clip underneath will not play.

If you see an arrow pointing to the right, then the new clip will appear on a new track on top of the existing clip below, and the existing clip will be split in two and its segments moved to the right and left to make room for the new clip above.

Other Ways to do Insert and Overwrite Edits

Another way to do insert or overwrite edits is to first position the playhead at the point in the Timeline where you want to place a clip, and then select in the Viewer the new clip you want to place in the Timeline and drag it over to the Canvas area to the right. When you do this, you'll see several colored editing option boxes pop up on the Canvase screen, including **Insert Edit** and **Overwrite Edit**. Dropping the clip in one of these

highlighted areas will then place the clip into the Timeline at the point where you've set the playhead, either inserting it between or within existing clips (if you drop the clip on the **Insert Edit** box) or overwriting a portion of the existing clips (if you drop the clip on the **Overwrite Edit** box).

As an alternative, you can again position the playhead at the point in the Timeline where you want to place a clip, then select in the Browser or Viewer the new clip you want to move into the Timeline and click on one of the small yellow or red colored icons that look like envelopes on the lower left of the Canvas screen. Click on the **yellow icon** to do an **Insert Edit**, or click on the red icon to do an **Overwrite Edit.**
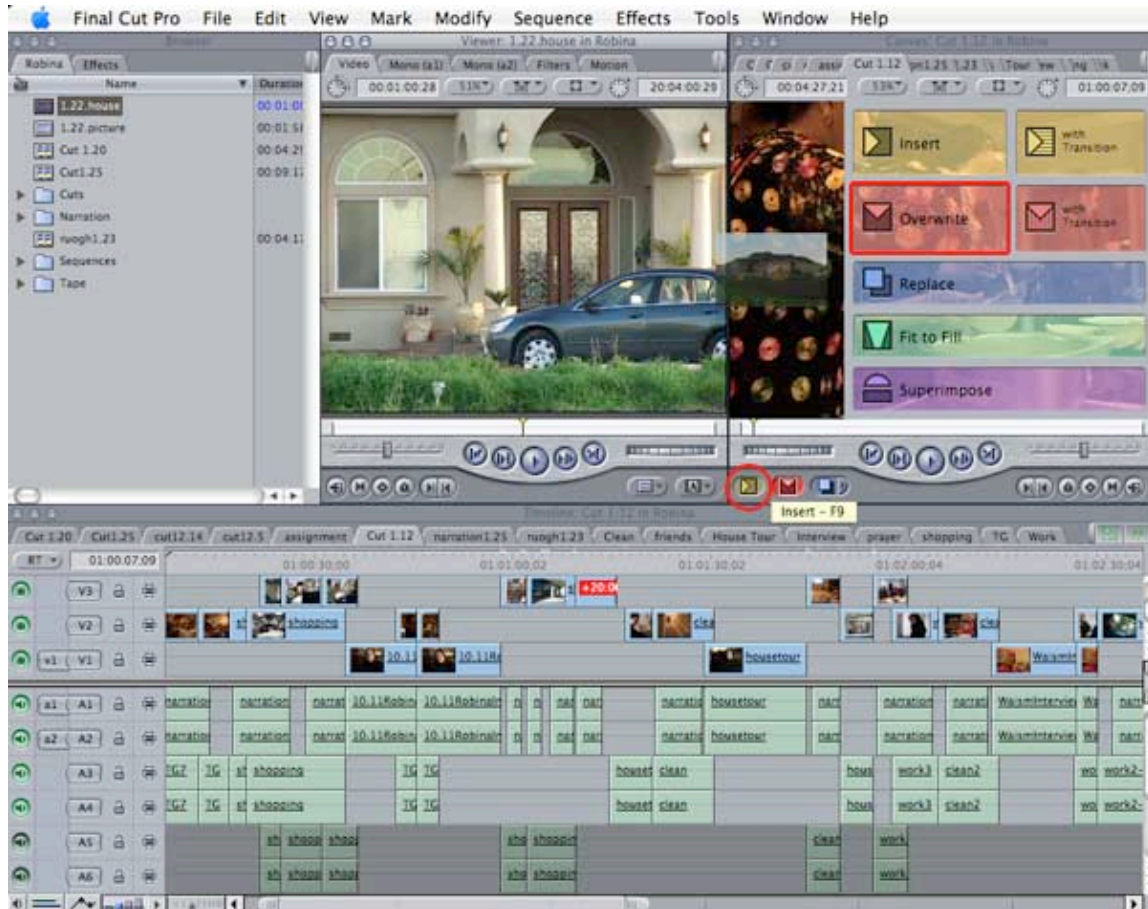

As a third alternative, you can again position the playhead at the point in the Timeline where you want to place a clip, then select in the Browser or Viewer the new clip you want to move into the Timeline and press the **F9** key on your keyboard to do an **Insert Edit** or press the **F10** key to do an **Overwrite Edit.**

Note: If you choose one of these latter three alternate ways of doing an insert or overwrite edit, then you should be sure first to identify the destination tracks in the Timeline where you want the new clip to be placed.

Editing Clips in the Timeline with In and Out Points

You can edit clips in the Timeline to create a precise segment into which you can insert another clip - a process called three-point editing.

To do so, click on the clip in the Timeline so it also displays in the Canvas, then start scrubbing through the clip.
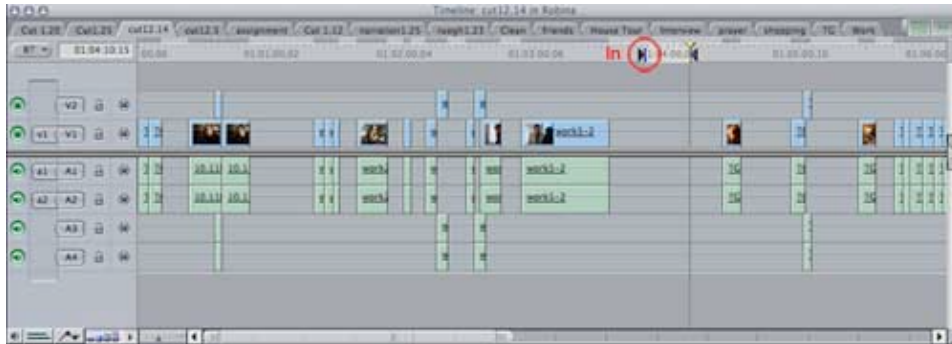
Press the **I Key** (for IN) at the desired point where you want an inserted clip to begin. Then press the **O Key** (for OUT) at the point you want the inserted clip to end. You will see arrows appear in the window at the points you pressed the I and O keys.

These points can be moved by clicking and dragging on the arrows, either in the Canvas or in the Timeline.

When you then drag a new clip from the Viewer into the Timeline and do an <u>Overwrite Edit</u> on the existing clip that has the set in and out points, the beginning of the new clip will be inserted at the in point of the existing clip, and the new clip will be cropped so it ends at the out point of the existing clip in the Timeline.

Deleting Portions of a Clip with the Razor Blade Tool

If you want to split a video or audio clip in two or remove a segment of a clip (such as eliminating a sound gap in your audio), you can use the **Razor Blade Tool** to slice out the segment of the track.

It's called a razor blade because in the traditional film editing process a tape was literally sliced with a razor blade to remove unwanted pieces of the film or rearrange segments of a film.

To do these cuts in Final Cut Pro, in the **Tool Pallette** click on the **Razor Blade** tool, which is an icon that looks like a little razor blade (or press the **B Key** for "blade" on your keyhboard). Your cursor will change to a small razor icon.

If you hold down your mouse button when you click on the razor blade icon you'll be able to choose between cutting a single track or multiple tracks.

If you select single track you can just slice a single track of video at a particular point in your Timeline, while leaving accompanying tracts such as audio untouched. If you select multiple tracks the cut will apply to all the tracks in your sequence at that point in the Timeline.

With the razor blade tool selected you apply the cut by clicking on a clip at the point in the Timeline where you want to make the cut. That will split the clip in two.

If you click at another point in the clip and make a second cut, you create a segment of a clip between the two cuts that you then can remove.

You now need to decide whether you want to create a gap where you're about to remove the cut segment, or if you want the remaining segments of the clip on either side of the cut piece to slide together, with no gap between them.

If you want to leave a gap, just click on the section of the clip between your two razor cuts and press the **delete key**. A gray area will appear on the Timeline in place of the deleted piece of the clip.

If you don't want to leave a gap and instead want the clips on either side of the cut portion to snap together, click on the section of the clip between your two razor cuts and press the **shift/delete keys.** The remaining segments of the clip to the left and right of the deleted piece should now slide together. Your clips should butt

up against each other in the Timeline.

If you change your mind about wanting a gap between the clip segments, you can move clips separated by a gap together using the Toolbar Pallette.

In the Toolbar click on the icon that looks like an **arrow**. Hold down your mouse button and you'll see different options for moving clips.
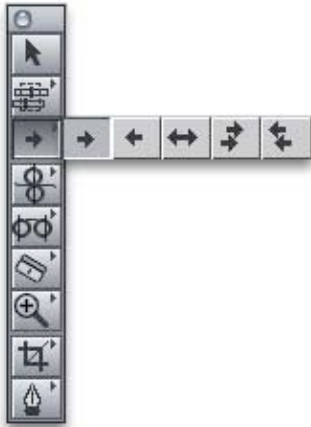
For example, if you select **track tool...all tracks forward**, you then can click on the clip just to the right of the gap and drag it to the left until the gap is closed.

This will also drag with it clips in the rest of your tracks, such as audio tracks associated with the video clip you're dragging to the left. This way the audio and video in accompanying tracks won't wind up out of sequence.

And the **track tool...all tracks forward** option also will drag any clip segments further to the right on your Timeline to the left as well. Thus no gaps will be created elsewhere in the Timeline when you drag your clips to the left.

Note: Instead of deleting a segment of a clip that you created with the razor blade tool, you can instead save the segment for possible use elsewhere in the Timeline for your project.

To do this, select the unwanted segment of the clip, but instead of pressing the delete key, click on the segment with your mouse and drag it to the Browser in the upper right. It will be stored there with the rest of your clips for future use (you should rename it, so you can distinguish it from the original, full clip that's also listed in the Browser).

Inserting Markers for Precise Editing

You can set a marker on the Timeline or in an individual clip in the Timeline to help you do more precise video and audio editing.

The marker creates a snap-point on the Timeline or on a clip that the playhead will lock onto.

This can be helpful when you're editing audio and you want a video track to begin exactly at the downbeat of a song. You can set a marker during audio editing at the downbeat so you then can add the video clip to begin at precisely that point.

You create a marker in a clip in the Viewer by moving the playhead to a point on the clip and pressing the **M Key.** The marker will appear as a tiny red triangular icon just below the playhead (it also will be displayed in the clip in the Timeline as a tiny red triangular icon).
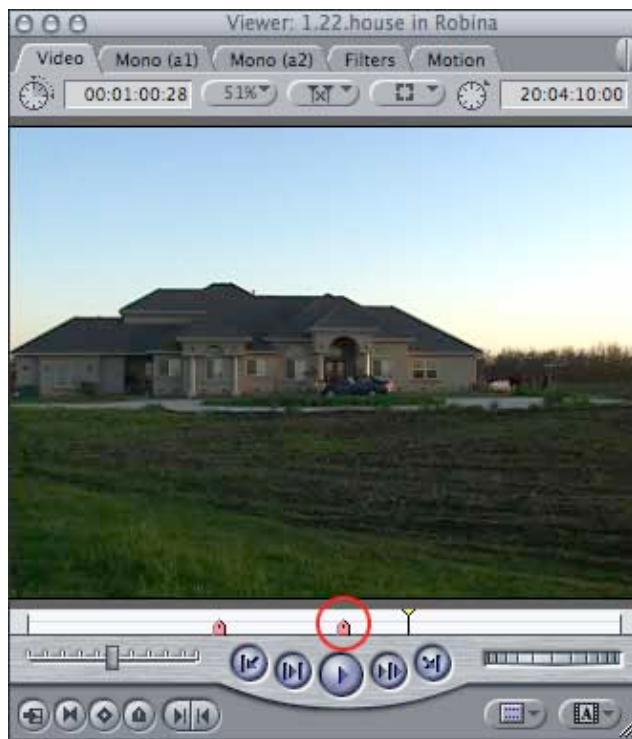
In the Timeline you similarly create a marker by clicking anywhere in the gray area in the Timeline (in other words, click somewhere outside of any individual clip so the clip isn't selected) and then moving the playhead to a point on the Timeline and pressing the **M Key.** The marker will appear as a tiny green triangular icon at the top of the Timeline.

To delete a marker, move the playhead until it snaps into place on a marker. Then click in the menu at the top on **Mark...Markers...Delete.**

Note: If you created a marker in a clip, you'll need to select the clip in order to delete the marker that's on the clip. Similarly, if you created a marker on the Timeline, you'll need to click in the gray area of the Timeline in order to delete the marker that's on the Timeline.

Adjusting the Audio Level of a Clip

Audio tracks, either those associated with your video or tracks that are just audio, are displayed as blue areas at the bottom of your Timeline.

If you want to stop the audio from playing on a particular audio track you can:

- Turn off the audio for a particular track in the Timeline by selecting the hide button to the far left. The audio then will not play as part of your sequence of clips.

If you want to adjust the overall audio level for a track, making it louder or softer, you can:


- Double click on the audio track in the Timeline, which will open up an audio editing box in the Viewer above. Then you can click on the horizontal purple audio level line in the middle of on your audio track and drag it down to lower the overall audio level or up to increase the audio level.

Creating Multiple Audio Levels

For precise audio editing, like creating fades and crecendos in your tracks, you should create **keyframes** in your audio clip using the **Pen Tool.**

Open an audio track by double-clicking on it in the Timeline, which will open up an audio editing box in the Viewer above.

Then click on the small icon that looks like a mountain on the lower left of the Timeline.
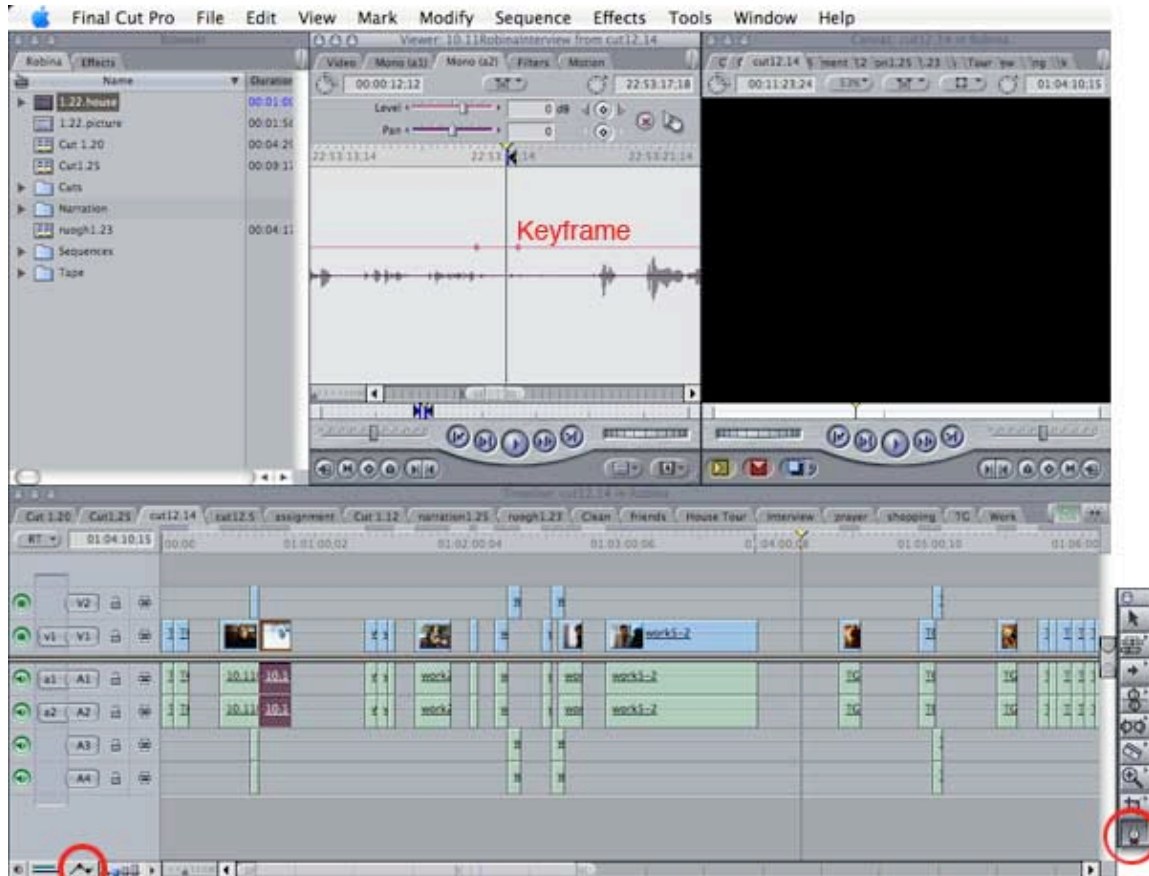
Then activate the **Pen Tool** by clicking on the icon looks like the tip of a pen on the **Tool Pallette** (or press the **P key** on your keyboard). Your cursor will change to a pen-like icon when you move it over the horizontal purple audio level line in the Viewer.

With the Pen Tool, you create keyframes by clicking the red horizontal audio level line in the Viewer at the points where you want the audio to change.

Then move the Pen Tool over a keyframe and it will change to a cross. Click, hold down your mouse button and drag the keyframe point higher to increase the audio, or drag it lower to decrease the audio at that point. Notice that the red line will slope up or down to the other keyframes you've created with your Pen Tool, so the audio will fade in or out between the keyframes.
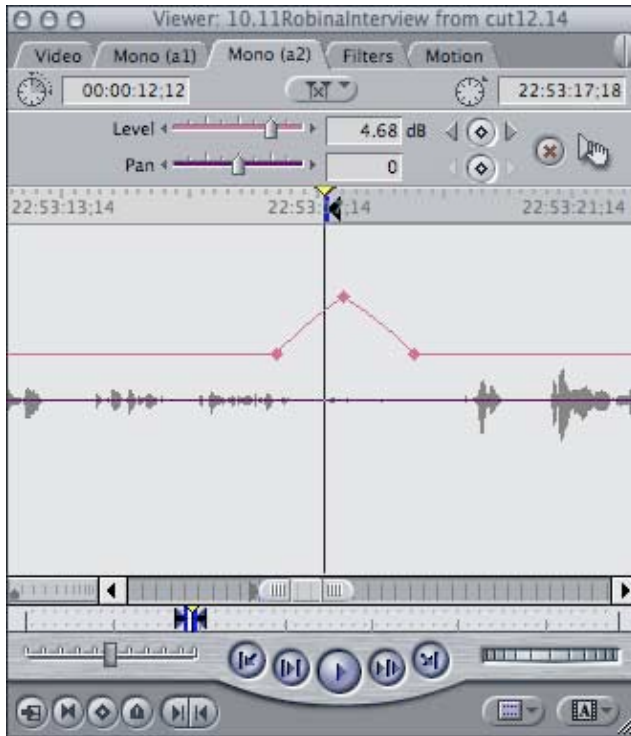
You also can drag a keyframe to the left or right using the Pen Tool.

To delete a keyframe, click on it and press the **Control Key**. In the pop-up box that appears, select **clear**.

Using the Pen Tool to Fade Video In or Out

You also can use the Pen tool to create similar fades in a video clip. Thus if you have two video clips stacked on top of each other in the Timeline, you can have the top clip fade out to reveal the video clip underneath.

To do this double click on a video clip in the Timeline so it appears in the Viewer.

Then click on the small icon that looks like a mountain on the lower left of the Timeline.

You'll see a black horizontal line appear at the top of the video clip in the Timeline.

Select the Pen tool as described above, click on the black overlay line to create keyframes in the video clip, and then drag a keyframe down to make the clip less opaque - fading out to display any clip underneath.

Exporting to Soundtrack Pro for Detailed Audio Editing

For more advanced editing of audio tracks, you can export your Final Cut Pro movie into the Soundtrack Pro audio editing program that comes bundled with Final Cut Pro. Soundtrack Pro has a more sophisticated set of audio editing tools.

For instructions on doing this, see the section of the Soundtrack Pro tutorial on Editing Final Cut Pro Audio files.

Exporting to Pro Tools for Detailed Audio Editing

For more advanced editing of audio tracks, you can export your Final Cut Pro movie and then import it into the ProTools audio editing program, which has a more sophisticated set of audio editing tools.

You even can export you entire Fincal Cut Pro project, including both audio and video, as a QuickTime movie, which then will display the video portion of your movie in Pro Tools along with the audio.

This way you can see how the audio matches up with the video when you edit the audio. And it will help ensure that when you edit the audio it doesn't wind up out of synch with the video.

Then you can export the audio (or audio with video) out of Pro Tools and import it back into Final Cut Pro.

To export just an audio track from Final Cut Pro for editing in Pro Tools, first select the audio track you want to export. Turn off other tracks. Export one stero pair at a time. Or you can export the entire sequence by selecting all of it.

Then in the menu at the top select:

File...Export...Audio to AIFF

Name each track and just use the other default settings, which are Settings Rate: 48 kHz; Depth: 16-but; Config: Channel Group.

Pick a folder on your hard drive or firewire drive to which you want to save the exported audio. You might create a folder named "Exported FCP Audio" for this purpose, so you can keep track of the exported files.

Click on **Save**.

If you want to export multiple tracks of audio for editing in Pro Tools, repeat the above steps, giving different names to your different exported audio tracks.

If you also want to export the video that goes with your audio as a QuickTime movie (so you can see the video when you edit the audio in Pro Tools), first select the video that accompanies the audio track or the entire sequence and in the menu at the top select:

File...Export...Export QuickTime movie

In the options, select **video only** and don't change the other default settings.

Pick a folder on your hard drive or firewire drive to which you want to save the exported video (such as the same folder where you stored your exported audio).

Click on **Save**.

Opening the Audio and Video Files in Pro Tools

Now open ProTools, create a new session, import the audio tracks you exported from Final Cut Pro into the Pro Tools audio bin and then move the audio to the ProTools timeline for editing. Use the "shuffle" mode to snap files to 0:00 in the time line.

To import the video segment to accompany the audio, in the menu at the top select:

Movie...Import Movie

Find the movie you exported from Final Cut Pro in the folder where you placed it on your hard drive or firewire drive, and click on:

Open

This will create a new track in the Pro Tools timeline for the video.

If you then play the audio in Pro Tools, the video will play along with it so you can see the video as you fine-tune your audio.

When you're editing the audio, if you decide to delete a portion of it, make sure you're in slip, not shuffle mode, so the edited audio will remain in place and still in synch with your video.

Exporting Audio back to Final Cut Pro

When you're done editing your audio, follow the bounce to disc process for exporting the audio. Make sure the File Type is **AIFF**, and the the Sample Rate at **4800**

Select a folder on your hard drive or firewire drive for the file, and give it a name, such as "FCP Edited Video."

Now in Final Cut Pro, in the menu at the top select:

File...Import File

Find the file with the edited audio on your hard drive or firewire drive and import it into the Final Cut Pro browser.

Then you can drag the edited audio onto your timeline to replace the old audio in your Final Cut Pro sequence. Make sure you have snapping on in Final Cut Pro, so your edited audio track keeps in synch with the existing video in the timeline.

Adding Handles to Allow Transitions

Before you add a transition between clips, such as a dissolve to make your first clip gradually dissolve into the second, you need to make sure you have enough extra material or "handles" on your clips so Final Cut Pro has excess video to work with when it applies the transition.

For example, let's say you selected two clips in the Browser and then, without editing them (such as creating In or Out points), dragged them to the Timeline and put them next to each other on the same track.

If you then tried to apply a transition between the two clips, Final Cut Pro would reject it. That's because there's no extra video to use for the transition, in which a portion of one clip overlaps with part of the other clip.

The only way Final Cut Pro could apply the transition to these two unedited clips would be to try to somehow move them on the Timeline so they overlapped. But that would shorten the movie and disrupt the timing of audio on any adjacent track.

There's just no room for a transition to be applied to unedited clips.

This means you need to make sure before you add a transition that the first clip has enough extra, unused material at its end, and the second clip has enough extra, unused material at its beginning so Final Cut Pro can apply the transition.

Thus if you want a one-second transition between two clips, you should have half a second or more of unused material at the end of the first clip, and another half second or more of unused material at the beginning of the second clip.

Adding the Handles for Transitions

If you know you want to apply a transition between two clips, you should add In and Out points to the clips in the Viewer before dragging the clips to the Timeline. Use the In and Out points to create enough extra, unused video for the duration of the transition you want to apply.

If your clips are already in Timeline and Final Cut Pro is rejecting a transition between them, you'll need to double click on the first clip in the Timeline to display it in the Viewer. Then check to see if there's an Out point near the end of the clip and enough excess material after the Out point to accommodate half the transition. If not, then you'll need to drag the Out point to the left until the unused portion of the clip is long enough to accommodate half of the transition you're going to apply.

Repeat this procedure with the second clip in the Timeline. Double click on it to display it in the Viewer. Then check to see if there's an In point near the beginning of the clip and enough excess material before the In point to accommodate half the transition. If not, then you'll need to drag the In point to the right until the unused portion of the clip is long enough to accommodate half of the transition you're going to apply.

After you've edited the clips, you'll need to drag the now shortened clips back next to each other in the Timeline (editing the clips with the In and Out points in the Viewer, shortens them and creates a gap between the two clips in the Timeline).

Now you'll be able to apply your transition to the clips, because you've marked out enough excess video in your clips to be used in the transition.

Note: if you're editing clips that are in the Timeline, be sure to have <u>linking and snapping</u> turned on, so any audio associated with the clips remains in synch with the video and so the clips will snap together when you move them.

Addng Transitions Between Clips

To add a transition, such as a dissolve so the first clip gradually dissolves into the second, first click on the vertical line between two clips in the Timeline.

You should see a brown area, like a thick **I** appear between the clips.
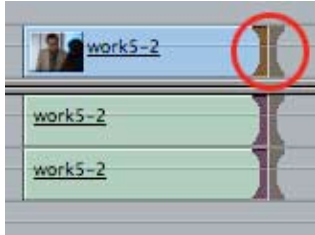
Now select a transition in the Final Cut Pro menu at the top by clicking on:

Effects...Video Transitions

Then click on a subfolder such as **Dissolves**. Finally click on the file for the transition you want to apply.

Or you can select a transition by going to the **Browser** window in the upper left of your screen and clicking on the **Effects tab**. Then click on the **Video Transitions** folder, and within that select a subfolder, such as **Dissolves**. Finally click on the file for the transition you want to apply.
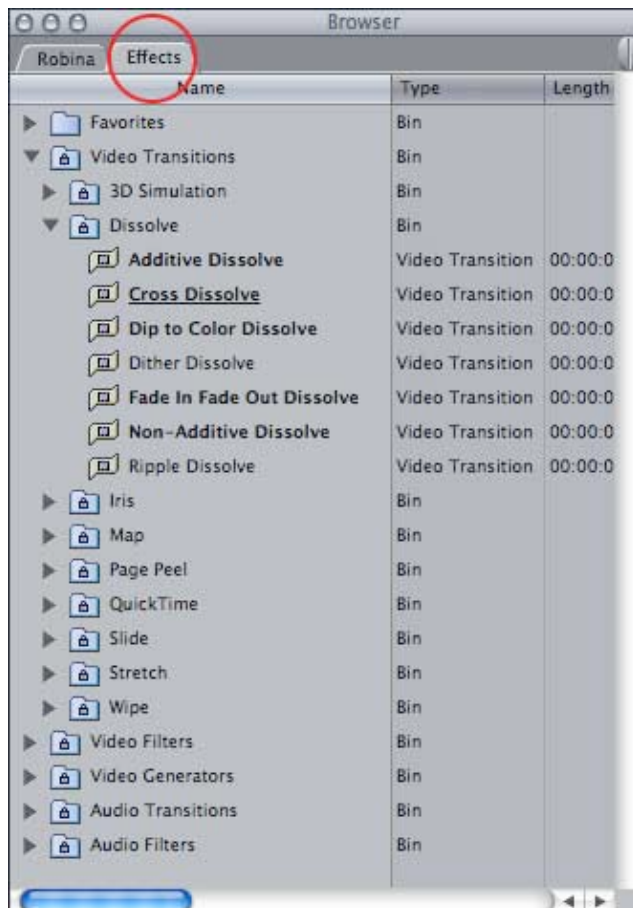
For example, you might select the file for the **Cross Dissolve**, which is a common type of transition between clips, where the first clip will start to dissolve as the second clip begins to appear in the transition.

When you've clicked on the desired transition file, just hold down your mouse button and drag the file down from the Browser to the point between your clips in the Timeline and release your mouse button.

You should see the transition appear as a grayish area between the two clips in your Timeline.

You should see a **green line** appear just above the transition on the Timeline, which means the transition has been applied and you can view it by playing the clip.
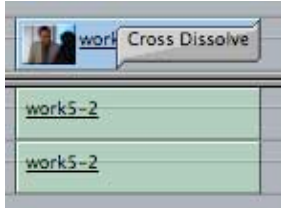
(If there's a **red line** above the transition instead of a green line, that means you'll need to <u>render</u> the transition before you can play and view it.)

If you then move your playhead to a point on the Timeline prior to the transition and play the clip (you can press the Space key on your keyboard to play the sequence of clips, and press the space key again to stop playing the sequence of clips), you should see the transition between the two clips displayed in the Canvas above and to the right.

You also can make changes in your transition by double clicking on the transition in the Timeline.

For example, you can change the duration of the dissolve - that is how long the dissolve will last.

To do that double click on the transition. In the box that appears in the Viewer area at the top of your screen, just type a new number into the time box, which usually is set at a 1 second duration by default.

You can set a transition either in number of seconds or in number of frames or a combination of both.

If you don't like the transition you've created, you can click on it and press the **delete key** to remove it.

Or you can replace it with a different transition by clicking in the **Browser** window on the **Effects tab.** Then click on the **Video Transitions** folder and select a subfolder and file for another transition.

Now just hold down your mouse button and drag the transition file from the Browser down over the unwanted transition between your clips and release your mouse button. The new transition will replace the old transition.

Rendering Transitions

When you add a transition between clips, it still needs to be "rendered," or processed by the computer to permanently add it to your sequence of clips.


Sometimes when you add a transition, you'll see a **green line** above the transition, which means you can view the transition, but it still needs to be rendered.
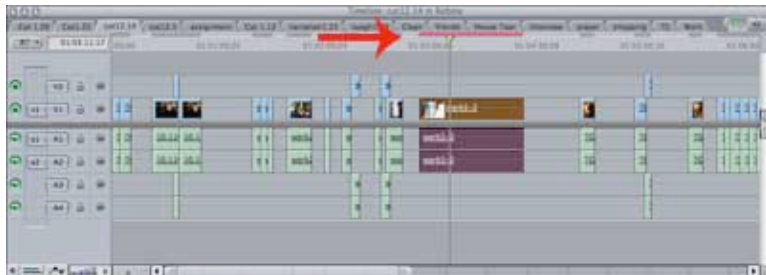
Other times when you add a transition, you'll see a **red line** above the transition, which means you can't view the transition until it is rendered.

To render a transition, in the Final Cut Pro menu at the top click on:

Sequence...Render Sequence
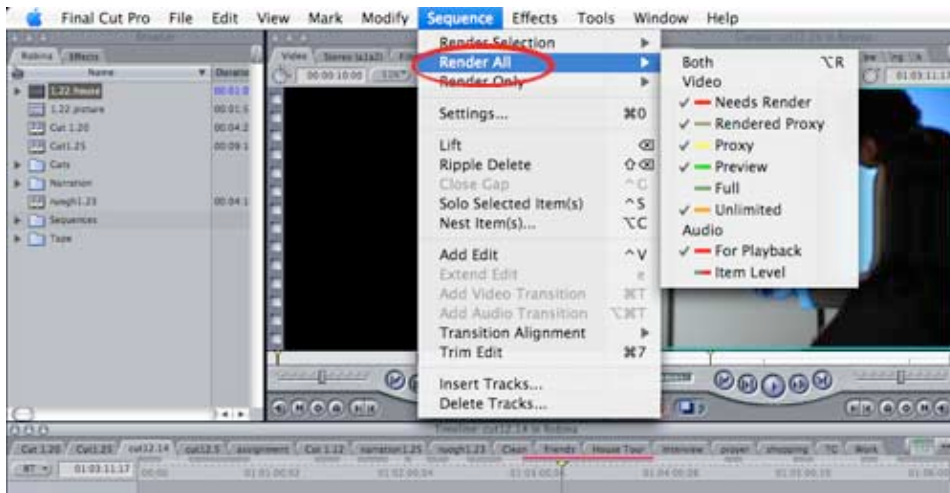
(which will render all the transitions you've added to your sequence)

Final Cut then will process your transition and permanently apply it to your sequence. The time it takes to render depends on how sophisticated your transition is. More advanced transitions could take up to a minute to render.

When the rendering is completed, the red or green line should be gone from above your transition.

Adding Titles and Text to Clips

You can add a title or some text to a clip, such as the name of a person who appears in the clip.

To do this, double click on a clip in the Timeline to display it in the Viewer at the top. Then at the bottom of the Viewer click on the button with a large **A** on it, which is the text button.

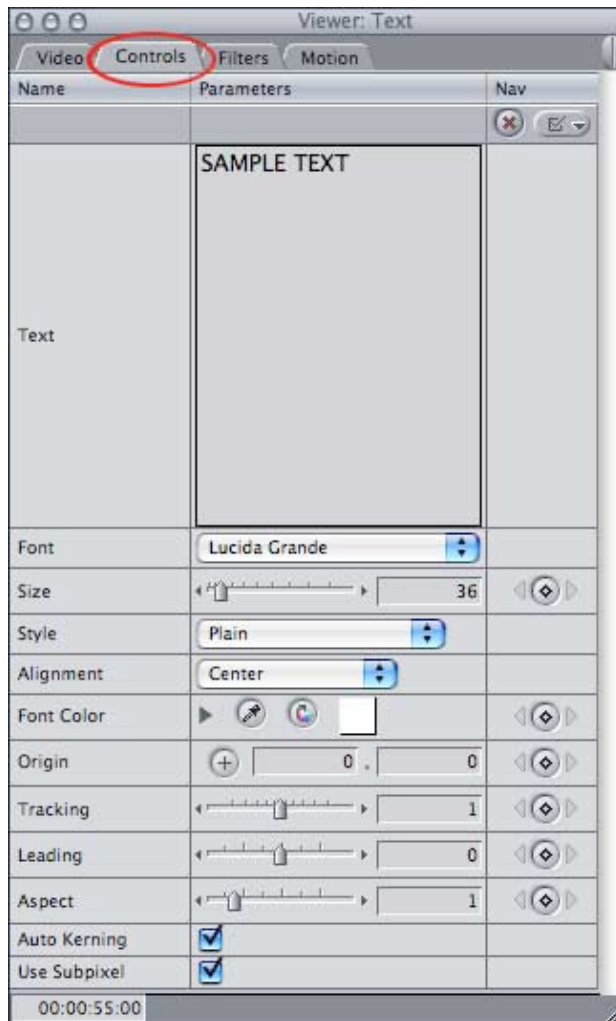Hold down your mouse button and in the drop-down menu select:

Text...Text

Then release your mouse button.

In the Viewer area will appear a screen with sample text in it.

To change the sample text, click on the tab entry at the top labeled:

Controls

A box will appear on your screen in the Viewer area.

You change the text of the title by just typing new words into the box.

Below the box are selections for:

- Changing the **font** face of the text
- Changing the font **size** of the text
- Changing the **Font Color** by clicking on the white box to the right and selecting a new color for the text (yellow is a color that usually works well on most clips).
- **Aligning** the title on the screen, such as centering it, making it flush to the left or making it flush to the right.

You also can add a drop shadow to the title by selecting the **Motion** tab and checking the box for **Drop Shadow**.

Finally, you can change the duration of the text (how long it will appear on your clip) by selecting the **Video** tab and then changing the time in the box at the top left.

Now to place the text on your Timeline, click on the **Video** tab.

Then move your playhead on the Timeline to the point in a clip where you want your text to begin.

Now click in the Viewer on the text you created, hold down your mouse button, drag it down onto the Timeline just above the clip and at the point of the playhead, and release it. The text will be placed on a new track above your clip.

You should see a **green line** appear just above the clip on the Timeline, which means the text has been applied and you can view it by playing the clip.

Move the playhead on the Timeline to a point prior to the clip and play the clip to see the text displayed.

(If there's a **red line** above the text instead of a green line, that means you'll need to render the text before you can play and view it.)

To make adjustments to your text, double click on it in the Timeline to display it in the Viewer, and then follow the steps above to make changes.
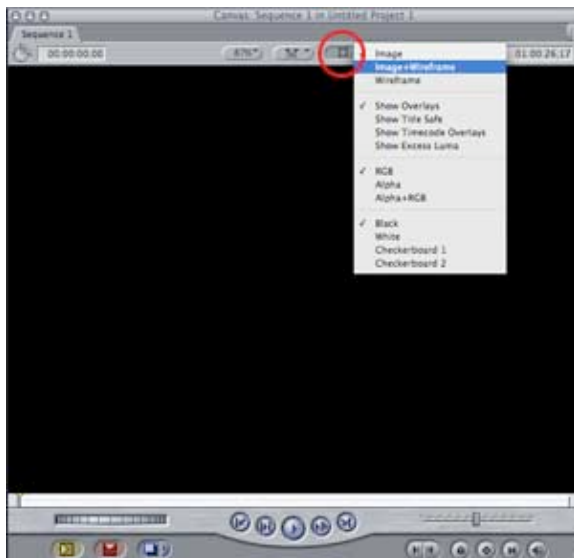
Positioning the Text

You also can change the **position** of the text - moving it anywhere you want on the screen - by creating a **wireframe** to drag the title to different points on the screen.

To do that, double click on the text you've created in the Timeline, to display it in the Viewer and in the Canvas.

in the Canvas area to the right, click on the the tiny box toward the top right that has a hole in it.

In the drop-down menu that appears, select:

Image+Wireframe

A wireframe will appear over your title, with an image of the clip underneath. Click on the point in the middle where the lines intersect, and you can drag the title anywhere on the screen.

When you're done positioning the text, to place the new text on your Timeline, in the Viewer to the left make sure the **Video** tab is selected.

Then move your playhead on the Timeline to the point where you placed the beginning of your existing title.

Now in the Viewer above click on the new text you created, hold down your mouse button, and drag it down onto the Timeline to the point of the playhead and on the tack where your existing title is. Release your mouse button, and the new text will replace the old text on the Timeline.

Lower 3rd Title

Some common text to use on a video clip is a "Lower Third" title, which appears toward the bottom of a clip and has two lines on it - one for a title and a second just below for a subtitle (such as a listing of a person's name, with their occupation or affiliation listed in slightly smaller type underneath).

If you want to add a Lower Third title to a clip, double click on a clip in the Timeline to display it in the Viewer at the top. Then at the bottom of the Viewer click on the button with a large **A** on it, which is the title

button.

Hold down your mouse button and in the drop-down menu select:

Title...Lower 3rd

You can change the properties of the text in this title - the size, color, position, etc. - using the same steps described above for changing the attributes of text.

But this time there will be two sets of controls - one for the main title, and one just underneath for the subtitle.

You also can add a rectangular **color bar** behind a lower third title to better display it on the screen.

You would do this, for example, if there's a lot of variety in the color of the video to which you're applying the title and the title thus doesn't display well against that varied background. The title will display much better if its on top of a color bar.

To add a color bar, select the **Controls** tab, scroll down the line for **Background** and select **Solid**. You then can change the color of the bar, by clicking below on the white box to the right of the word **Color**.

Now to place the title on your Timeline, click on the **Video** tab.

Then move your playhead on the Timeline to the point in a clip where you want your title to begin.

Now click in the Viewer on the title you created, hold down your mouse button, drag it down onto the Timeline just above the clip and at the point of the playhead, and release it. The title will be placed on a new track above your clip.

You should see a **green line** appear just above the clip on the Timeline, which means the title has been applied and you can view it by playing the clip.

Move the playhead on the Timeline to a point prior to the clip and play the clip to see the title displayed.

(If there's a **red line** above the title instead of a green line, that means you'll need to render the title before you can play and view it.)

To make adjustments to your title, double click on it in the Timeline to display it in the Viewer, and then follow the steps above to make changes.

Rendering Titles

When you add a title to a clip, it still needs to be "rendered," or processed by the computer to permanently add it to the clip.

Sometimes when you add a title, you'll see a **green line** above the clip, which means you can view the title, but it still needs to be rendered.

Other times when you add a title, you'll see a **red line** above the clip, which means you can't view the title until it is rendered.

To render a title, in the Final Cut Pro menu at the top click on:

Sequence...Render Sequence

(which will render all the titles you've added to your sequence)

Final Cut then will process your title and permanently apply it to your clip. The time it takes to render depends on how sophisticated your title is. More advanced titles could take up to a minute to render.

When the rendering is completed, the red or green line should be gone from above the clip with your title.

Exporting Still Frames as Pictures

You can export a single frame from a clip in Final Cut Pro, to use as a picture on a Web site.

To do this, select a clip in the **Browser** or the **Timeline** to display it in the **Viewer**, and then move the playhead to the single frame you want to export.

In the menu at the top select:

File...Export...Using QuickTime Conversion

In box that appears, change the **Format** setting to **Still Image.**

Click on the **Options** button and select a format for the picture, such as **JPEG**, and click on **OK**.

Now pick a destination folder where you want to store the picture, rename the picture, and click on **Save**.

The photo will be saved into the folder you selected.

Create a single frame to put in your Timeline

You similarly can create a "freeze frame" for the **Timeline** that will display as a still image that lasts for several seconds in your movie.

To do this, select a clip in the **Browser** or the **Timeline** to display it in the **Viewer**, and then move the playhead to the single frame you want for your movie.

In the menu at the top, select:

Modify...Make Freeze Frame

Click on the frame in the **Viewer** and drag it to the point you want it to appear in the **Timeline**.

You then can grab the edge of the single-frame image to shorten or lengthen the duration of the image in your movie.

Exporting Your Movie Sequence

When your movie is complete, you'll want to export it as a compressed QuickTime movie for use on the Web. See the tutorial **Exporting Video for the Web.**

Related Links

 Apple Final Cut Support Page

About this Tutorial

This tutorial is based on lectures Ellen Seidler gave in multimedia skills classes at the UC Berkeley Graduate School of Journalism. It was written by Paul Grabowicz and edited and illustrated by Tim Gnatek.

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