

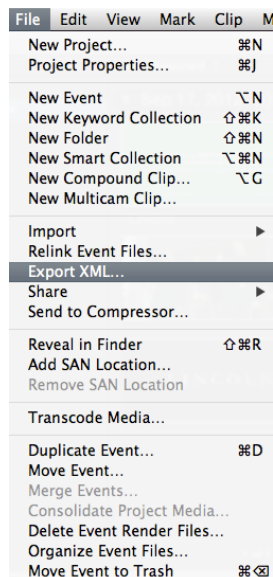
Final Cut Pro X Export to Pro Tools

This workflow details the steps necessary to export a Final Cut Pro X audio-only sequence to the *XML* file format. Since Final Cut Pro X does not support direct export to Pro Tools using the more popular *AAF* file format, you must first export your FCP X sequence audio as an *XML* file, then convert the *XML* file into *AAF* using the separate software utility from Marquis Broadcast called, **X2Pro Audio Convert LE (\$59.99** from the Apple App Store; more info at www.x2pro.net). Also, the video for the corresponding *XML* audio-only file export will have to be exported separately as a QuickTime video file. This document details the exact steps necessary for exporting a multi-track audio sequence with QuickTime video to Pro Tools.

FCP X XML (Audio-Only) Sequence Export

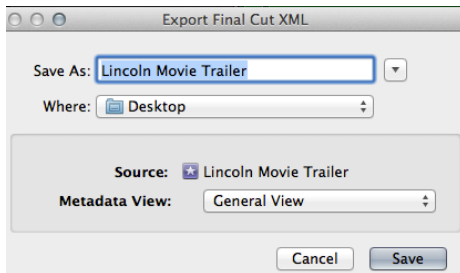
To export an audio-only XML sequence from Final Cut Pro X:

1. Select the sequence that you wish to export in FCP X.
2. Choose **File > Export XML**.



Final Cut Pro X: Export XML

3. In the **Export Final Cut XML** dialog, name the exported *XML* file, choose a save directory, and then click **Save**.



Export Final Cut XML dialog

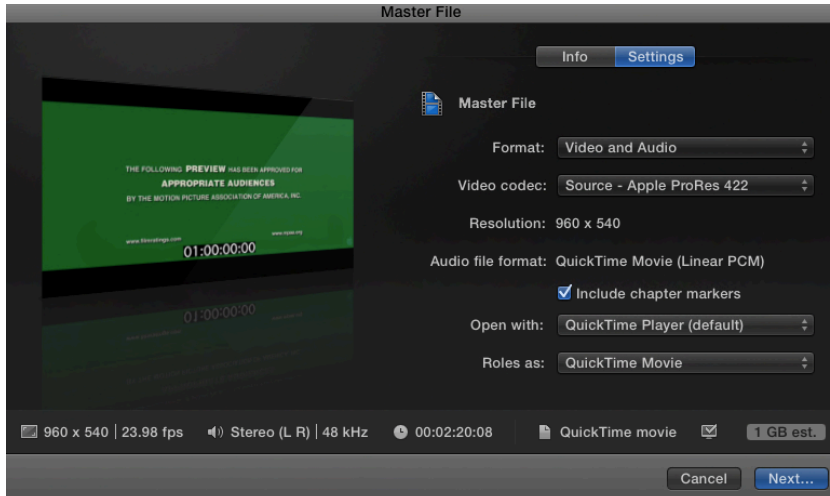
You have now completed the audio export from your FCP X sequence. The next section details the video export steps.

QuickTime Export

To export a separate QuickTime video file from your Final Cut Pro X sequence:

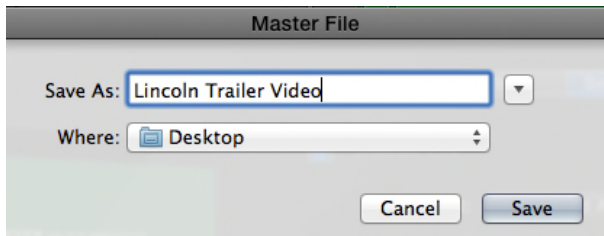
1. Select the sequence containing the QuickTime video (preferably with a Timecode window burn) that you wish to export.
2. Choose **FILE > SHARE > MASTER FILE (default)** or press **Command + E**.

The **Master File** dialog appears.



Final Cut Pro X Master File dialog

3. In the **Master File** dialog, click the **Settings** tab and configure the QuickTime file settings (if necessary) and then click the **Next** button. In most instances, the default settings will work fine.
4. In the **Master File Save As** dialog, choose a save directory, name the file, and then click **Save**.



Master File Save As dialog

FCP X begins exporting the QuickTime file in the background.

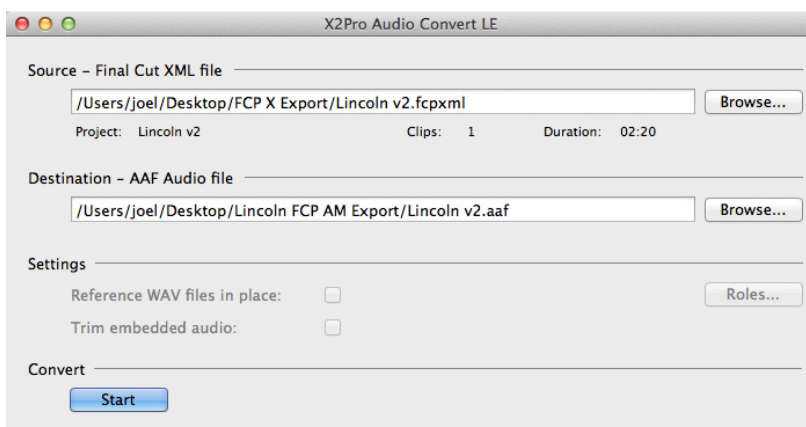
5. You can check the progress of the QuickTime video export by choosing **Window > Background Tasks** or pressing **Command + 9**.
6. After you have successfully exported both the audio-only XML and the QuickTime video, you can quit Final Cut Pro X.

XML to AAF Conversion

Since Final Cut Pro X only supports audio export to XML, you must use the **X2Pro Audio Convert LE** software utility to convert the XML data into AAF data, so that Pro Tools can import the audio into a Pro Tools session. Pro Tools currently does NOT support XML audio import, so the conversion from XML to AAF is necessary before Pro Tools import.

To convert the audio XML into AAF data:

1. On the same computer system containing the FCP X sequence, launch the **X2Pro Audio Convert LE** software.



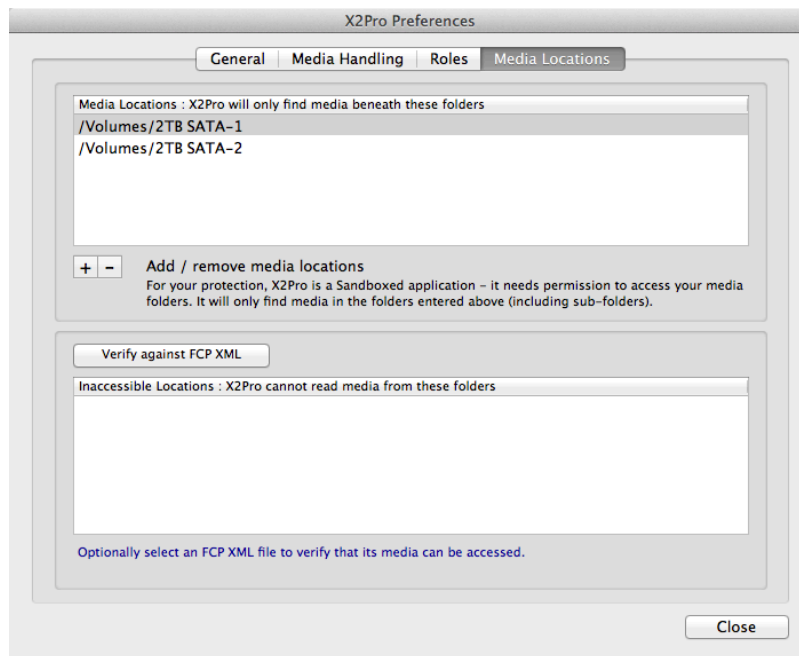
X2Pro Audio Convert LE software

2. In the **Source** section, click the **Browse** button and select the XML file that you previously exported from FCP X.

3. In the **Destination** section, select the destination directory for the converted AAF file.

Note: Do NOT press start before completing the next step!

4. Choose **X2ProLE Audio Convert > Preferences** (or press **Command + Comma**) to access the software preferences, and then select the **Media Locations** tab.
5. Since X2Pro Audio Convert LE is a sandbox application, you must first grant it permission to access your FCP X media directories. Click the **Plus (+)** button to add the media directories for your FCP X project. Note that there could be more than one media directory location.



X2Pro Media Locations preference set for 2TB SATA-1 and SATA-2

6. After you have added all of your FCP X sequence's media directories, click the **Close** button.
7. Finally, in the **Convert** section, click the **Start** button.
8. After your XML data conversion to AAF is complete, quit the **X2ProLE Audio Convert** software.

You are now ready to import the AAF media and QuickTime video into Pro Tools.

Importing AAF Media Into Pro Tools

This document details the steps that are necessary for transferring AAF audio and video from an Avid Media Composer (or other picture editing system supporting AAF export) into a Pro Tools system.

Importing an AAF Sequence into Pro Tools

To open (and convert) an AAF sequence as a new Pro Tools session:

1. If you have not done so already, copy the AAF export with all of its media to a new folder on the Audio hard drive attached to the Pro Tools system.
2. Launch Pro Tools.
3. Choose **FILE > OPEN SESSION**.
4. Select the AAF sequence you want to import and then click **OPEN**.

TIP: You can also double-click the AAF sequence that you want to import into Pro Tools from within the Workspace browser.

The **NEW SESSION FROM** dialog appears.



New Session From dialog

5. In the **NEW SESSION FROM** dialog, make sure that the AAF file's session parameters are set as shown above, then click **OK**.

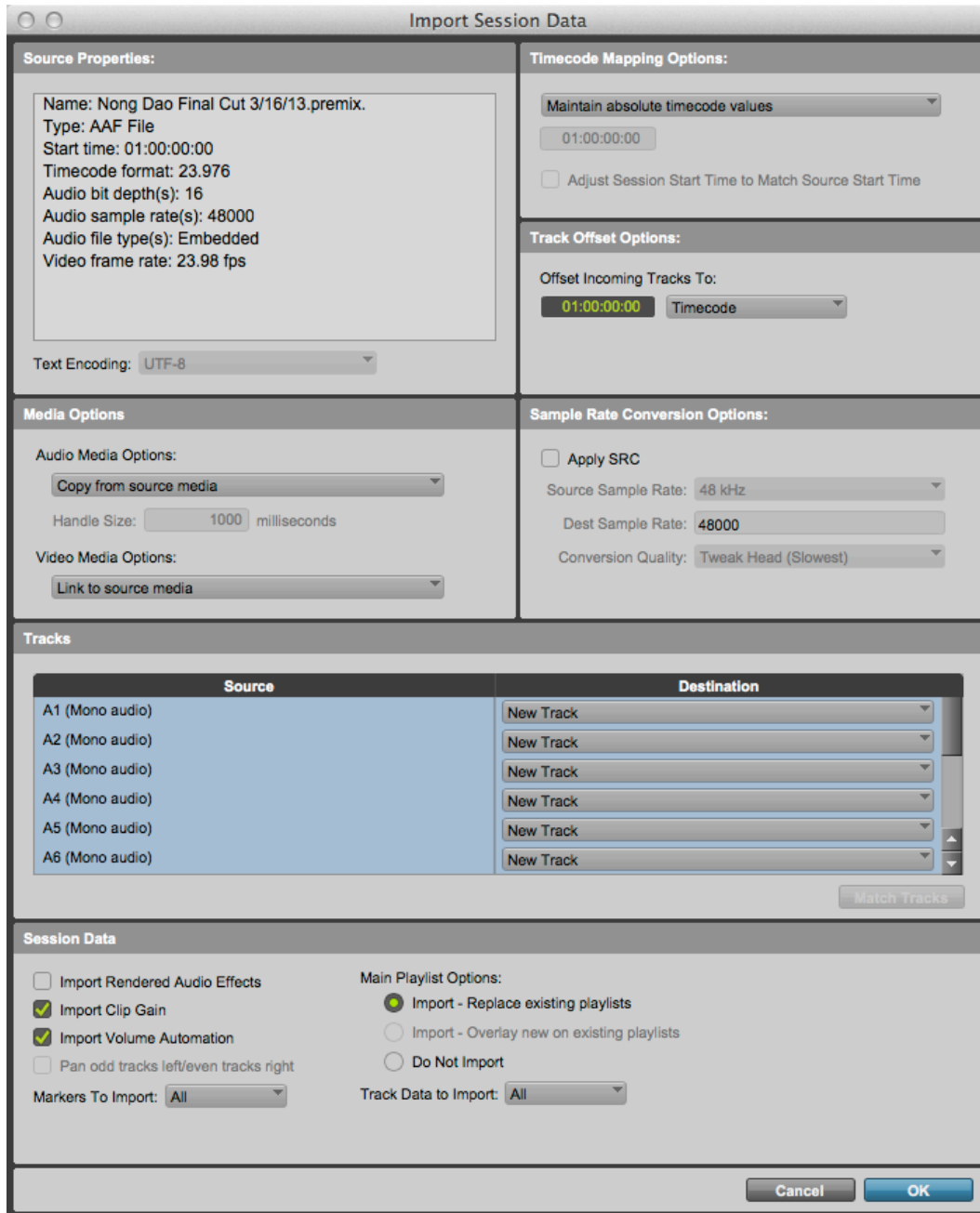
TIP: When importing AAF audio into Pro Tools, the sample rate and bit rate settings from the AAF file will be set automatically set in the "New Session From" dialog. When importing a project exported from a picture editing system into Pro Tools, do NOT change the default sample rate or bit rate unless directed to do so by a CTVA faculty or engineering staff member.

WARNING: Failure to configure the Sample Rate of your film project to 48 kHz could cause audio sync problems in your film project.

- In the **NAME THE SESSION** dialog, enter a name for the converted AAF sequence, choose a directory location, and click **SAVE**.

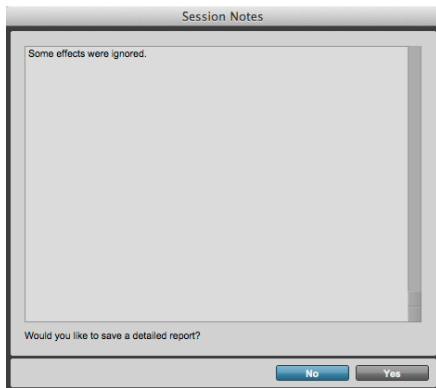
After you click **SAVE**, the **IMPORT SESSION DATA** dialog opens.

- In the **IMPORT SESSION DATA** dialog, (by default) all available tracks in the AAF export are selected for import as new tracks (blue shaded).



Import Session Data dialog

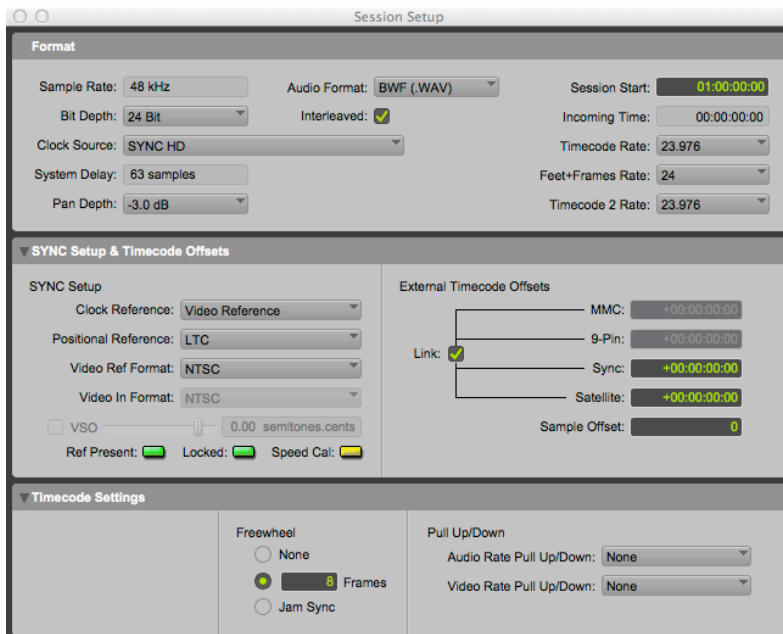
8. Configure all other options exactly as shown above, and then click **OK**.
9. When the **SESSION NOTES** dialog appears asking, “Would you like to save a detailed report?”, click **NO**.



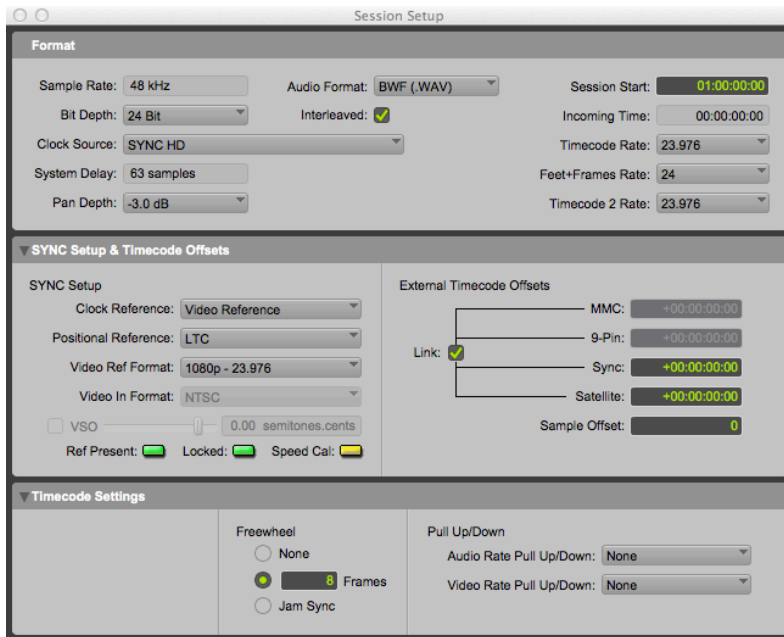
Session Notes dialog

After Pro Tools links to and converts all of the AAF media files, a new Pro Tools session containing the AAF media is saved and opened automatically.

10. In the Pro Tools software, choose **SETUP > SESSION** or press **Command + NUM 2 (Mac)** or **Ctrl + NUM 2 (Windows)**, and verify that the **FORMAT**, **SYNC SETUP & TIMECODE OFFSETS**, and **TIMECODE SETTINGS** are configured as shown below:



Session Setup window Settings (Clock Reference: Video Reference SD NTSC)



Session Setup window Settings (Clock Reference: Video Reference HD 1080p – 23.976)

WARNING: The Timecode Rate settings in the Session Setup window **MUST** match Timecode Format settings in the Properties section of the Import Session Data window. If your project is not a 23.976 FPS film project, check with a faculty or engineering staff member to verify what Timecode Rate settings are best for your project.

NOTE: The above SYNC SETUP & TIMECODE OFFSETS settings will not be available without an Avid SYNC Peripheral (SYNC HD or SYNC I/O) and a valid external SD or HD Video Reference.

- After all of the above settings have been verified, save the session by choosing **FILE > SAVE** or press **Command + S (Mac)** or **Ctrl + S (Windows)**.

Importing QuickTime Video Into Pro Tools

After the AAF audio export is imported and converted into a new Pro Tools session, unless an Avid video track was included with the export, you will have to separately import the QuickTime video.

TIP: Because of their universal compatibility with all Pro Tools systems (Mac and Windows), it is recommended to use QuickTime video instead of Avid video in all of your Pro Tools post production projects.

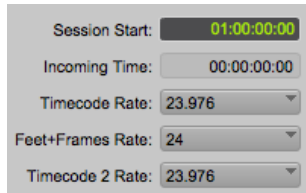
Importing QuickTime Video Into Pro Tools

After you have imported the AAF audio from the picture editing system, you are ready to import the QuickTime video into Pro Tools.

To import and play the QuickTime video from within Pro Tools:

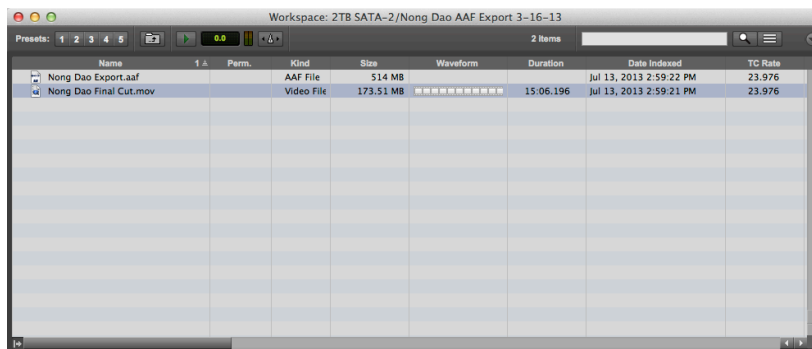
1. Choose **SETUP > SESSION** to verify the session's **TIMECODE RATE** (which will be either **23.976 FPS** or **24 FPS** for most film projects).

The **TIMECODE RATE** setting is located in the upper-right corner of the **SESSION SETUP** window.



Timecode Rate = 23.976 FPS in the Session Setup window

12. After verifying the session's **TIMECODE RATE**, close the **SESSION SETUP** window.
13. Choose **WINDOW > NEW WORKSPACE** or press **Command + Semicolon** (Mac) or **Ctrl + Semicolon** (Windows) and then navigate to the directory location of the QuickTime video file.
14. From within the **WORKSPACE** browser, check the **TC RATE** column to verify that the QuickTime Video's frame rate matches your session's **TIMECODE RATE**.

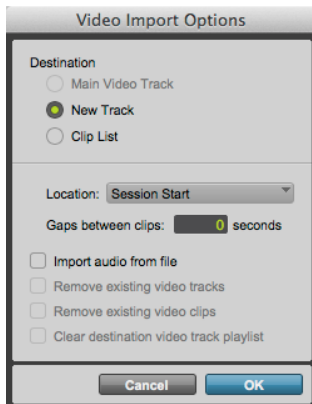


Importing a 23.976 FPS QuickTime Video File Using the Workspace Browser window

TIP: If the TC Rate column is not visible, scroll the column views over to the right.

15. After verifying the correct video frame rate, drag and drop the QuickTime video file icon from the **Workspace** browser into the Pro Tools **EDIT** window.

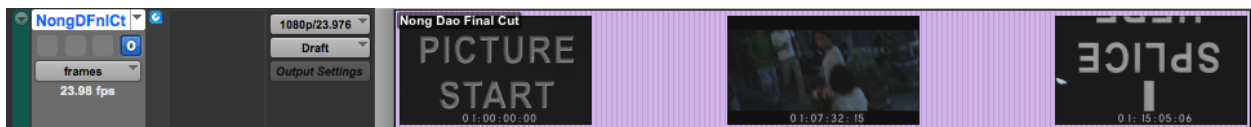
The VIDEO IMPORT OPTIONS dialog appears.



Video Import Options dialog

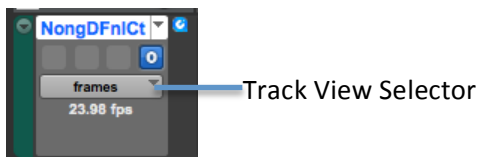
16. In the **VIDEO IMPORT OPTIONS** dialog, set the **VIDEO IMPORT OPTIONS** as shown above, then click **OK**.

The QuickTime video file is placed on a new video track at the start of the session.



QuickTime Video Imported into a New Video Track

17. To guarantee smooth video playback, change the video track's display from **FRAMES** to **BLOCKS**, by choosing **BLOCKS** in the **TRACK VIEW SELECTOR**.



Changing a QuickTime Video Track from Frames to Blocks View

Verifying the Video Engine Rate

After importing QuickTime video into Pro Tools, you must verify that the current session's **TIMECODE RATE** matches the frame rate (or Video Engine Rate) of the QuickTime video. The current video engine rate is displayed in the **I/O VIEW** of the Main video track.

The **VIDEO ENGINE RATE** is independent of the **SESSION SETUP** window's **TIMECODE RATE**, which determines the number of frames displayed per second in grids, rulers, and counters. In order for the grids and rulers to align with the actual frames of the video files in the Timeline, the session's **TIMECODE**

RATE setting must match the **VIDEO ENGINE RATE** (the frame rate of the QuickTime video).

WARNING: If the video track's VIDEO ENGINE RATE does not match the session's TIMECODE RATE, do NOT change the session's TIMECODE RATE to match the VIDEO ENGINE RATE. Instead, the picture editor must re-export the QuickTime video to match the TIMECODE RATE of your session.



Session Timecode Rate Matches the QuickTime Video (Left) and QuickTime Video Mismatch (Right)

When the **SESSION SETUP** window's **TIMECODE RATE** matches the video track's frame rate, then the frame rate of the video track will be displayed using "white" text. Conversely, if a mismatch exists between the **SESSION SETUP** window's **TIMECODE RATE** and the video track's frame rate, then the frame rate of the video track will be displayed using "red" text.

Syncing the QuickTime Video

After you import a QuickTime video into your session and verify that the video frame rate matches your session's **TIMECODE RATE**, you may also need to adjust the sync location of your QuickTime video. Unless the QuickTime video's timecode window burn precisely matches the start of your session, you will need to offset the QuickTime video by some amount forwards or backwards, so that its timecode window burn precisely matches your session's Main timecode display.

A QuickTime video clip can be easily moved within the Video track to match the QuickTime video's timecode window burn to the session's timecode. In most cases, you should not have to move the QuickTime video clip at all.

WARNING: You must work with a timecode window burn in the QuickTime video, since it is the only way to verify that your QuickTime video is correctly aligned with your session's Main Timecode display and Timeline rulers.

To sync the QuickTime video to the session's Timecode ruler:

1. Set the session's Main Timescale display to **TIMECODE**.
2. If the QuickTime Video window is not currently displayed, choose **WINDOW > VIDEO** or press **COMMAND + NUM 9** (Mac) or **Ctrl + NUM 9** (Windows).

The QuickTime video should now be displayed inside the Video window.

3. Choose **SETUP > VIDEO SYNC OFFSET**, and verify that the **VIDEO SYNC OFFSET** is set to **ZERO**.

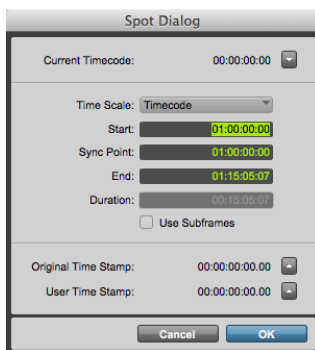


QuickTime Video Sync Offset Set to Zero

WARNING: Since displaying QuickTime video using external video hardware can cause an uncertain amount of video and audio sync offset, using external video hardware is **NOT** recommended for editing and mixing film and video projects in Pro Tools.

4. Enable **SPOT** mode.
5. With the **GRABBER** tool, click anywhere inside the QuickTime video clip.

The **SPOT** dialog appears.



Syncing the QuickTime Video Using Spot Mode

6. In the **START** field, enter the timecode number displayed in the timecode window burn of the video, and click **OK**.

The video clip moves to align its start to the timecode location you entered.

7. Verify that the QuickTime video is in sync with your session's timecode by randomly locating the insertion cursor to different timecode locations within the Video track, and then comparing the video's timecode window burn to your session's Main timecode display.
8. If necessary, you can shift the QuickTime video clip's timecode location later or earlier in single frame increments using the Numeric keypad's **PLUS(+)** or **MINUS(-)** keys.
9. You should also verify that the visual "head leader" on the video track matches the "head pop" on the **A1** audio track. Similarly, verify that the visual "tail leader" on the video track matches the "tail pop" on the **A1** audio track.
10. Once you have verified that the Video track contains the proper academy leader and is in proper

sync with your session's Main timecode, lock the video track by **RIGHT**-clicking on the track name and choosing **LOCKED** from the **RIGHT**-click menu.

11. Save the session by choosing **FILE > SAVE** or **Command + S** (Mac) or **Ctrl + S** (Windows).

You are now ready to edit and mix the audio in your Pro Tools session.

