

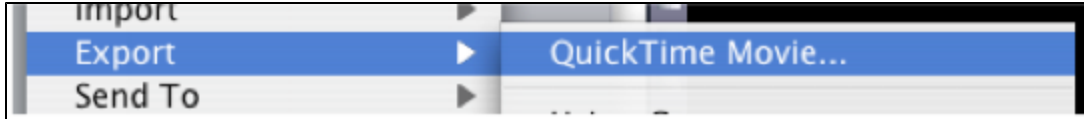
DVD Studio Pro - Authoring a 5.1 DVD with Surround Sound

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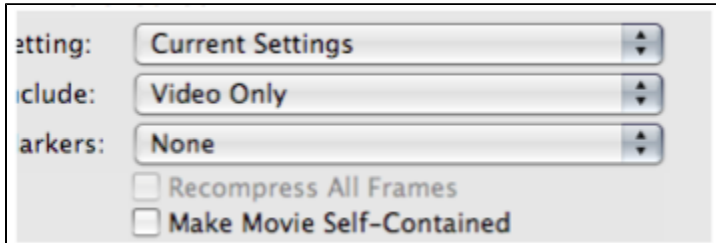
DVD STUDIO PRO-SURROUND DVD AUTHORIZING WORKFLOW

Written by Susanne Kraft, susanne.kraft@austin.utexas.edu

1. In Final Cut Pro export a quicktime reference movie

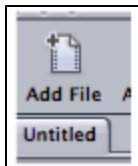


2. Use >Current Settings and make sure that "Make Movie Self-Contained" is unchecked

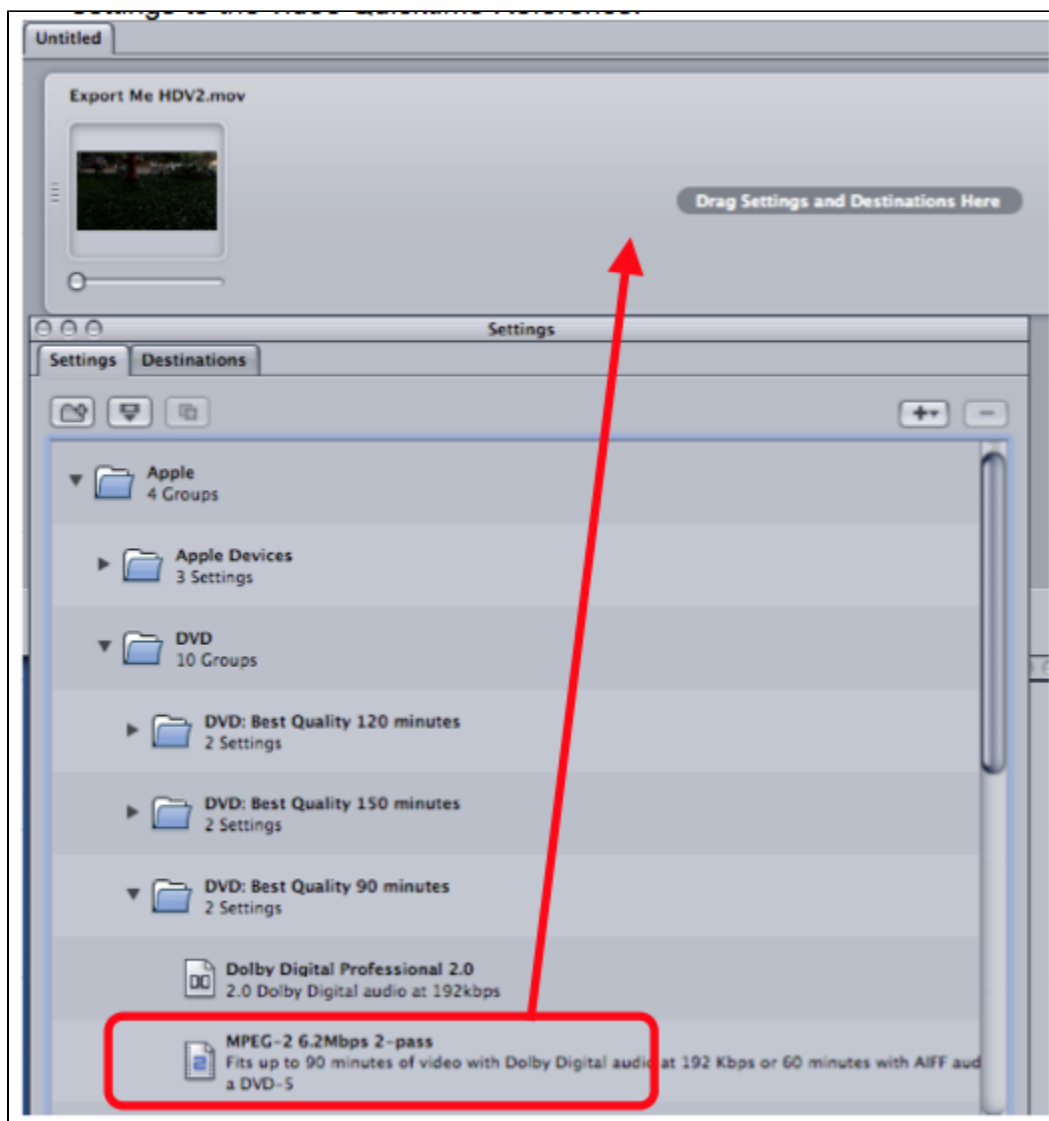


3. Open Compressor Software

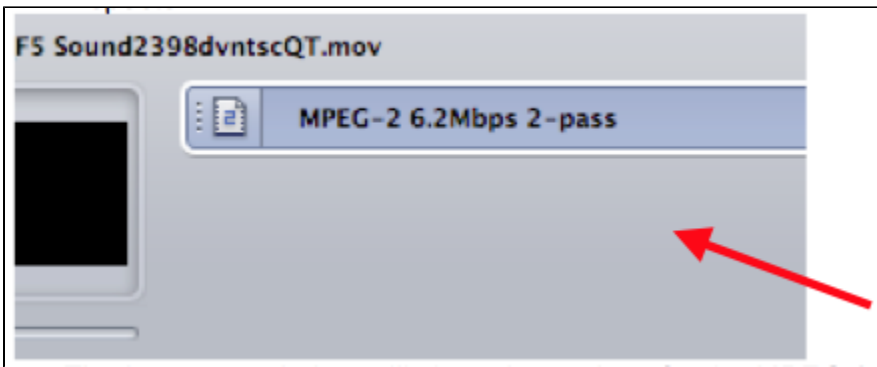
4. Click on "Add File" and navigate to the QuickTime Reference that was just made.



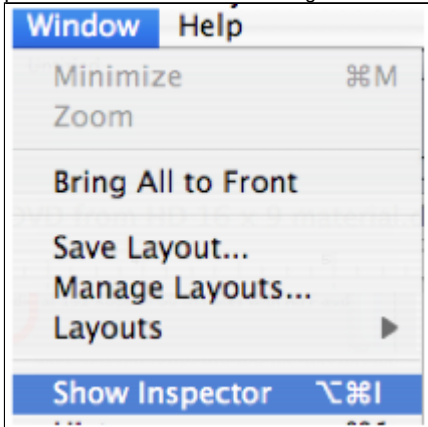
5. Select the DVD encoding settings to apply. Go to the Settings Tab>Apple>DVD>DVD:Best Quality 90 minutes. Drag the "MPEG-2 6.2 Mbps 2 pass" setting from this folder to the "Batch Window" to apply the encoding settings to the video Quicktime Reference.



6. Select the MPEG-2 clip to change the properties of the encode in the "Property Inspector"

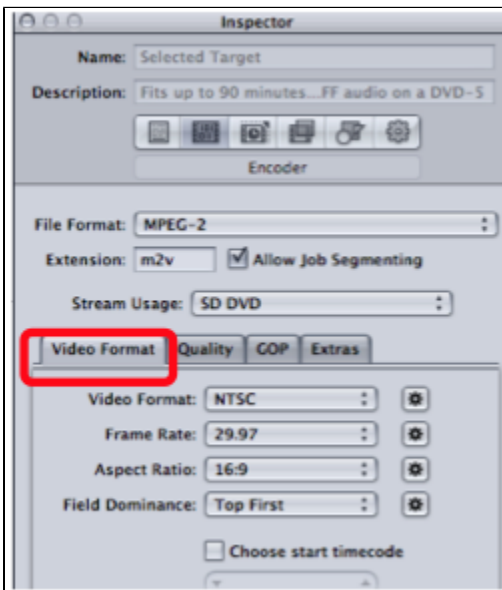


7. The Inspector window will show the settings for the MPEG 2 that is going to be encoded. If you don't see the inspector window go to >Window >Show

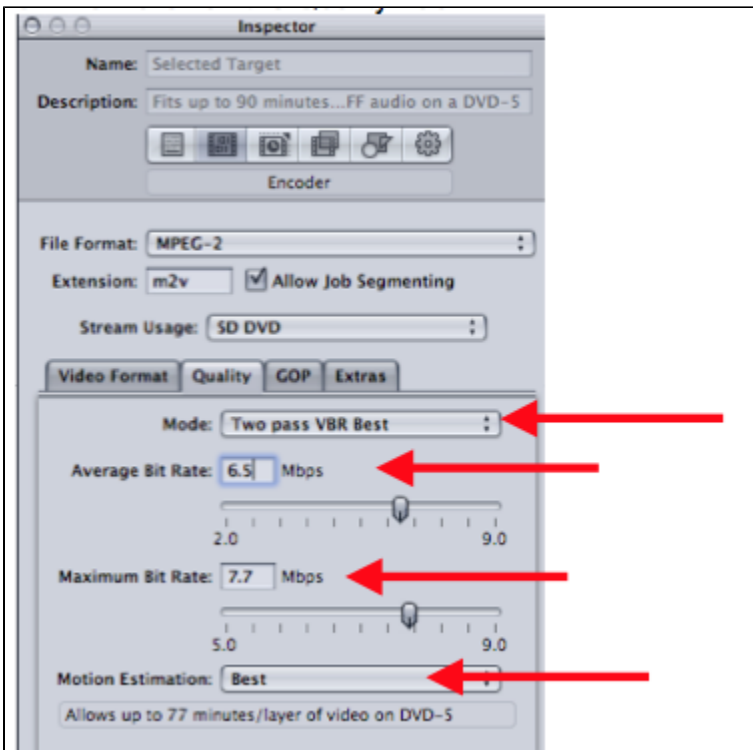


Inspector

8. Set the MPEG 2 encoding settings: Click on the Video Format tab and that should show the native information about the file. Will show the format, frame rate, aspect ratio, and native field dominance of the quicktime (SD will be lower field HD will be upper.) 23.98 WILL BE PROGRESSIVE. **NOTE: DO NOT CHANGE ANY OF THE VIDEO FORMAT SETTINGS. JUST LEAVE THIS TAB ALONE. COMPRESSOR WILL DEFAULT TO NATIVE SETTINGS OF THE FILE**



9. Now click on the Quality Tab.

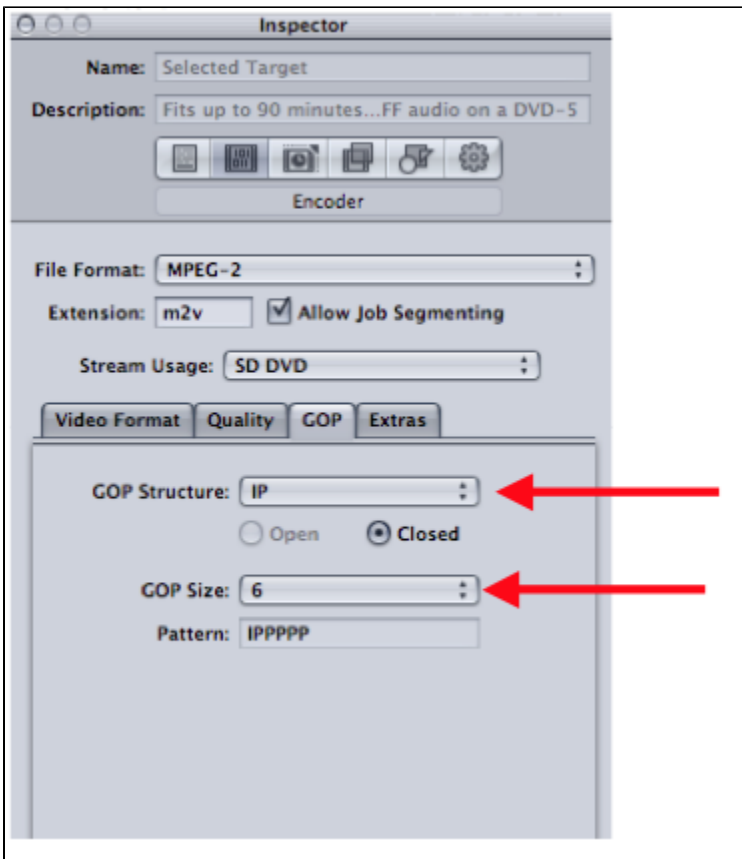


10. Mode should be set to Two pass VBR Best. Change the Average Bit Rate to 6.5 and the Maximum Bit Rate to 7.7. Change Motion Estimation to Best.

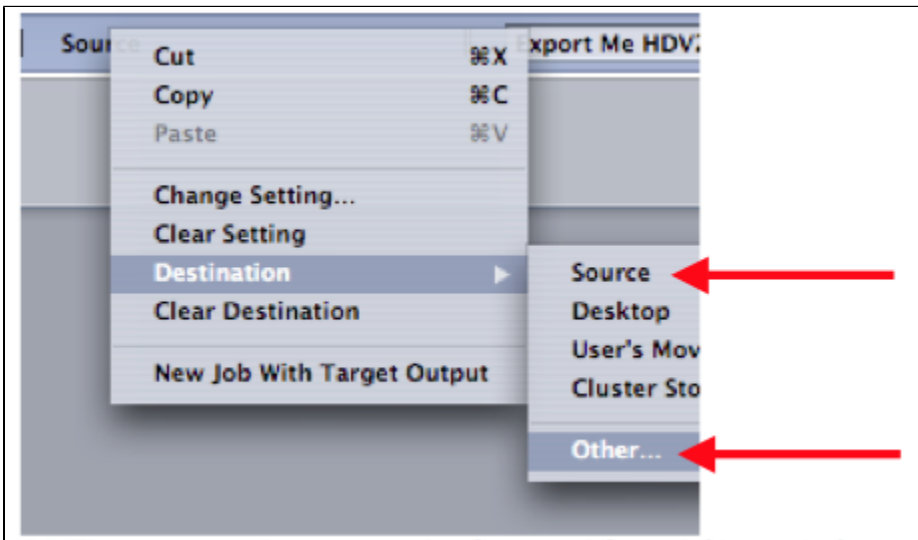
11. The above settings are generally OK but if you want to get more accurate bit rate settings (and better results) see this link for the DVD Bit Rate Calculator.

<http://www.videohelp.com/calc.htm>

12. Then click on the GOP tab and change the GOP Structure to IP and the GOP size to 6

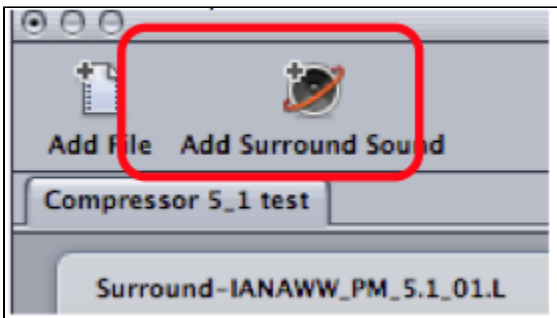


13. Choose the Destination for the mpeg2 file to be saved. Right click "Source" in the "Batch Window" and set the Destination to Source (where it defaults) or other and then save it to another folder if needed.

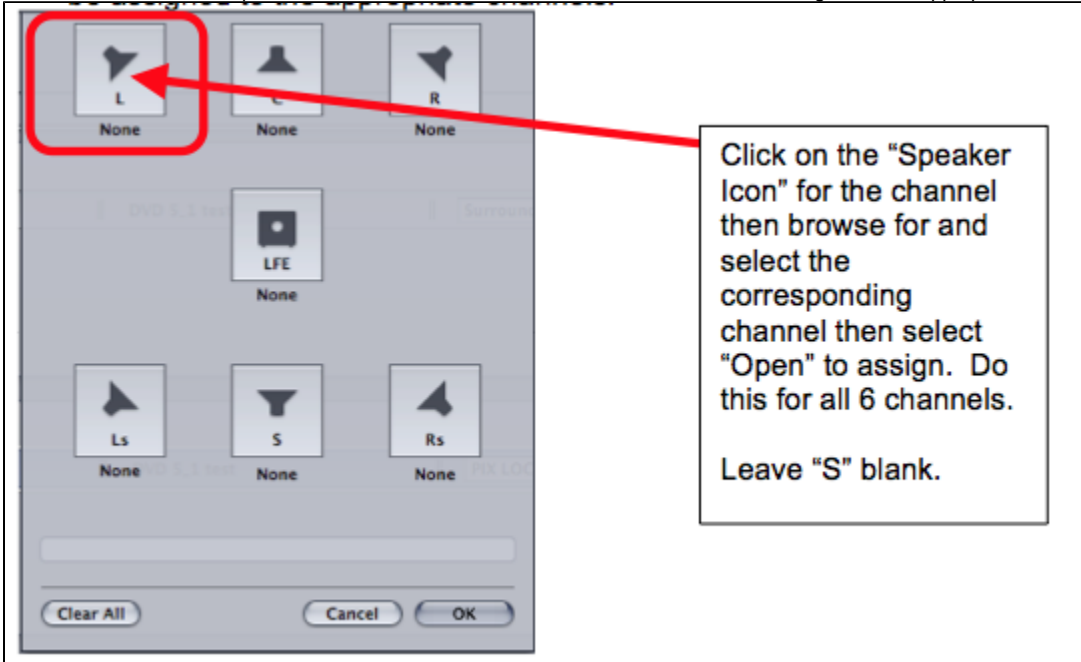


14. The next step is to set up the Surround Sound Channels for compression into a Surround AC3 file.

15. In the Compressor Batch Window select the "Add Surround Sound" icon



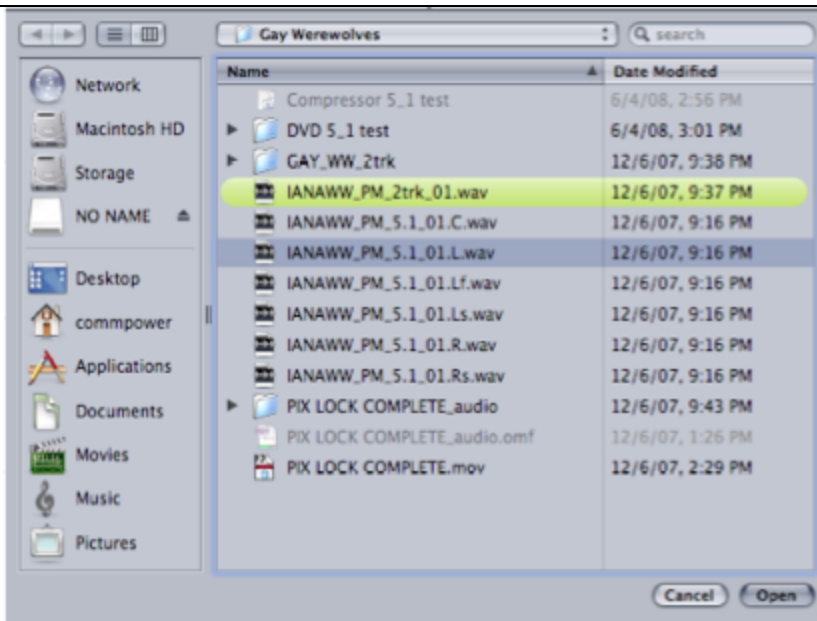
16. The next window that opens will allow the selection of the surround audio files to be assigned to the appropriate channels.



17. When the icon for the channel is selected a dialog box will ask what file to assign.

18. Browse for and select the corresponding channel then select "Open" to assign.

Do this for all 6 channels. May not have a "Sub" or "S" channel.

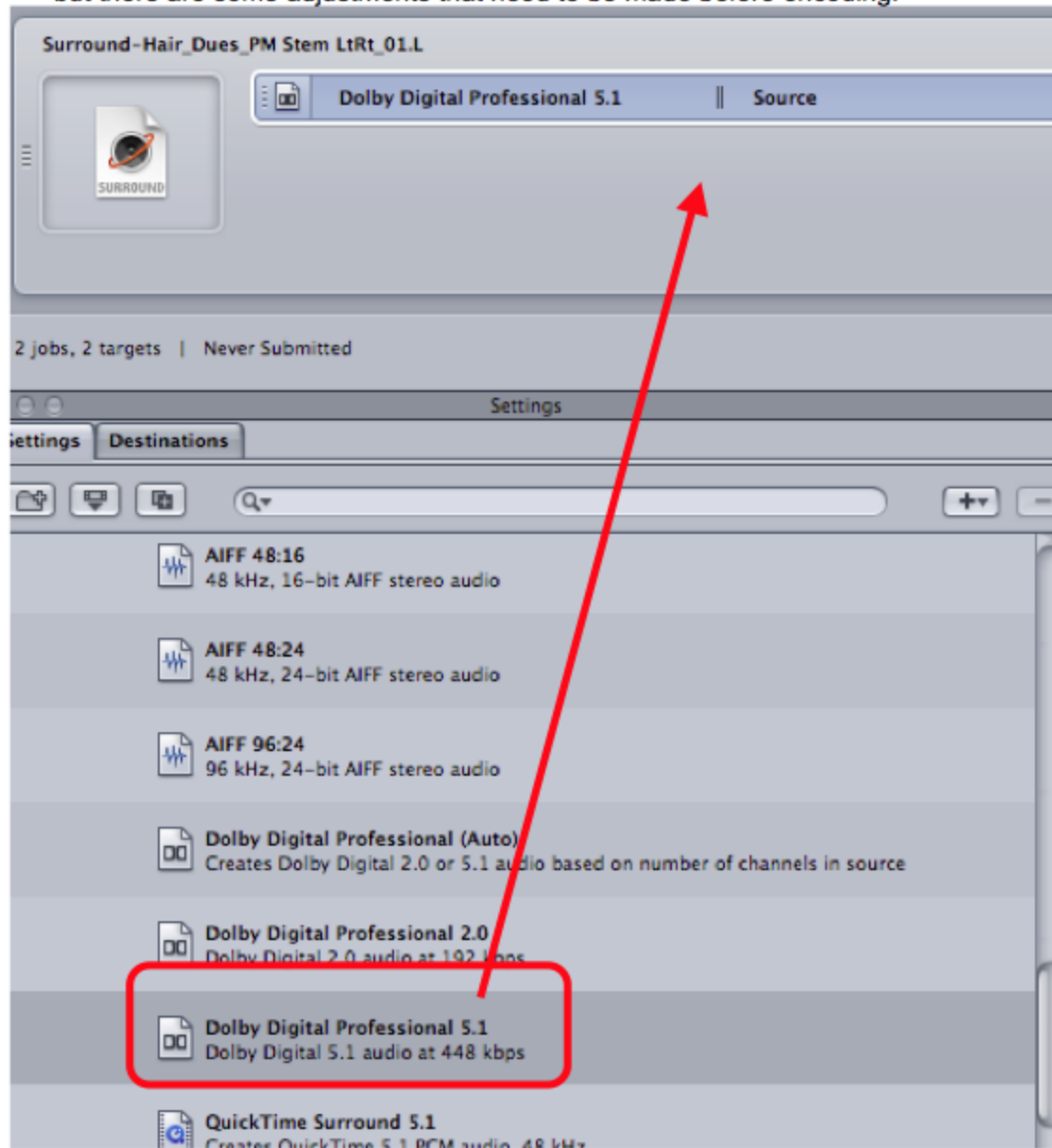


19. When all channels are assigned the icons should look like this. Then click Save.

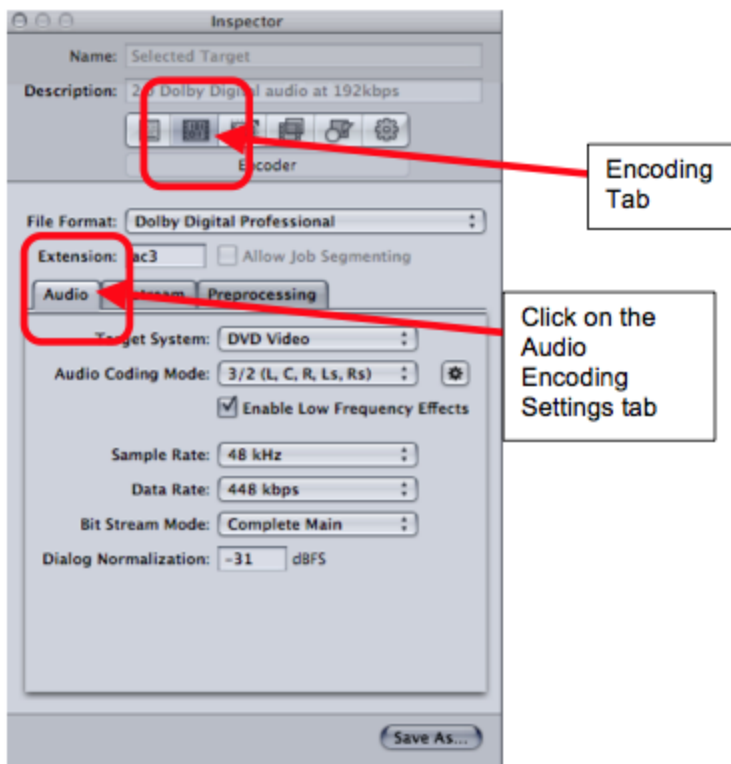
The channels should match up. Select L for Left channel, C for Center channel, Right for Right channel, Ls for Left Surround, Rs for Right Surround. The LFE channel should be assigned the Lf channel for Low Frequency channel.

Generally will leave "S" blank.

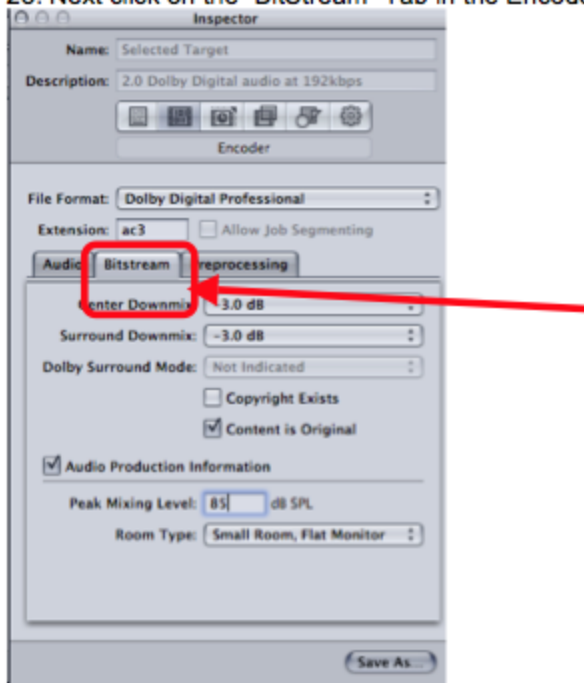
20. The Surround entry will be saved in the batch window of Compressor now the AC3 encoding setting must be applied to the Surround file loaded in the Compressor batch window.
21. Drag the Dolby Digital Professional 5.1 setting from the PRESETS go to "Settings Tab>Formats Folder>Audio>Dolby Digital Professional 5.1" Select this and drop it on the "Surround" entry. This will apply the AC3 encoding settings but there are some adjustments that need to be made before encoding.



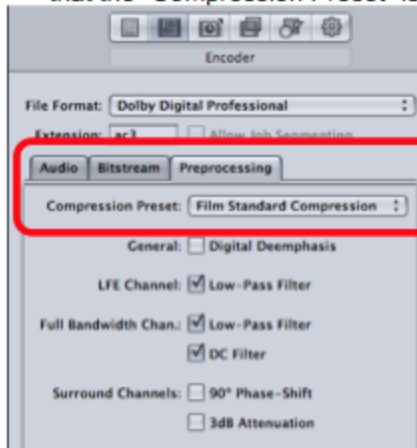
22. Double click on the Dolby Digital Professional 5.1 setting that was just applied to the surround audio file and the "Property Inspector" will open. Click on the "Encoder" tab to open the encoding settings then click on the "Audio" tab.



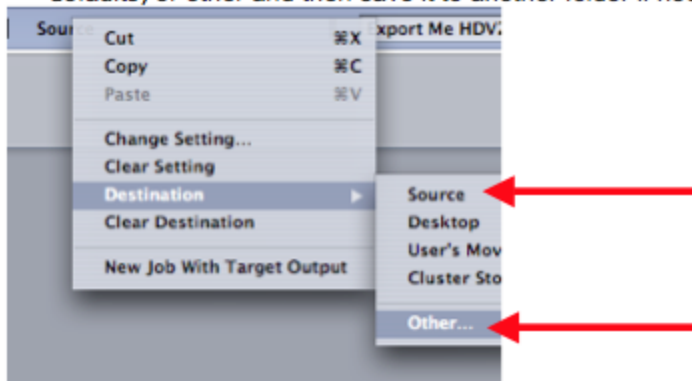
23. Change the Target System to DVD Video.
24. Leave the Audio Coding Mode to 3/2 (L, C, R, Ls, Rs)
25. Keep Sample Rate at 48, Data Rate at 448 kbps
26. Leave Bit Stream Mode at Complete Main
27. Change Dialog Normalization to -31 so that the dialog level doesn't change from the level the mixer set it. -27 or -12 will attenuate the signal by 4 to 19 decibels.
28. Next click on the "BitStream" Tab in the Encoder Settings.



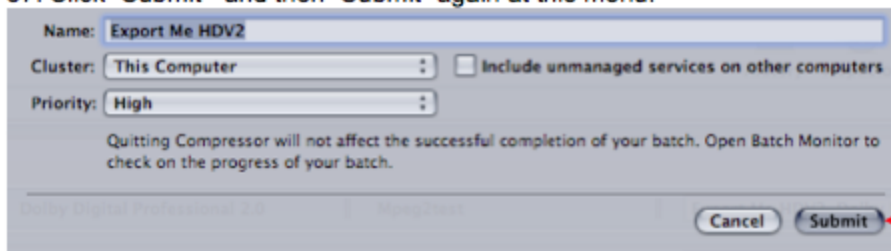
29. Keep the Center Downmix and Surround Downmix at -3.0db
30. Dolby Surround Mode is Not Indicated
31. Most material will not need the "Copyright Exists" setting so leave unchecked
32. Most material will be original so check the Content is Original box
33. Check the Audio Production Information box and change the "Peak Mixing Level" to 85 db SPL
34. Choose Small Room, Flat Monitor as Room Type
35. Next click on the "Preprocessing Tab" leave everything as shown just make sure that the "Compression Preset" is set to Film Standard Compression



36. Choose the Destination for the surround audio file to be saved. Right click "Source" in the "Batch Window" and set the Destination to Source (where it defaults) or other and then save it to another folder if needed.



37. Click "Submit" and then "Submit" again at this menu.



NOTE: If you experience your surround disk has too much bass turn off "Enable Low Frequency Effects"

Audio Bitstream Preprocessing

Target System: DVD Video

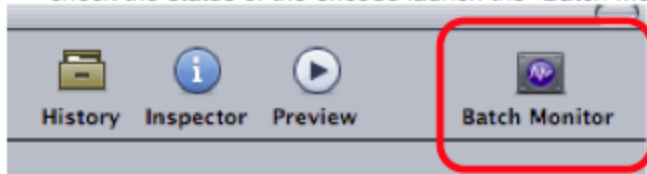
Audio Coding Mode: 3/2 (L, C, R, Ls, Rs) 

☒ Enable Low Frequency Effects

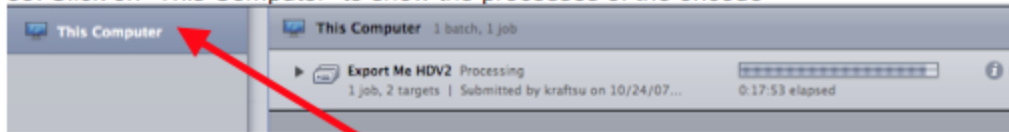
Sample Rate: 48 kHz

Rate: 448 kbps

38. The file will start to encode to an MPEG 2 that we will use in DVD Studio Pro. To check the status of the encode launch the "Batch Monitor"

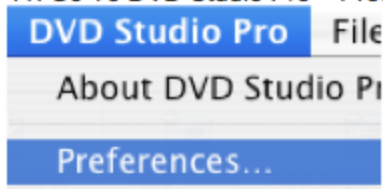


39. Click on "This Computer" to show the processes of the encode



40. Launch DVD Studio Pro.

41. Go To DVD Studio Pro > Preferences

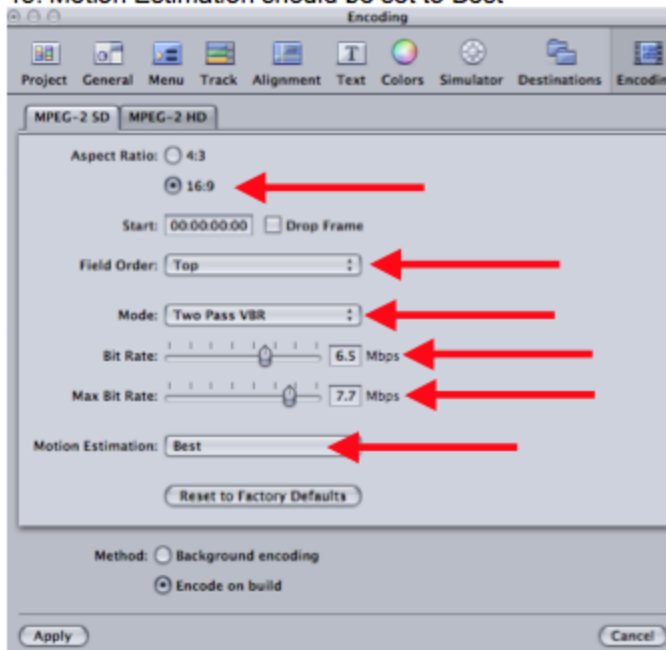


42. Go to the Encoding tab and change the Aspect Ratio to 16:9 HD OR 4:3 SD for non wide screen DVDs

43. Change the Field Order to "Top" for HD source material or "Bottom" for SD source material. Mode should be Two Pass VBR

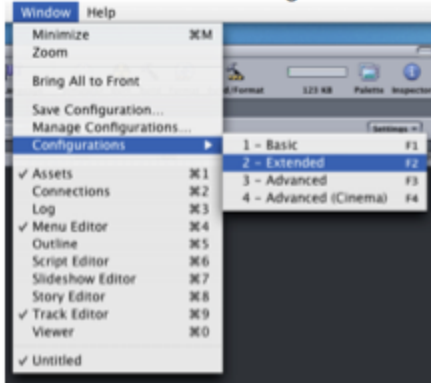
44. Bit Rate 6.5 and Max Bit Rate 7.7

45. Motion Estimation should be set to Best

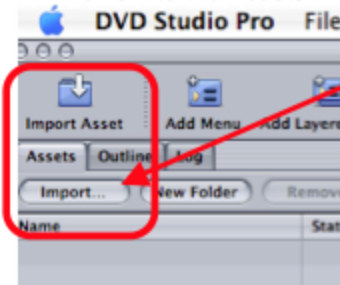


46. Make a new project

47. Go to Window>Configuration>Extended to change DVD Studio interface



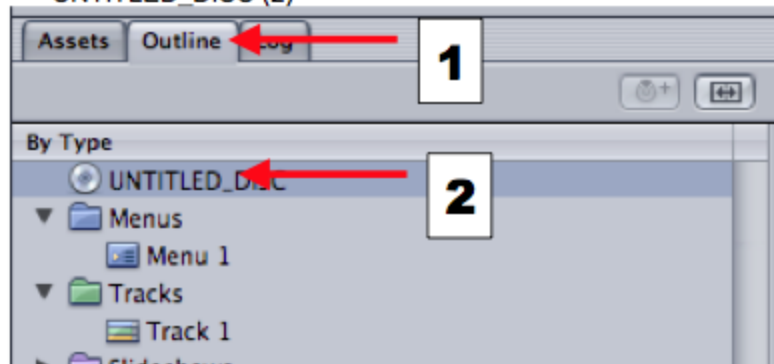
48. Import the MPEG 2 made in Compressor, Quicktime reference file or Quicktime movie into the Assets window



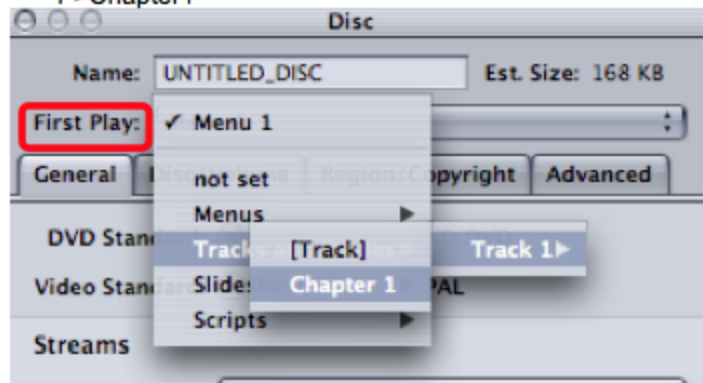
49. Drag the MPEG 2 and the AC3 file or QuickTime from the ASSETS tab to the Track timeline. Audio should match video exactly.



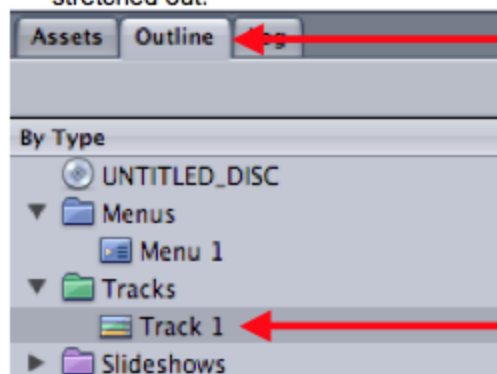
50. Click on the Outline tab (1) next to the Assets tab then click on the UNTITLED_DISC (2)



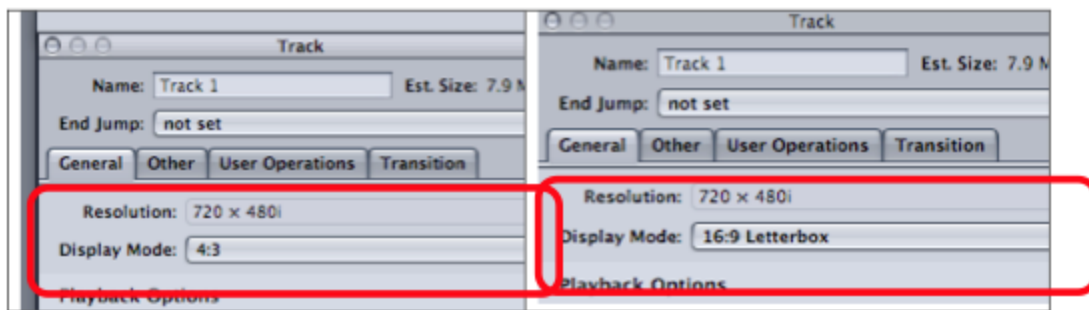
51. Then click on the Disc Properties Menu then click on First Play>Menu 1 > Track 1 >Chapter1

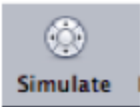


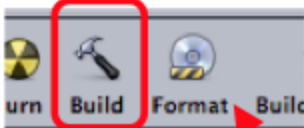
52. Click on the Outline tab next to the Assets tab then click on the Track 1 or Track 2 or the # of the track necessary to set the aspect ratio. The aspect ratio needs to be set for all the tracks in the DVD project so they play correctly and don't look stretched out.



53. When "Track" is selected the "Tracks Property Inspector" will open and then change the Display Mode to 4:3 for standard definition source material. Change to 16:9 Letterbox for High Definition source material.



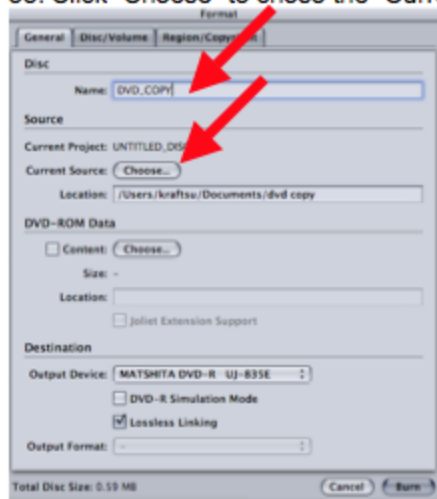
54. Launch the Simulator  to check the DVD before burning.

55. Now build the DVD. Go to  and choose where to save your DVD Video and Audio TS folders. Don't save to the Macintosh Hard Drive or Desktop. Save to local storage drives.

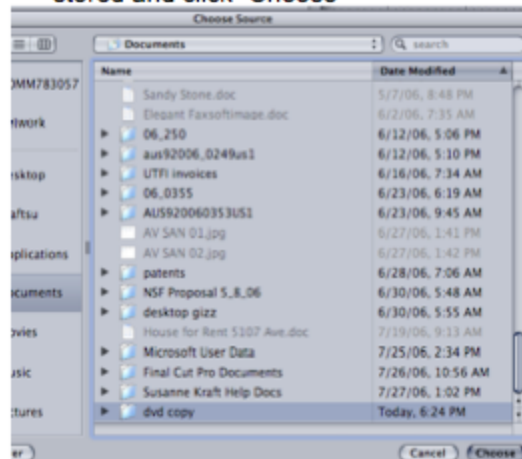
56. Once the DVD is built choose Format to burn the DVD

57. Name the DVD Disc

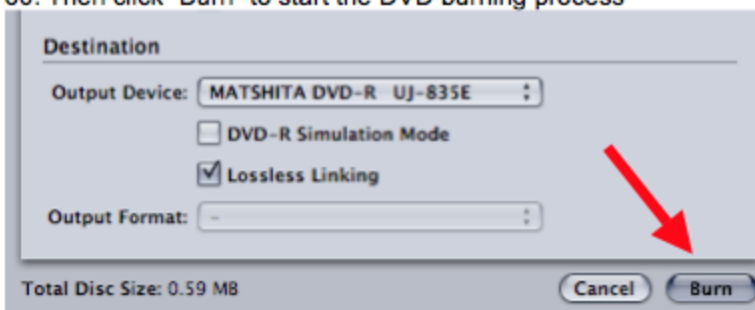
58. Click "Choose" to chose the "Current Source" for the DVD



59. Navigate to the location that the DVD VIDEO_TS AND AUDIO_TS folders are stored and click "Choose"



60. Then click "Burn" to start the DVD burning process



61. Put a blank DVD into the burner to burn the DVD material

