Converting DVD's to MKV/VC1/AC3 with FairUse Wizard

Overview:
-- This How-To guide describes the tools & configurations needed to transcode DVD's to MKV files using VC-1 Compression. This process is meant to make personal backups of already owned DVDs. Observer all applicable copywrite laws. It is not meant to debate the quality of VC-1 vs H264 vs DivX or XVID. Taking encoding time, filesize, & quality all into consideration, WMV9Advanced (WVC1) in MKV containers is ***my personal preference***.
-- This guide is broken up into 4 parts. 1 – Software tools needed, 2 – Codecs & Application Configuration Prep, 3 – Transcoding a single title on a DVD, 4 – Transcoding a multiple-title DVD (ie, TV Series DVD's).
-- Using this method, on an Intel-Core2Duo 6300, 7300GS nVidia, & VistaSP1 – a typical 2 hour movie will take approximately 45-50 minutes to complete. The same process on the same system, using x264 with comparable quality will take approximately 2.25 hours to complete.

I. Software Tools Needed:
*** Install Using All Defaults in the Following Order
*** All software is Freeware/OpenSource (WMP11 SDK may be downloaded instead of full WMP11—observe MS Licensing if in doubt).
1) DVD43 (On-The-Fly DVD Decrypting)
   a. http://www.dvd43.com/
   b. May Also Use DVD Decrypter & Rip to ISO instead
2) FFDShow (VFW VC-1 Encoding Support)
   a. http://www.codecs.com/FFDShow_download.htm
   b. Download latest SSE version
3) AC3Filter (AC3 Audio Decoder)
   a. http://www.codecs.com/AC3_Filter_download.htm
   b. Download latest "Stable" version
4) Maali Media Splitter (For .MKV Container Support)
   a. http://www.codecs.com/Haali_Matroska_Splitter_download.htm
   b. Can't play MKV Files? - Do a google search for, "How to set MKV perceived type" to tell windows how to recognize MKV files as videos.
5) Windows Media Player 11 - (For WMV9-Advanced Profiles / WVC1 Codecs)
   a. http://www.microsoft.com/windows/windowsmedia/download/alldownloads.aspx
6) FairUse DVD Wizard 2.8 Free/Full Edition
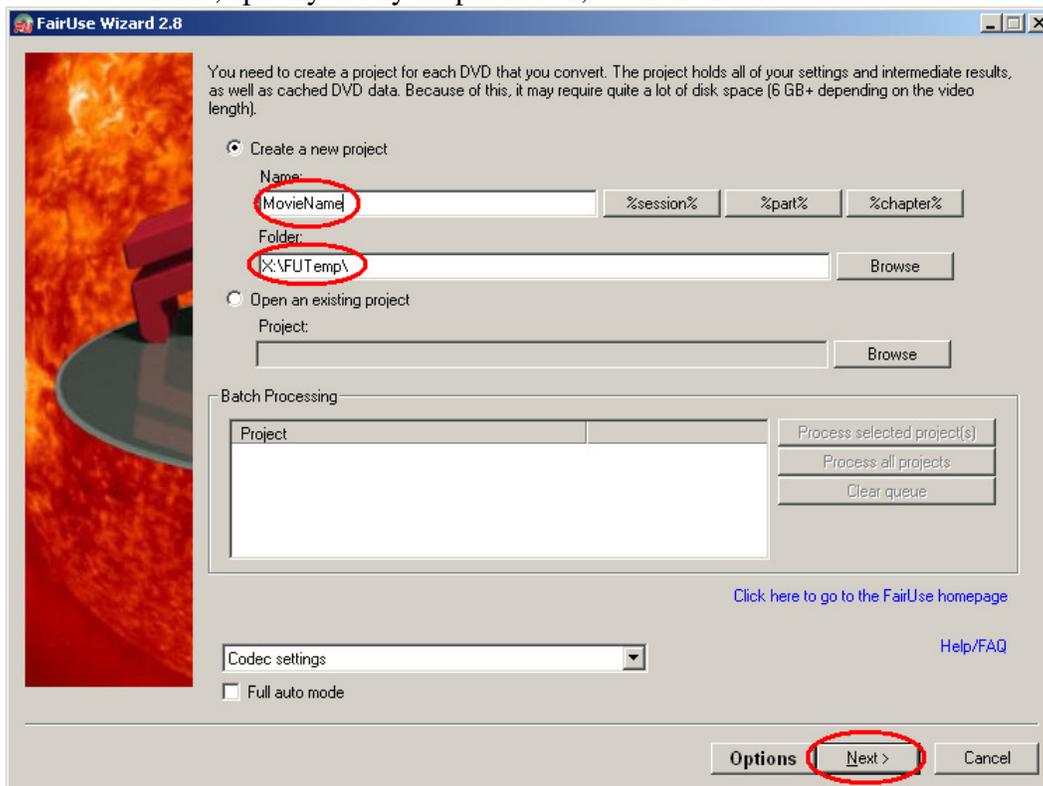   a. http://fairuse.free.fr/FU-Setup.exe

II. Codec/Application Configuration
1) VFW VC1 Configuration
   a. Start/Programs/ffdshow/VFW Configuration
   b. Select WMV9-Advanced Encoder
   c. Select WVC1 FOURCC
   d. Select OnePass Average BitRate
   e. Specify 700 (for non-CGI cartoons), 1000 (for old TV shows), 1200 (for new TV shows or CGI cartoons/movies) 1500 (for movie), 2000 (for "dark" movies)
   f. Specify 90 for Crispness
   g. Click OK to close
2) AC3Filter Configuration
   a. Start/Programs/AC3Filter/AC3Filter Config
   b. Click Ok
   c. Main Tab - Under Output format, specify "AS IS / NoChange"
   d. System Tab – Check Use AC3Filter for All
   e. System Tab – Check "Prefer AC3Filter"
3) FairUse Configuration

a. Start/Programs/FairUse Wizard 2/FairUse Wizard 2
b. Options
c. Preferences Dropdown – Specify "Codec Setting"
d. Select ffVFW Radial Button
e. Under Audio Track Dropdown – Specify "AC3"
f. (If videos will be used to output to a 4:3 SD-TV, check "Use TV display mode")
g. Specify a default Destination Folder
h. Check "Enable expert mode"
i. Select Preferred container (AVI or MKV)
j. Click Next to return to Main Screen
k. Click Cancel/X to close down
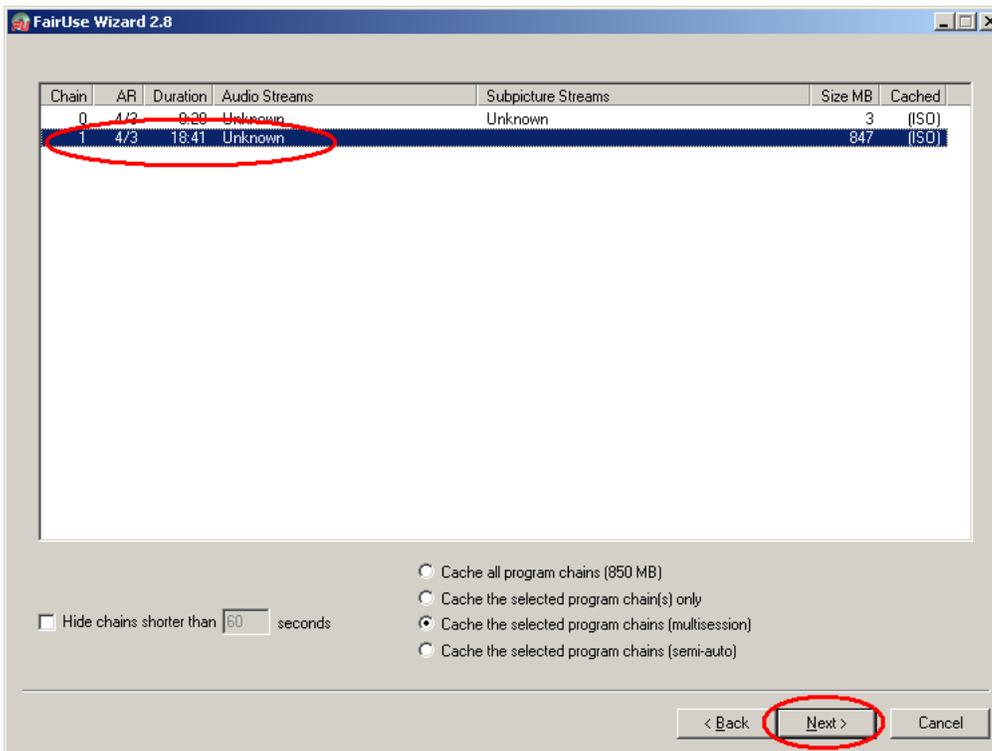
III. Transcoding DVD (Single Title Movies)

1) Open FairUse (Start/Programs/FairUse Wizard 2/FairUse Wizard 2)
2) Enter the movie's name, specify/verify output folder, & click "Next"

a.
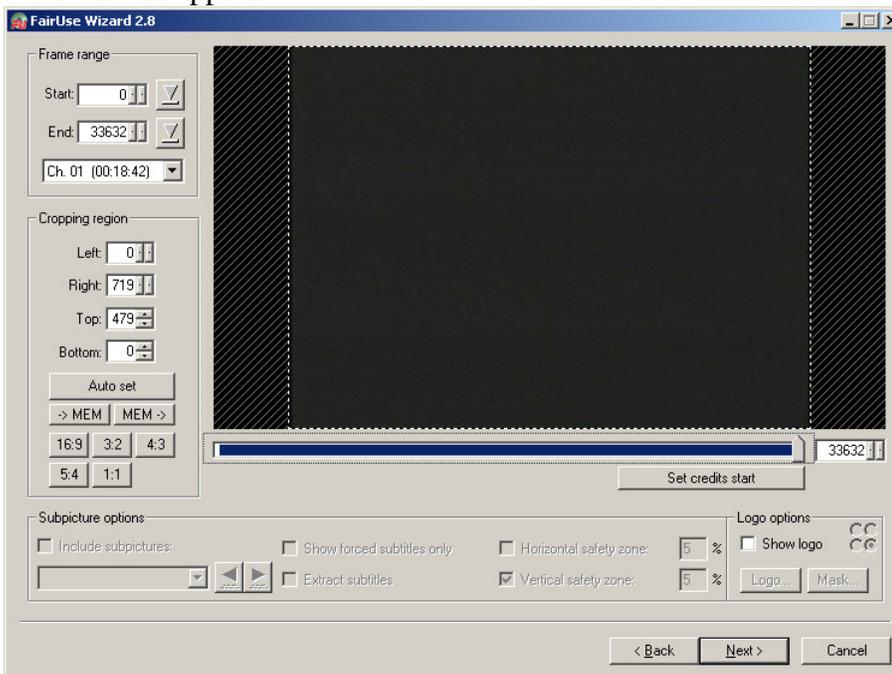3) Specify which DVD Drive to read from (if transcoding from physical DVD), or browse to the DVD ISO—then click OK:

a.
4) Select/Verify appropriate Title & click 'Next'
a.

b.

5) At this point FairUse will index the Title's VOB files. If reading directly from physical DVD, it will also cache the title to the harddrive. This process may take anywhere from a few seconds to 20-30 minutes depending on the speed of the DVD drive, the total size of the title on the DVD, and/or if reading from an ISO file.

6) The next screen will appear:

a.

7) Click "Auto Set" button to auto-crop the title

8) If title has necessary subtitles, check "Include Subpictures", "Show forced subtitles only", and "Vertical Safety zone"
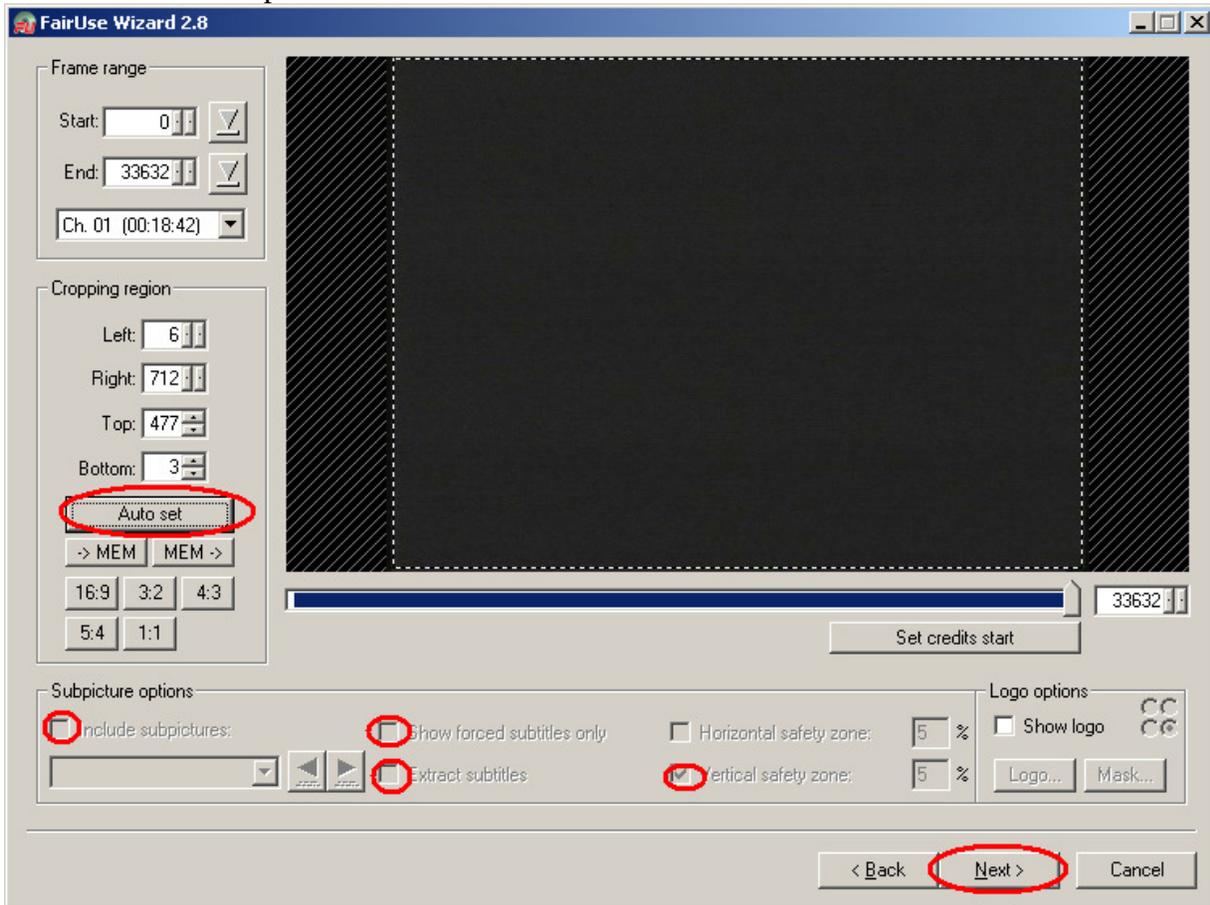
    a. You may slide the marker bar back to forth to quickly look for forced subtitles.

    b. Check "Extract subtitles" (for use with later advanced subtitling only—files may be deleted or you may uncheck this box if you do not wish to encode non-forced subtitles into the MKV)

    c. If you're unsure if video has any subtitles, I'd suggest checking these boxes "just to be safe"

    d. WARNING: Checking "Include Subpictures" without "Show forced subtitles only" will result in the ENTIRE movie's subtitles being PERMINANTLY "burned" into the video w/o the ability to turn them off!
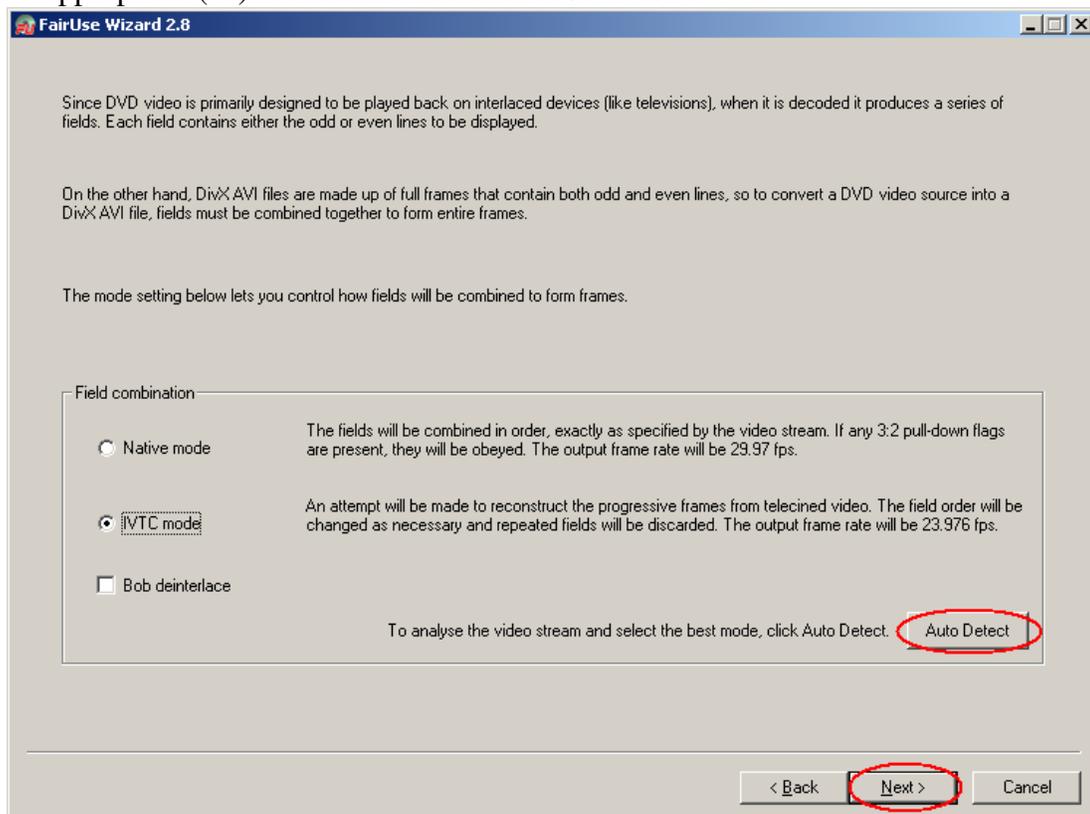
e. If you wish to include the non-forced subtitles into the MKV that may be turned on/off, there are advanced steps that I will include later.

9)

10) **HINT:** If you wish to "test" the encoding process on just a few minutes of video instead of the whole movie, you may adjust the Start & End Frames to only include a few minutes worth of frames. This will save a lot of time while you go through any of your trial-and-error phase.

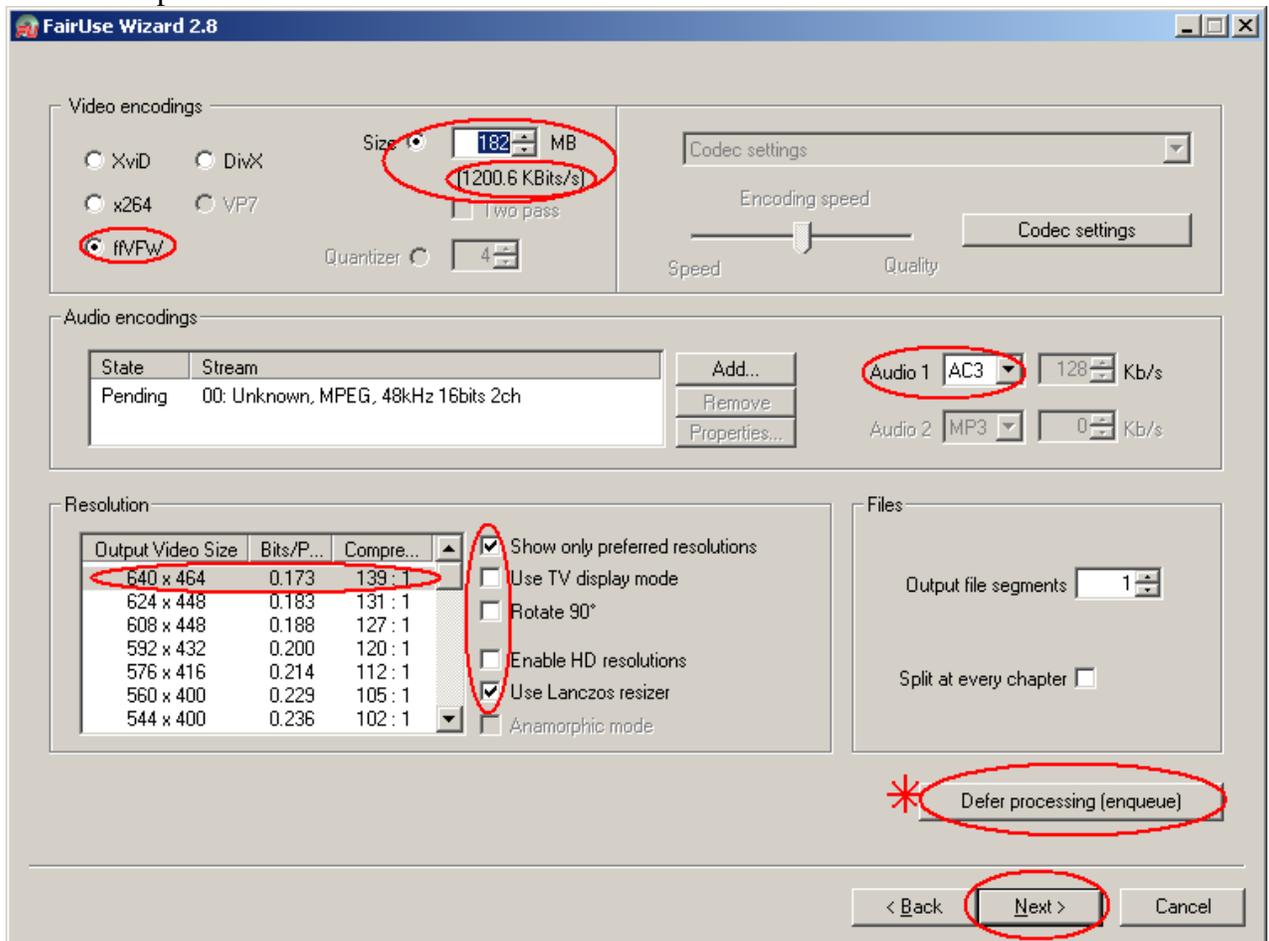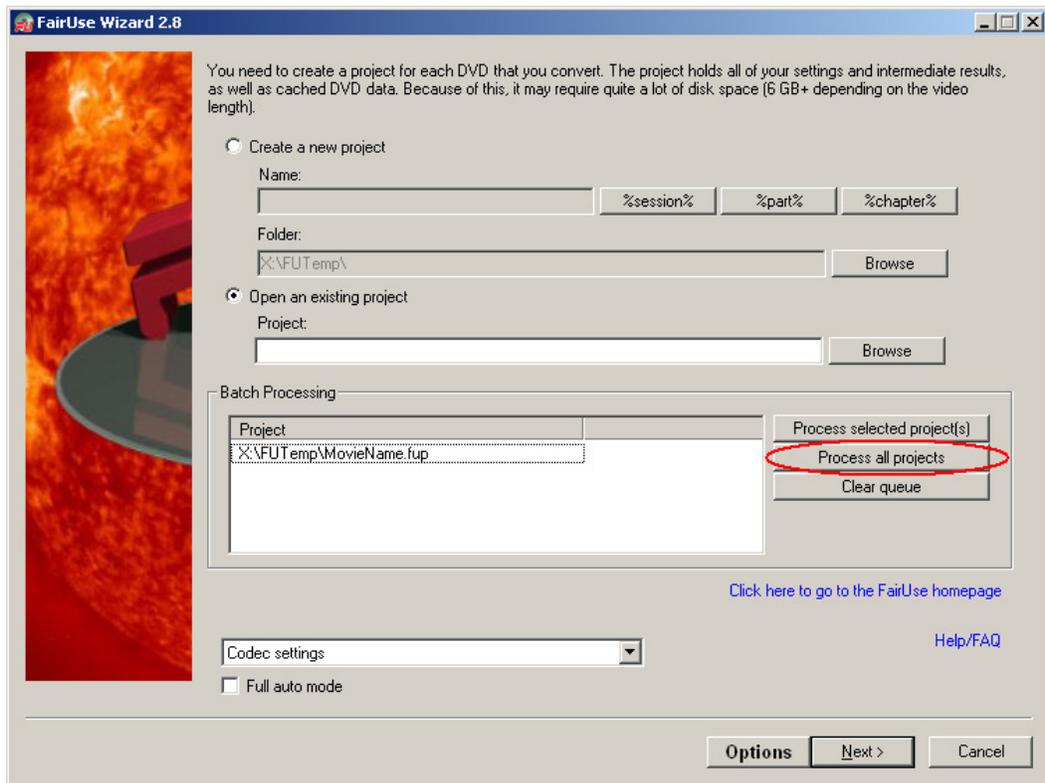11) Select the appropriate (de)interlace method or choose AutoDetect

a.

b. **HINT:** I've always found the AutoDetect to correctly choose the method. When in doubt, leave it as detected.
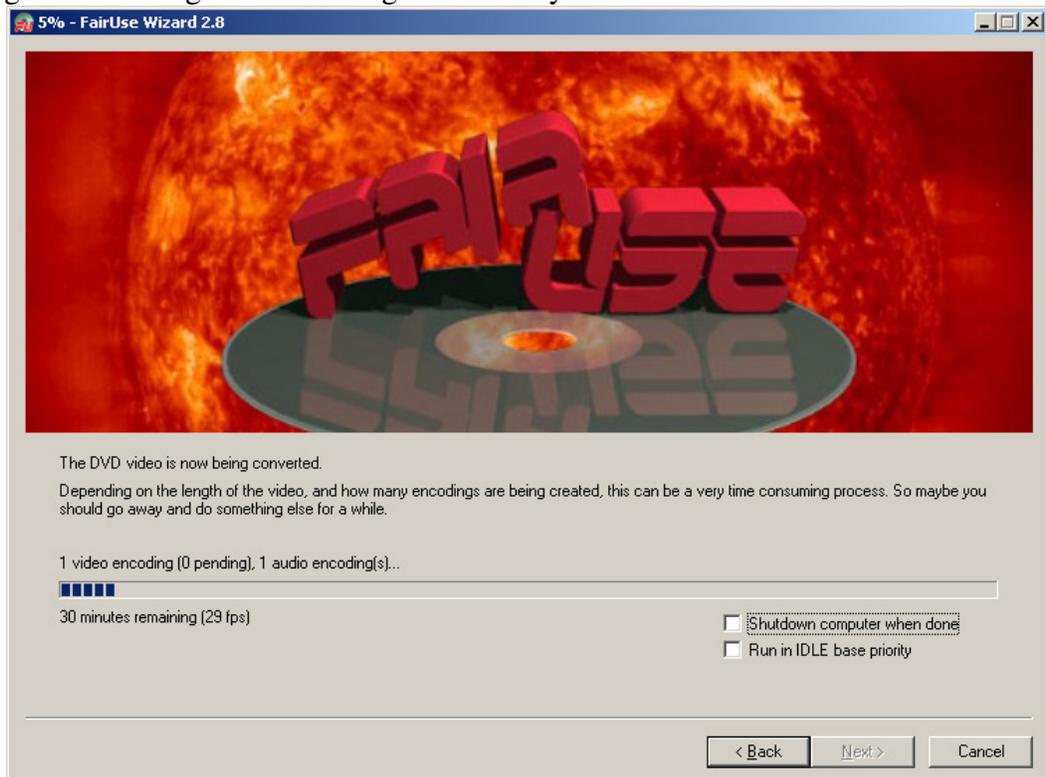12) Encoding Settings:
    a. On the next screen, adjust the file size until it reaches the approximate target bitrate (as defined by the type of video you are transcoding from above section II.1.e
    b. Highlight the highest avail. Output resolution.
        i. Check "Show only preferred resolutions will help keep the resolution from distorting based on target display.
        ii. Check Use TV display mode ONLY if your target display is a 4:3 (square) TV
        iii. Check Enable HD resolutions ONLY if you are attempting to "up-convert" from a standard definition title to an HD supported resolution
        iv. If Lanczos resizer is checked, leave it—it will typically result in a better resolution compression.
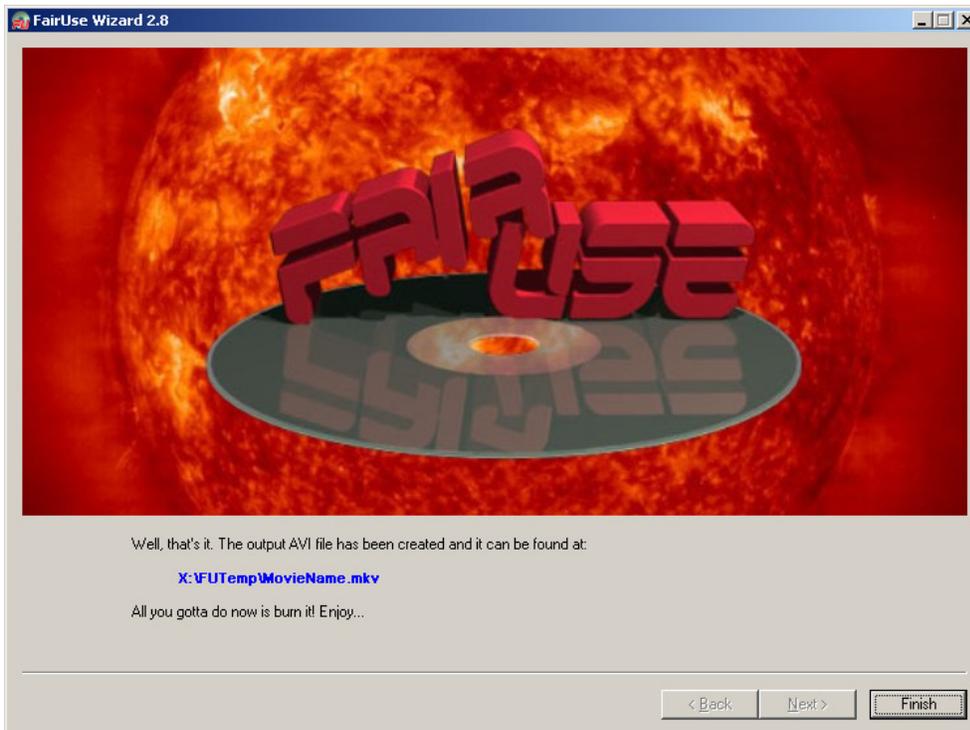

    c.
    d. Clicking "Defer processing (enqueue)" will allow you to delay the encoding job & proceed to preparing another title for batch processing.
        i. After repeating the steps for preparing all your batch processing, at the Main screen, click "Process All Projects"

ii.

iii. Go get some coffee or a beer & wait for the jobs to complete. A results window will appear when the jobs are done.

e. Clicking Next will begin the encoding immediately.

i.

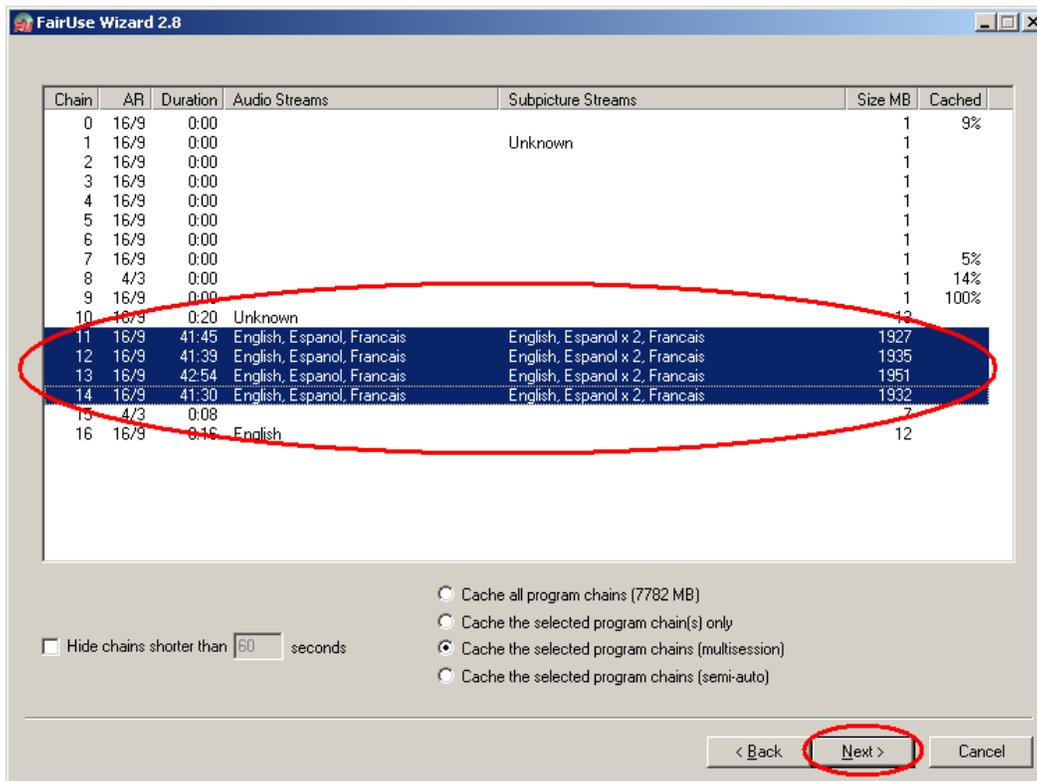ii. Go get some coffee or a beer & wait for the job to complete. A results window will appear when the job is done.

Well, that's it. The output AVI file has been created and it can be found at:

X:\FUTemp\MovieName.mkv

All you gotta do now is burn it! Enjoy...

< Back   Next >   Finish

13)

14) This completes the steps to transcode a DVD Main Title to MKV/VC-1/AC3.

IV. Transcoding DVD (Multi-Title Series Discs)

1) Open FairUse (Start/Programs/FairUse Wizard 2/FairUse Wizard 2)
2) Enter the series' name, specify/verify output folder, & click "Next"
    a. FairUse now has the ability to auto numerate episode filenames; so, if you wanted to start at episode 1, a naming convention could look something like, "TVShow-%session%=01"
    b. The resulting file name would be: "TVShow-01"
    c. If you are batching multiple episodes per disc, it will automatically name them 01-04 (or however-many you have)
    d. Simply replace the '01' with the starting number of the episodes as they start on the disc.
        i. For example, if you are transcoding the 2nd disc & it has 4 episodes on it, starting with episode 5 thru episode 8, the Name would be "TVShow-%session%=05"
3) Specify which DVD Drive to read from (if transcoding from physical DVD), or browse to the DVD ISO—then click OK:
    a. **HINT:** You can GREATLY speed up the process of an entire season if you make temp ISO's of all the discs on the season & batch the entire season.
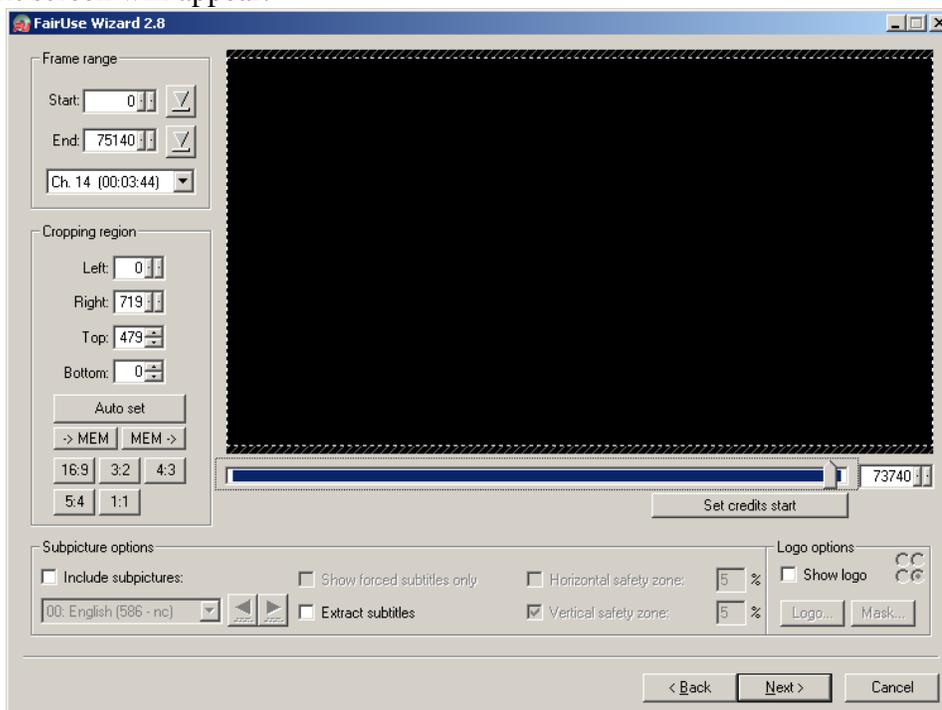

    b.
4) You should notice all the episodes are already highlighted:
    a. In this example there are 4 TV episodes on this disc that we will batch encode
    b. The lowest chain number will be the "first" episode (ie, chain 11 from the following pictures equals Episode 01. The highest chain number equals Episode 04.
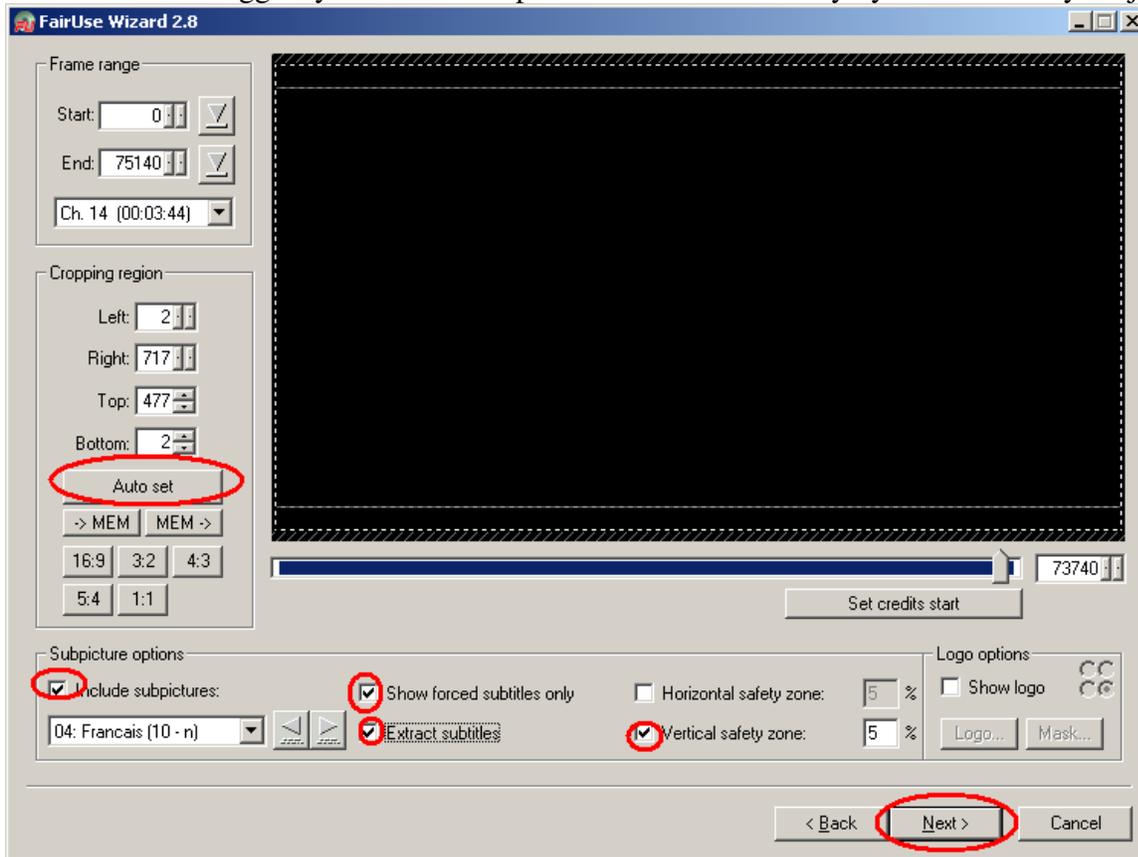
c.
d. Click 'Next'
e. At this point FairUse will index the Episode VOB files. If reading directly from physical DVD, it will also cache the episodes to the harddrive. This process may take anywhere from a few seconds to 20-30 minutes depending on the speed of the DVD drive, the total size of the episodes on the DVD, and/or if reading from an ISO file.
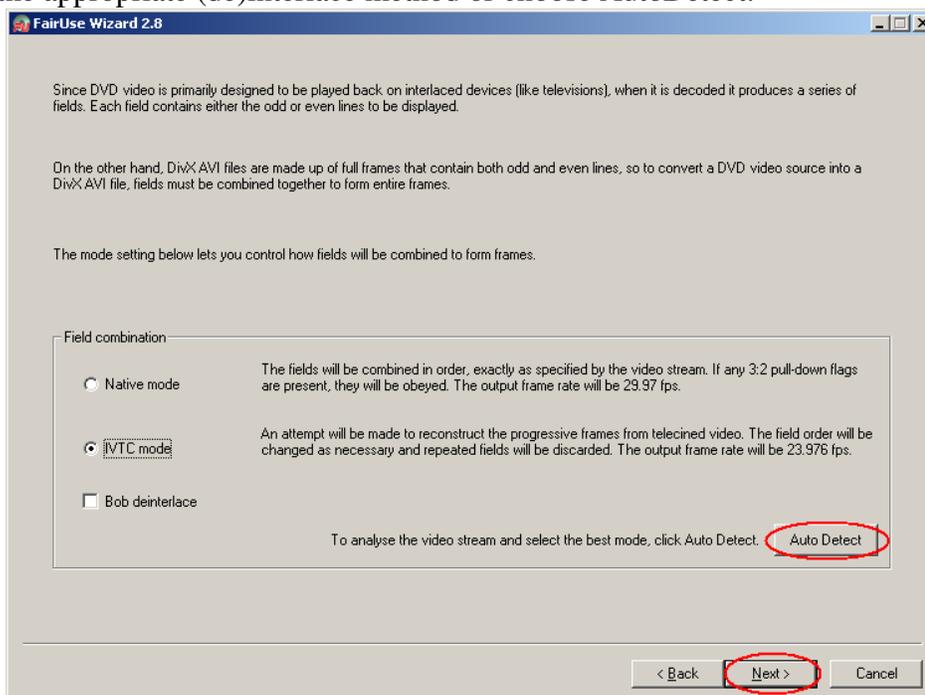5) The next screen will appear:

a.
6) Click "Auto Set" button to auto-crop title
7) If episodes have necessary subtitles, check "Include Subpictures", "Show forced subtitles only", and "Vertical Safety zone"
   a. You may slide the marker bar back to forth to quickly look for forced subtitles.
   b. Check "Extract subtitles" (for use with later advanced subtitling only—files may be deleted or you may uncheck this box if you do not wish to encode non-forced subtitles into the MKV)
   c. If you're unsure if video has any subtitles, I'd suggest checking these boxes "just to be safe"

d. **WARNING:** Checking "Include Subpictures" without "Show forced subtitles only" will result in the ENTIRE movie's subtitles being PERMINANTLY "burned" into the video w/o the ability to turn them off!

a. If you wish to include the non-forced subtitles into the MKV that may be turned on/off, there are advanced steps that I will include later.

b. **HINT:** When batching multiple episodes, some may have forced subtitles & some may not, for this reason I suggest you include subpictures/show forced only by default in all your jobs.
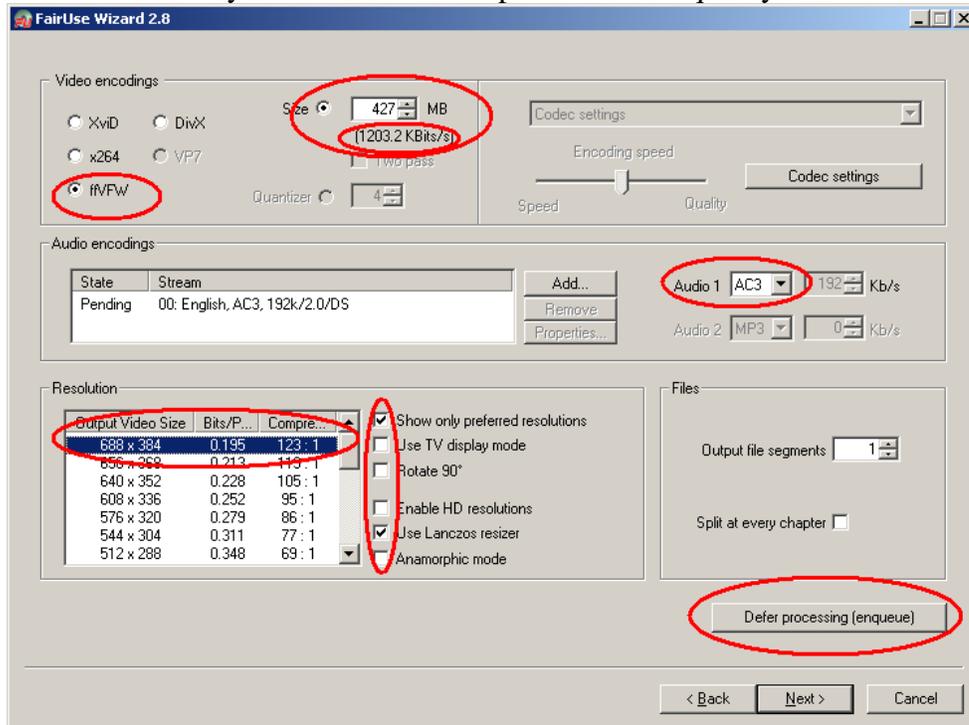

8)

9) **HINT:** If you wish to "test" the encoding process on just a few minutes of video instead of the whole movie, you may adjust the Start & End frames to only include a few minutes worth of frames. This will save you a lot of time while you go through any of your trial-and-error phase.

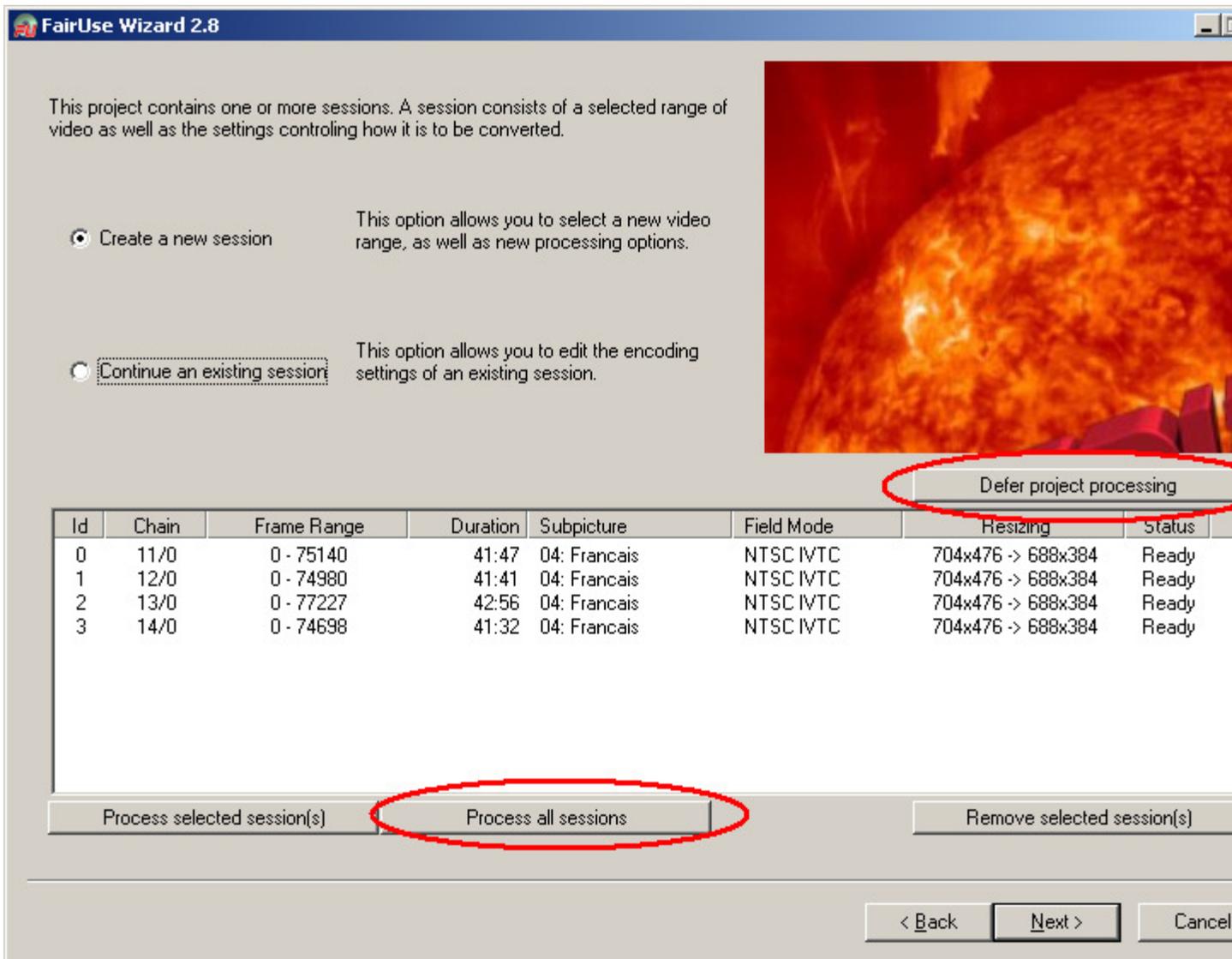10) Select the appropriate (de)interlace method or choose AutoDetect.

a.

11) Encoding Settings:

a. On the next screen, adjust the file size until it reaches the approximate target bitrate (as defined by the type of video you are transcoding from above section II.1.e
b. Highlight the highest available output resolution.
    i. Check "Show only preferred resolutions will help keep the resolution from distorting based on target display.
    ii. Check Use TV display mode ONLY if your target display is a 4:3 (square) TV
    iii. Check Enable HD resolutions ONLY if you are attempting to "up-convert" from a standard definition title to an HD supported resolution
    i. If Lanczos resizer is checked, leave it—it will typically result in a better resolution compression.
c. **HINT:** If you know the audio is NOT AC3 (ie, it is old TV Stereo), you may specify MP3 instead of AC3—this may leave a little extra space for video quality on the same size file.
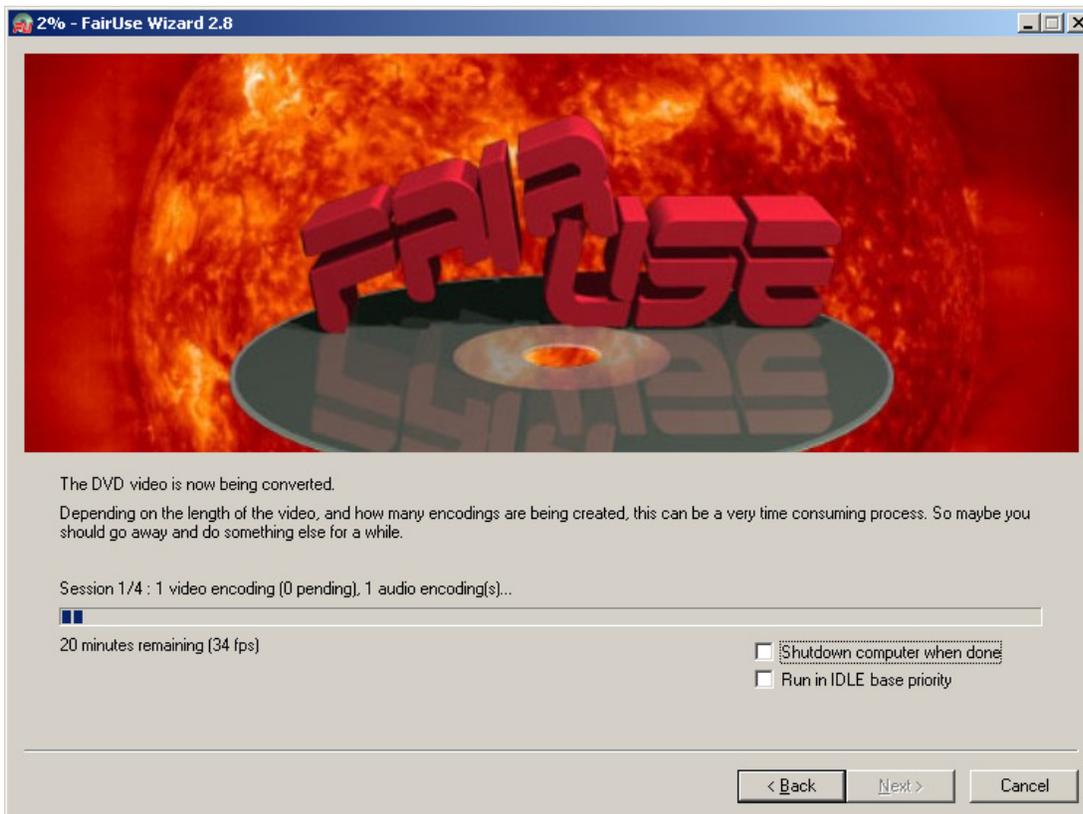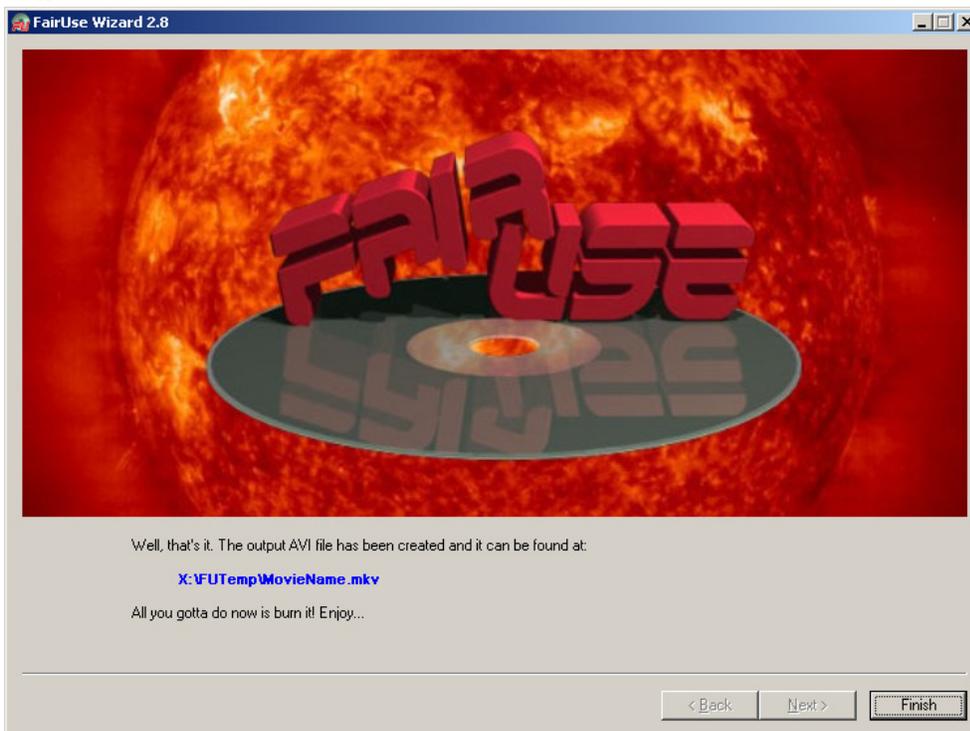

d.
e. Click "Defer processing [enqueue]"

12)

    a. If you wish to delay the encoding & batch multiple discs, click "Defer project processing"
        i. Return to Main screen & repeat the process for the remaining DVDs
    b. To immediately begin processing the selected episodes, click "Process all sessions".

13)

14) Go get some coffee or a beer & wait for the job to complete. A results window will appear when the job is done.

15)

16) This completes the steps to transcode a DVD with Multiple Episodes to MKV/VC-1/AC3.

V. Subtitles

A later guide will elaborate further; however to "get you going" –Use "mkvmerge GUI" to open the MKV video & add the IDX/SUB file for the video & "Mux" it together.