

Welcome to FukHead's Backup Method #2

**YOU MUST READ AND UNDERSTAND THIS METHOD COMPLETELY BEFORE ATTEMPTING TO USE IT TO BACKUP A MOVIE.**

I wrote this because I feel that there is inadequate Documentation on DVD to DVD-R Backup. This guide explains how to do single Layer Backups, and which types of movies that this method applies to.

DVD COME IN SEVERAL FORMATS, IT ALL DEPENDS ON THE LENGTH OF THE MOVIE (AIRTIME), FEATURES SUCH AS AUDIO/LANGUAGE/SUBTITLES/EXTRAS THAT IT CONTAINS. THESE AFFECT THE OVERALL SIZE OF THE MOVIE DISC.

## **FIRST YOU MUST BE FAMILIAR WITH DVD STANDARDS**

DVD's currently are released today using one of four types of disks.

**Here are the four types used today. Know these!**

1. **(DVD-5)** Single Layer - Single Side (Can easily be backed up)
2. **(DVD-9)** Double Layer - Single Side (Movie is often Large or Long airtime it often must be compressed. Discs also generally contain lots of extras, commentary, and other such features.)
3. **(DVD-10)** Single Layer - Double Side (Discs are either flippers or multi-format. Most often they are what we call multi-format Full-screen movie on once side and Wide-screen movie on the other. Very easy to backup either side to DVD-5.
4. **(DVD-18)** Double Layer - Double Side (Are Very Rare, only movies like Stephen King's "The Stand" were released on Double Sided - Double Layer" They are Expensive to Produce, and backup will more than likely need two disks unless they are wasting disc space and have lots of extras.

Now you should be aware what DVD sizes are available and how they differ. Now you need to know how the FukHead methods apply. FukHead's backup methods are all about conserving discs. Recently in time, media was expensive; 2-6 dollar's a piece making it very expensive to backup a movie. The main reason you should use FukHead's backup methods you want an inexpensive copy of your movie, on a single disk. The Primary two methods will copy all DVD-5, DVD-10, and most DVD-9's to a single disc. Single Disc Movies is what I prefer. If this is not the case, then watch for more guides possibly available at [fukrulez.com](http://fukrulez.com).

FukHead's Backup Method's

SIZE	PERFERRED	METHOD TO USE
DVD-5	SINGLE DISC	METHOD #1
DVD-9	SINGLE DISC	METHOD #2
DVD-9	SPLIT TO TWO DISCS	METHOD #3
DVD-10	SINGLE DISC	METHOD #1
DVD-10	SPLIT TO TWO DISCS	METHOD #3

Backup Method 2 Works well for nearly all Movies that are not single layer. The studios chose (DVD-9) to use for most DVD's produced due to the Air-time and bit-rate that can be used. Movies with long airtime are too big to fit on one disc.

We also use Backup Method #2 because we prefer not having 2 disc movies in our backup collection. Recently discs were 2-6 dollars a piece for even the cheapest media. We feel that is too expensive to make a backup. Otherwise it would be easier just to purchase the movie, if the original fails of course. The

The Movie currently loaded is "The Matrix". The movie is too big to fit on a 4.7 gig disc and it is not worth splitting to two discs. So I prefer to shrink it a little bit and re-author it.

DVD-9 works well for movies up to 2.5 hours in length. It involves lowering the bit-rate and shrinking video file, re-authoring and burning to 1 DVD-R. Yes 1 DVD-R.

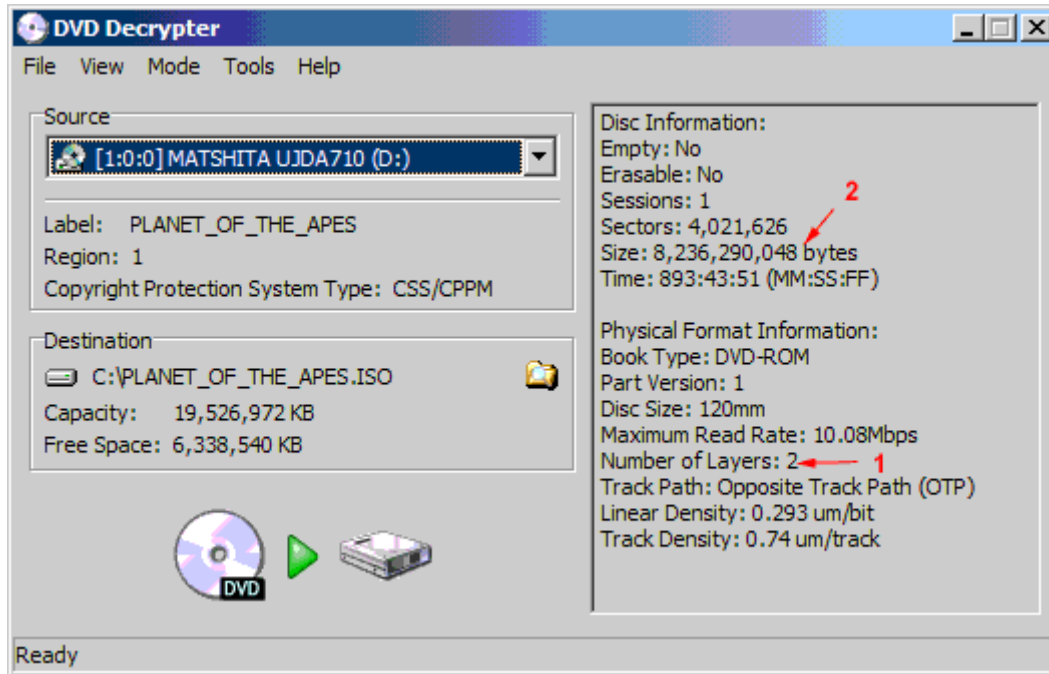
Ingredients:

1. DVDDecrypter 3.1.10 or later available at <http://www.dvddecrypter.com>
2. FukNCalcDVD available at <http://www.fukrulez.com>
3. ReMpeg available at <http://www.digital-digest.com>
4. DVD Maestro 2.9
5. Gear DVD Pro 6 or other burning software
6. 1 Blank DVD-R Media
7. NTFS REQUIRED

First insert the DVD-9 Disc to rip and we will verify that the disc is a DVD-9.

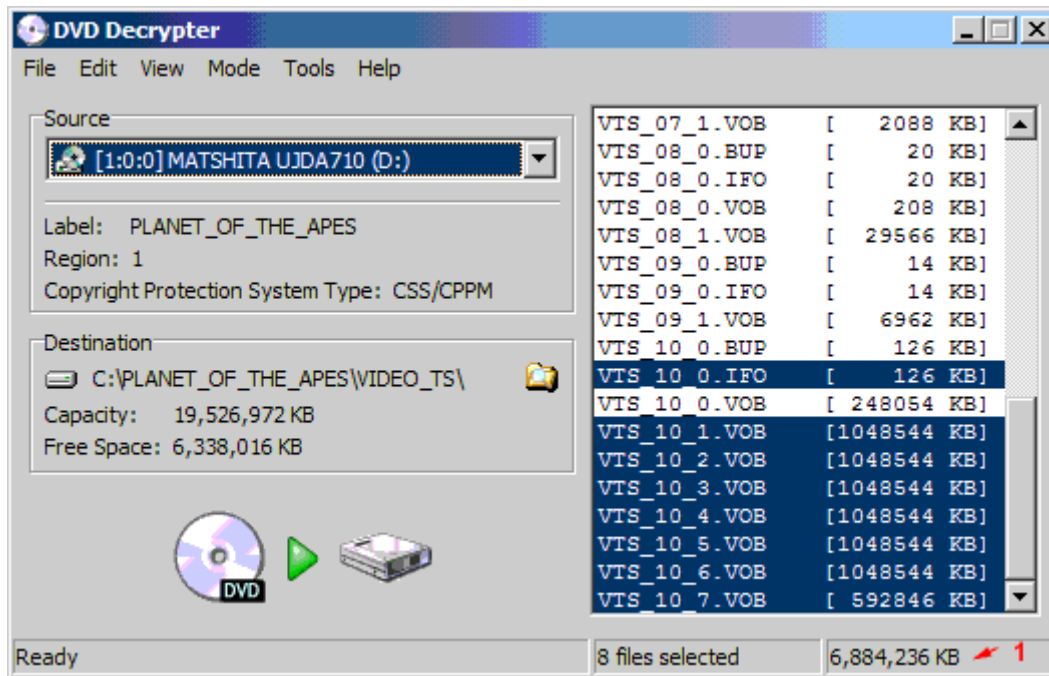
Once again notice that in Mode > ISO > Read:

1. The disc is 2 layers, therefore DVD-9.
2. The Disc has 8 Gig of contents.



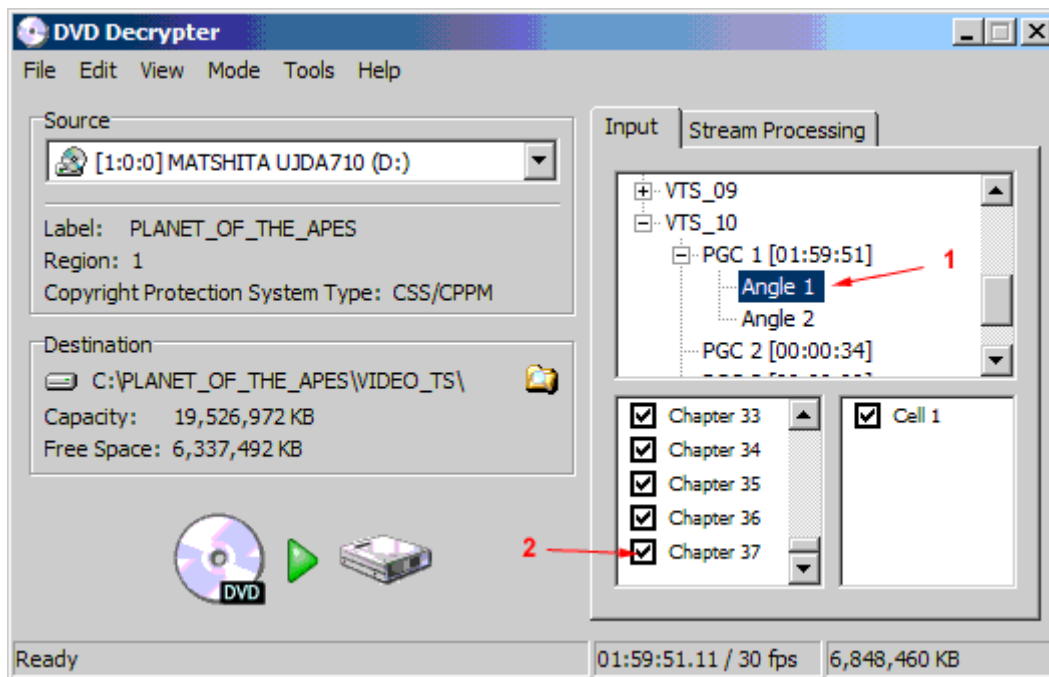
Switching to Mode > "File" allows us to see how big the movie is roughly.

1. Movie is 6,884,236 KB. Note the size, this is a huge movie. Now hopefully you see why we need to use backup method #2. We want to make this movie fit on a Single 4.37 GB Disc.



Now to the real stuff, use IFO Parsing: Under “Mode” notice that in this Mode airtime is displayed 1:59:51 minutes.

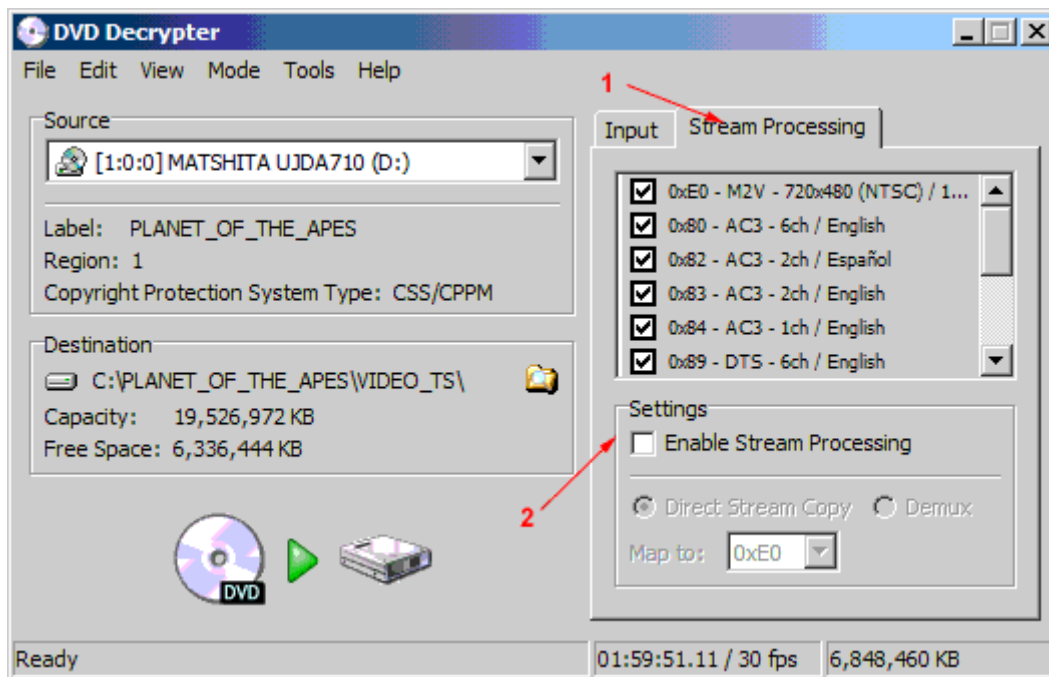
1. Note default angle to eliminate confusion
2. There are thirty seven chapters in this movie. This is how backup method #2 and #3 differs. If we need or want to split a movie we can choose either 1-19 or 20-37, otherwise to make the single disc movie that we all prefer just leave all chapters selected.



Next Lets Examine Stream Processing, to see what we can eliminate. Wow this movie has 5 different audio and subtitle tracks. Although there is a lot of audio tracks that we can remove to save space it will not fit onto a single 4.37 GB DVD-R.

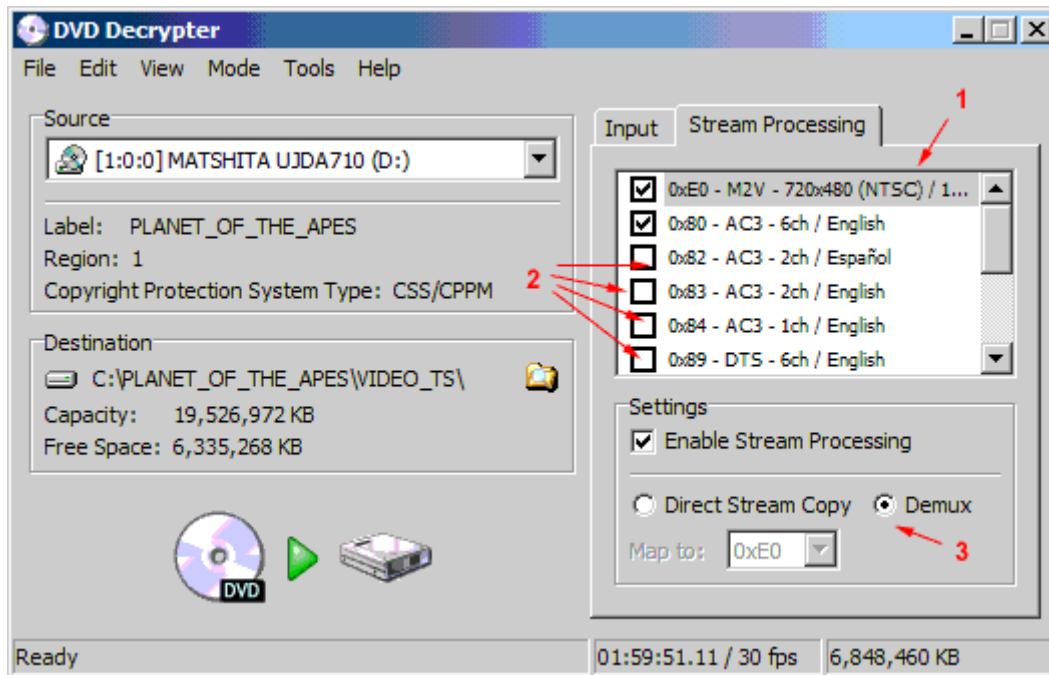
I prefer to save the disk, however to teach this method lets pretend the movie is 3 hours in length and we need a good split almost directly down the center.

1. The stream processing tab.
2. By checking the “Enable Stream Processing” allows you to select what you want to do to each stream.



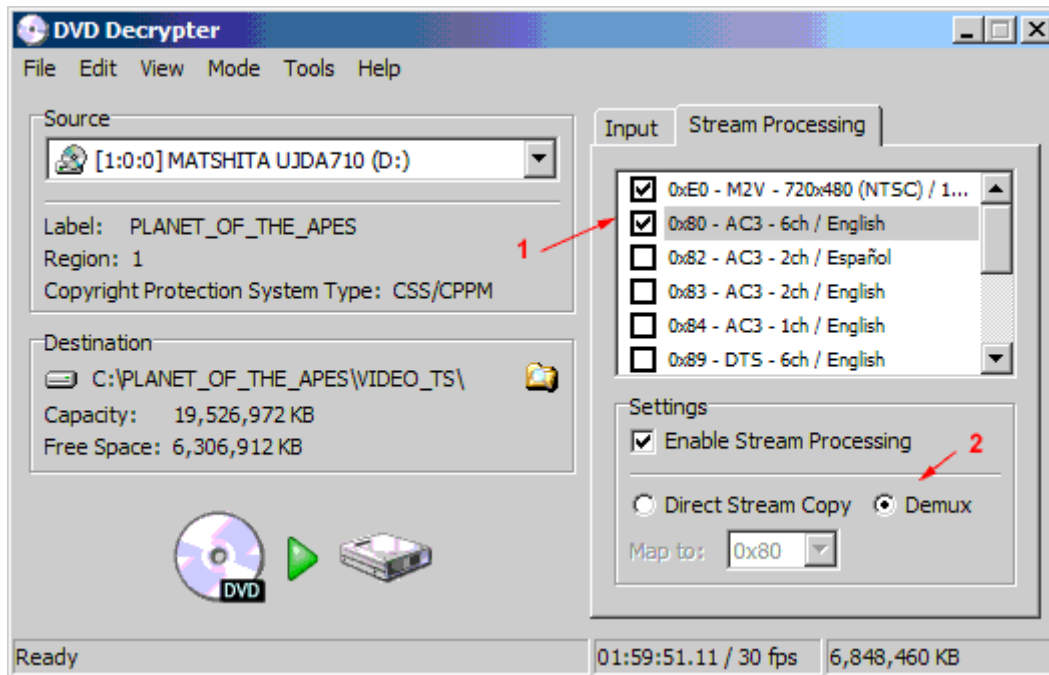
Once the “Enable Stream Processing” is checked, notice how they are not all grey-ed out now.

1. Keep the movie file and your preference of audio files selected.
2. Uncheck all other files (DO NOT FORGET TO SCROLL DOWN AND UNSELECT THE REST)
3. High-Light the Video, then pick the option box “demux”



Next choose to demux the audio file

1. Start by high-lighting the audio file
2. Choose the option button at the bottom that says “demux”





FukNCalcDVD is a calculator written in visual basic .Net to figure out how much the video will have to be scaled to in order to fit it on a 4.37 GB DVD-R.

This method is pretty straight forward. DVD-R is 4,700,000,000 bytes - menu & extras - audio - video = free space. The method we are going to use there several known values and one variable (the scale factor) used to shrink the DVD.

The screenshot shows a Windows-style application window titled "FukNCalcDVD". It has a menu bar with "File" and "Help". Below the menu bar are three input fields: "Menu Extra Size:" with the value "50M", "Audio Size:" with the value "300M", and "Video Size:" with the value "4.7G". To the right of the "Video Size:" field is a "Browse" button. Below these fields is a large text area containing the following text:

```
4280569600 - 52428800 - 52428800 - 314572800
Freespace = 4280569600 bytes remaining before video

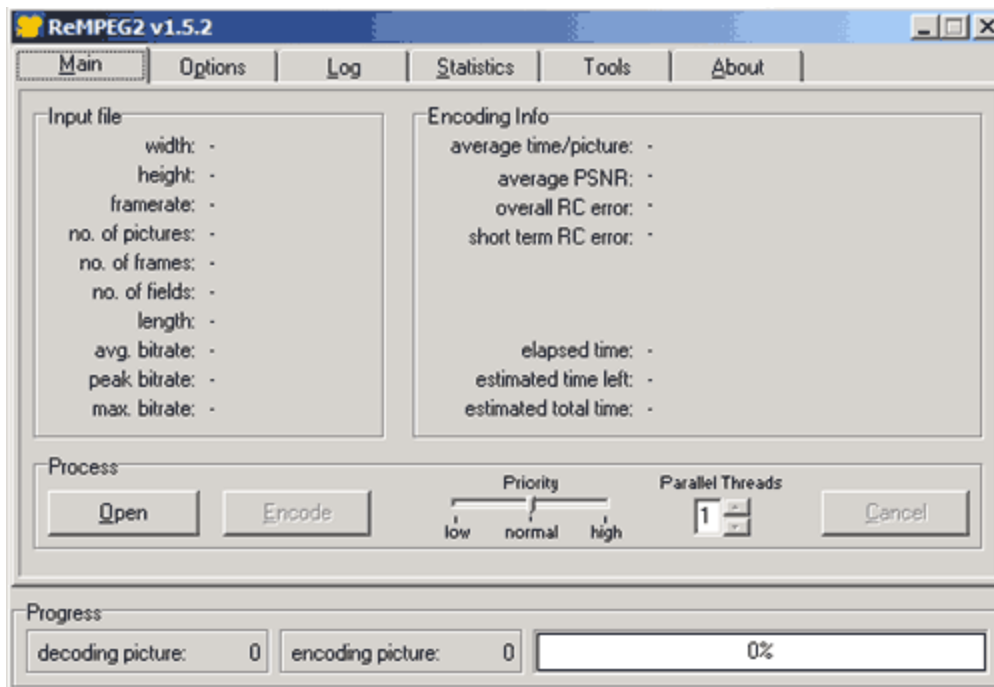
Video must shrink below 4280569600bytes
A ReMpeg encoding Ratio of 85% is necessary to fit on a DVD-R
```

At the bottom right of the window is a "Process" button.

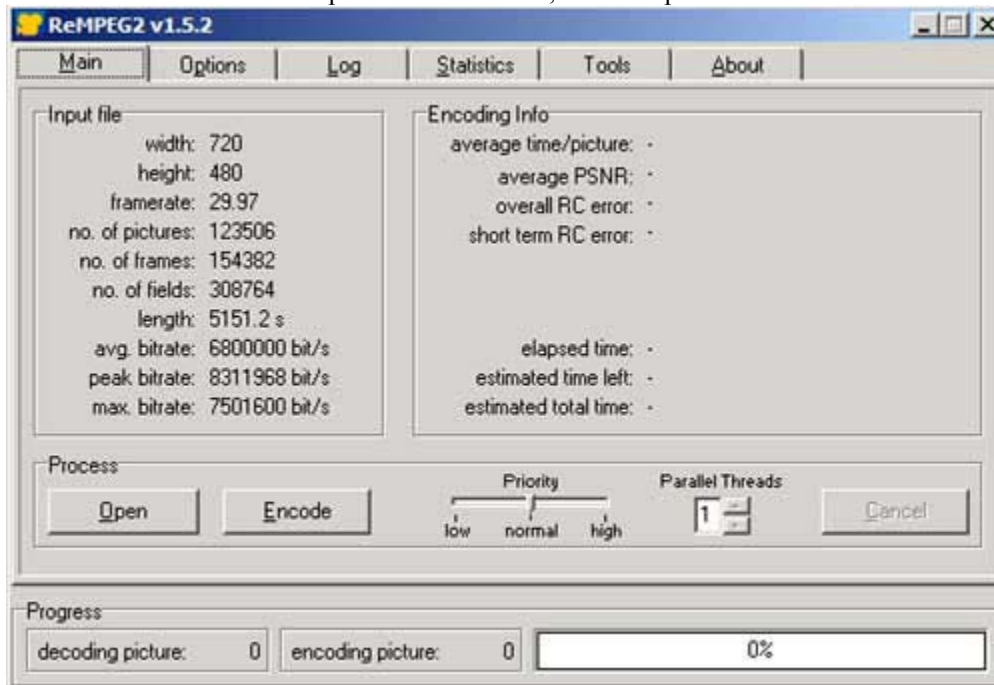
Read the calc documentation. You can specify the directory you ripped the ac3 and m2v file to and it should get their file sizes automatically, other wise it will ask for each of the two files location. Or simply estimate the size in bytes, KB, MB, or GB. Example 1M = 1024K = 1048576B = 1048576. FukNCalcDVD will do the math, giving a small allowance for space. The end result should be a Scale Factor Percentage necessary to use with ReMPeg. To be safe you can always go 1% lower or use a larger number of Megs for Menu & extras.

ReMPeg is a program to change the scale factor of movies in order to shrink the overall size.

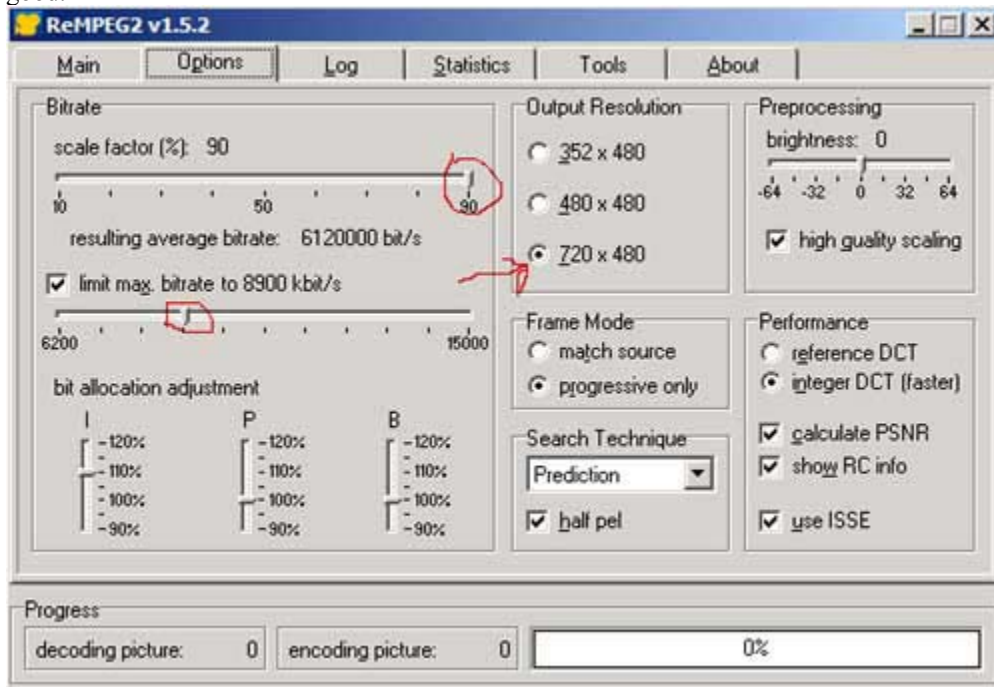
When ReMPeg first Loads it looks like this. You want click Open and then browse to you VTS\_xx\_Video\_[e0]\_xx.m2v file.



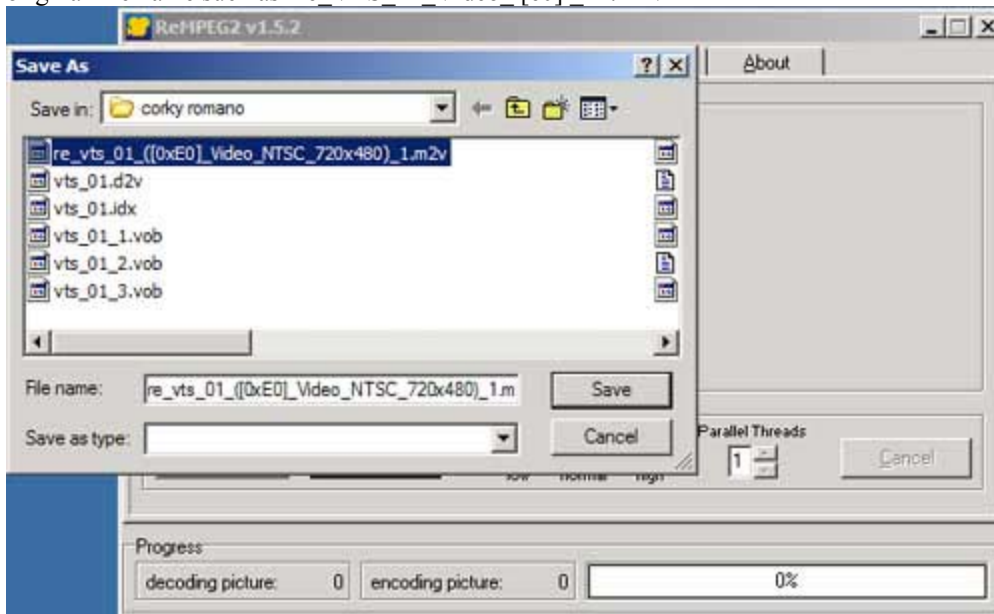
It will take several minutes to parse the Movie File, once complete it will look like this.



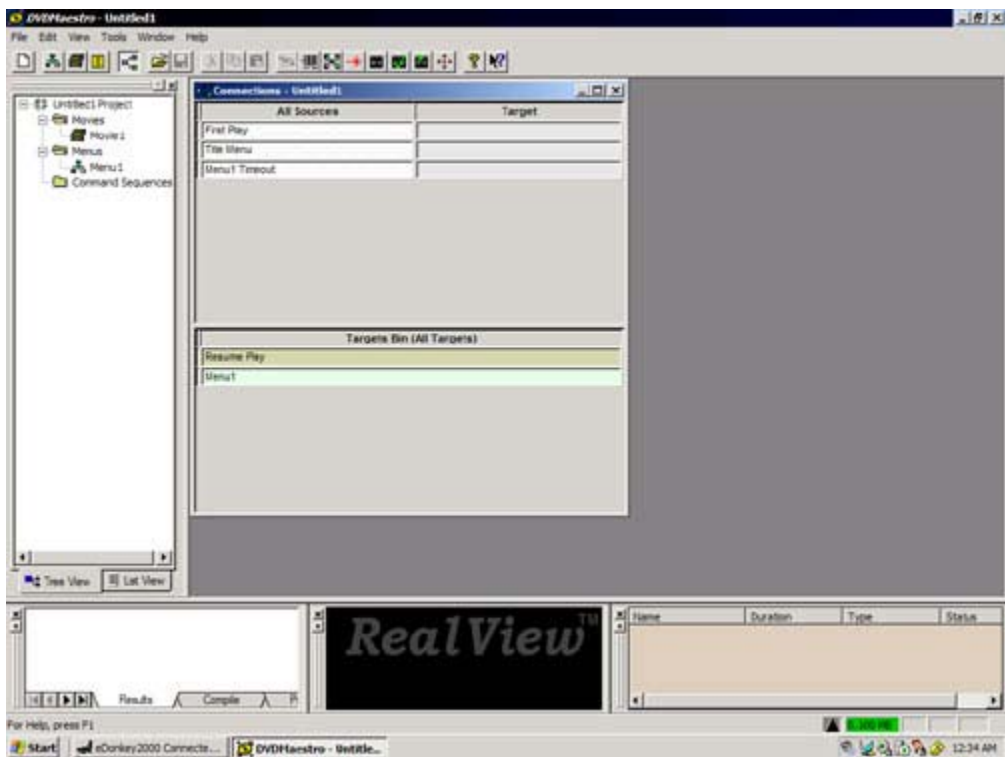
Once the Video is open you then need to set the video resolution to "720x480" and then set the scale factor to match the one you got from FukNCalcDVD. Then you can set a maximum bit rate around 8100 is pretty good.



Once everything is set click on encode it will ask you for the file name you want to encode to (do not use the same name) you will lose your file and have to start over. I clicked the file and add "re\_" in front of the original file name such as "re\_VTS\_xx\_Video\_[e0]\_xx.m2v

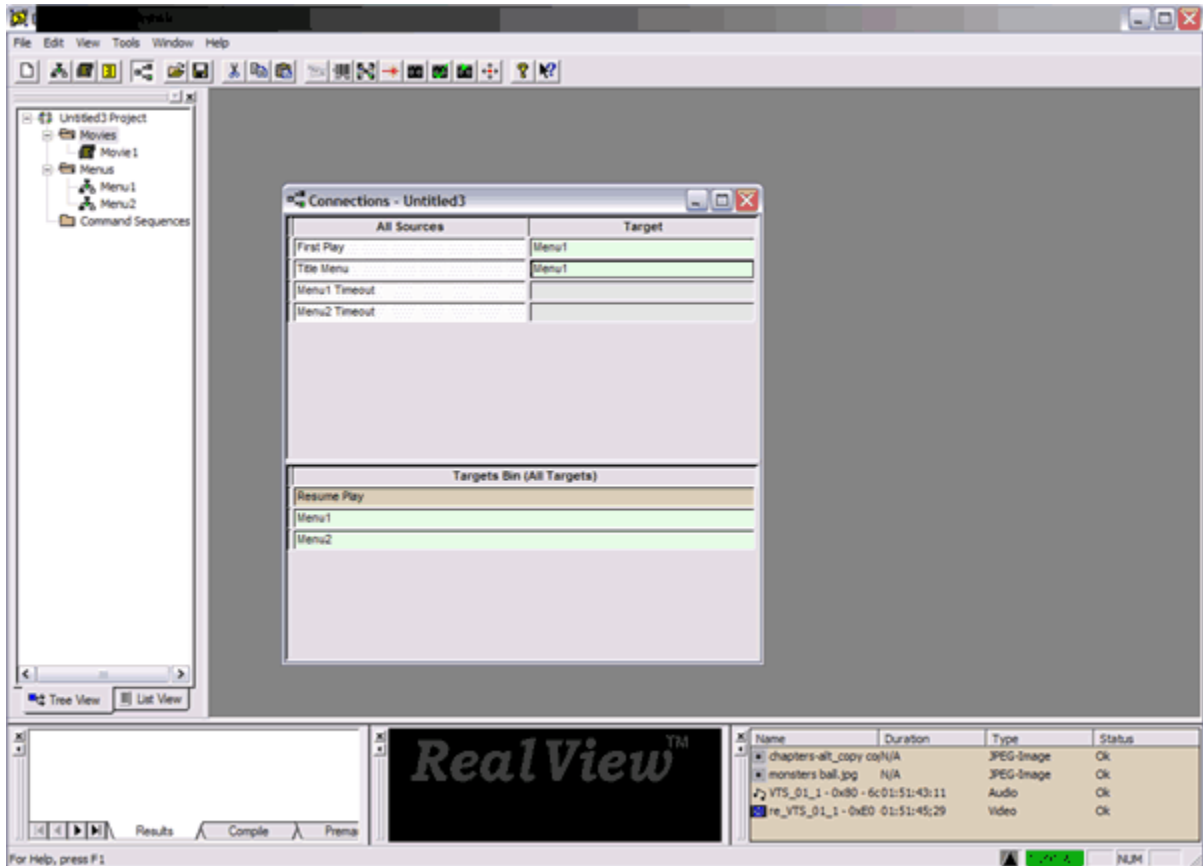


Once ReMPeg is done, use DVD Maestro to Compile the DVD. Here is what the Main Menu looks like.

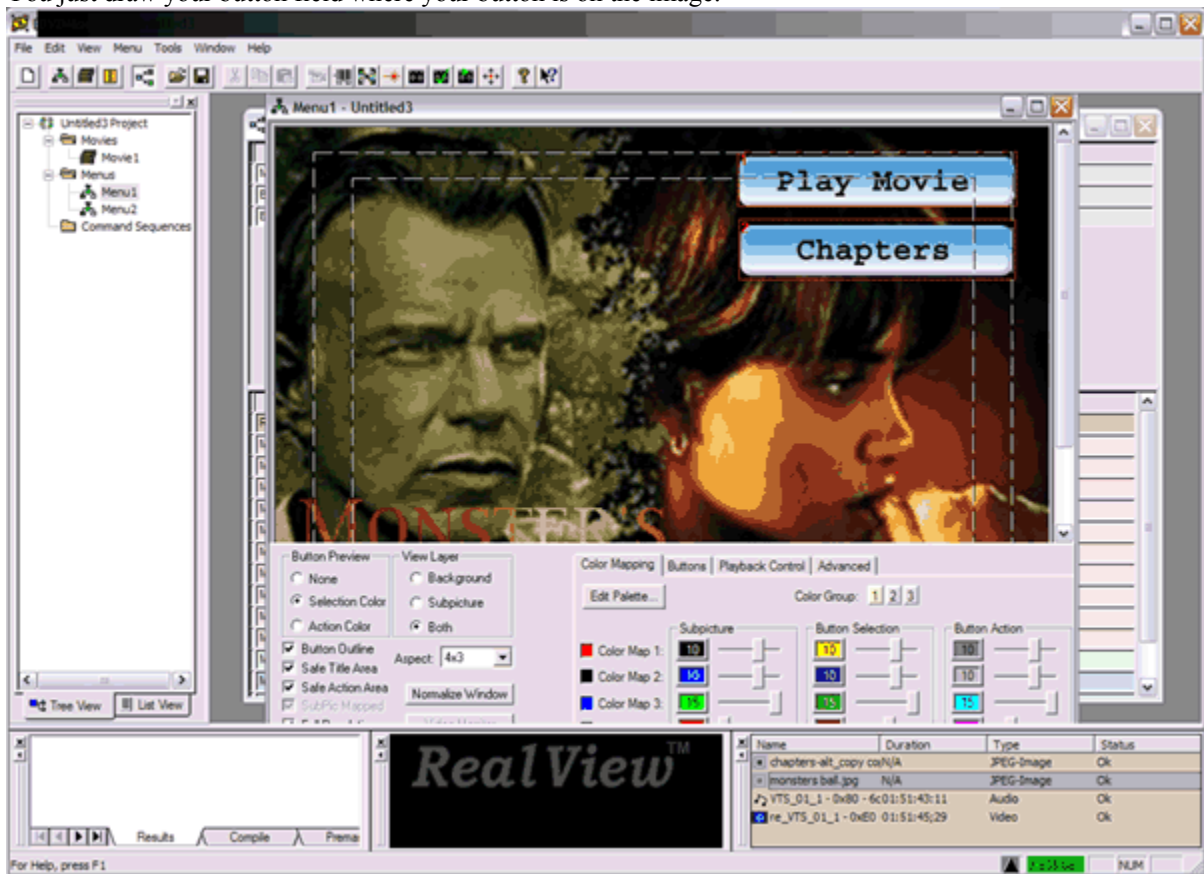


First in maestro you need to import the ac3 and m2v files, along with the graphics for your menus.

Very important: You need to set first play and title play or DVD standalone play back will not work. It is part of connections. I set each of these to the first menu since I did not have an intro to use for first play.

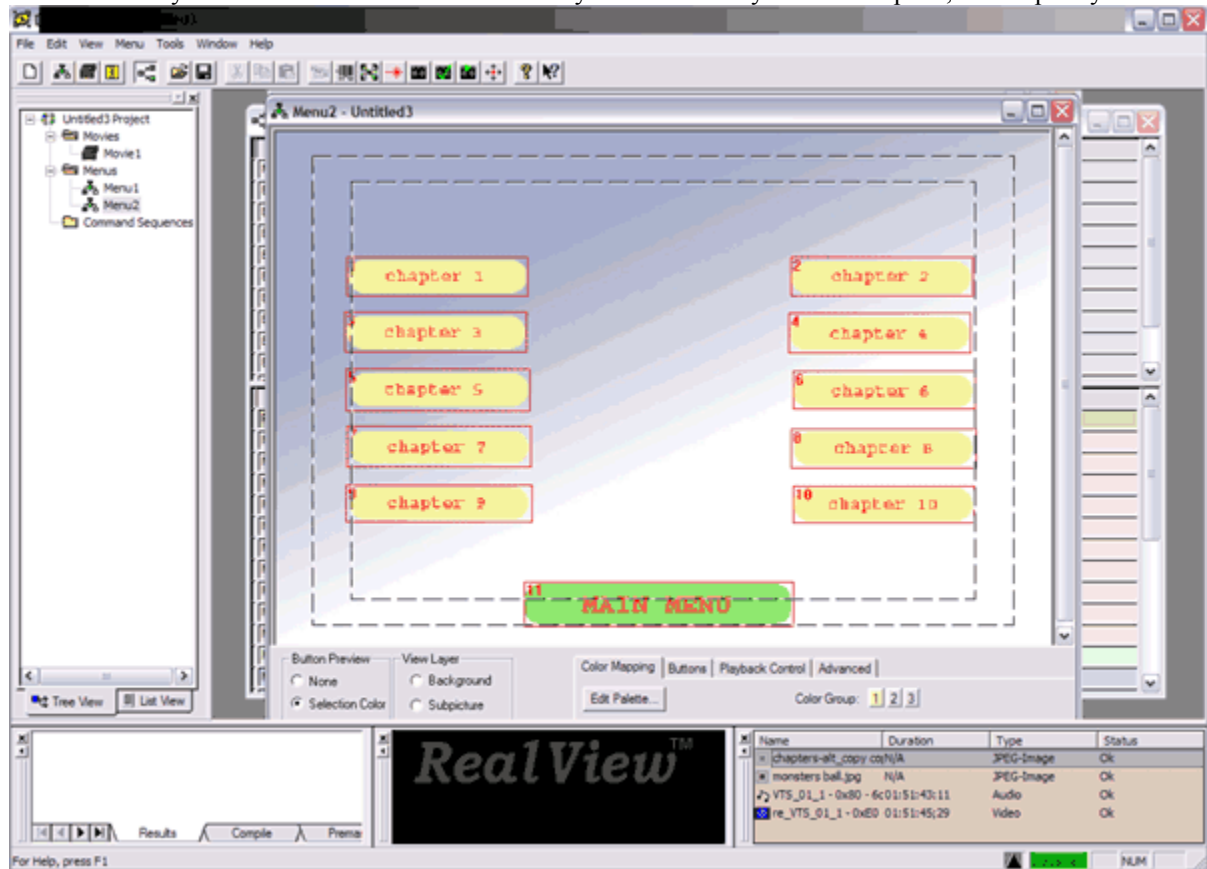


Here is what the Menu 1 might look like. I just imported jpg's with buttons draw on them in Photoshop. You just draw your button field where your button is on the image.

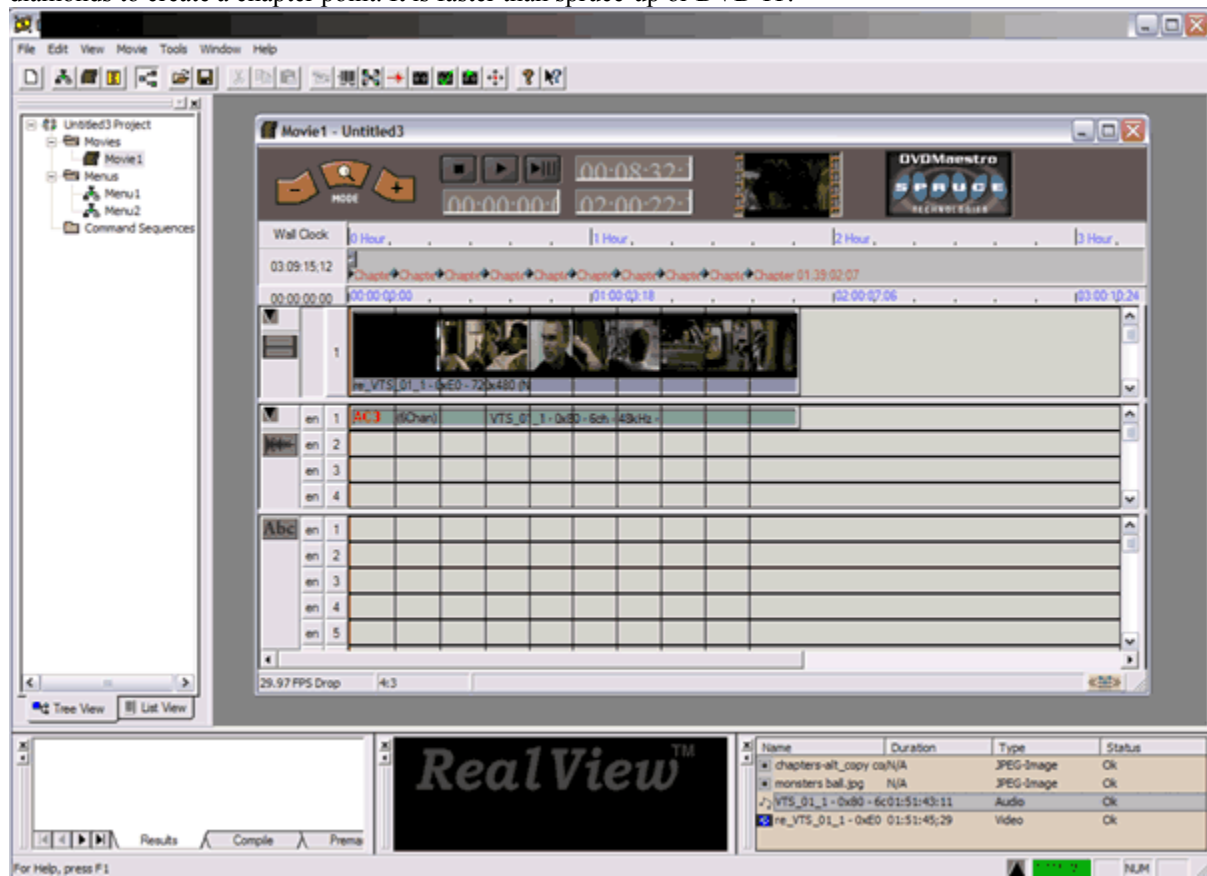




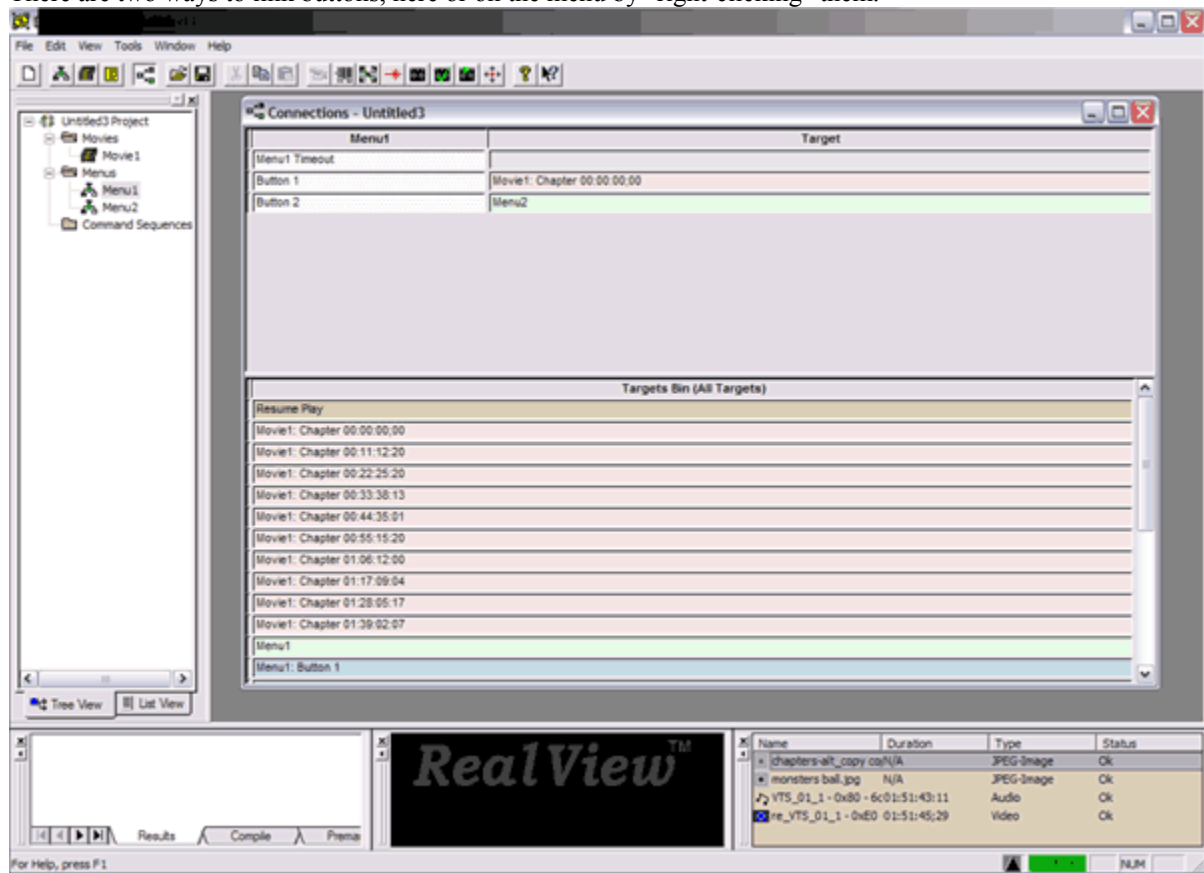
Here is what my Menu 2 look like. I reuse it on all my movies. I always use 10 chapters, for simplicity.



Here is what the Movie looked like with my chapters created. Just click on the area where you see the diamonds to create a chapter point. It is faster than spruce-up or DVD-IT.



There are two ways to link buttons, here or on the menu by "right-clicking" them.



## Menu 2 connections settings

The screenshot displays the 'Connections - Untitled3' dialog box, which is used for configuring menu connections in a video authoring application. The dialog is divided into two main sections: 'Menu2' and 'Targets Bin (All Targets)'.

**Menu2 Section:**

Menu2	Target
Menu2 Timeout	
Button 1	Movie1: Chapter 00:00:00:00
Button 2	Movie1: Chapter 00:11:12:20
Button 3	Movie1: Chapter 00:22:25:20
Button 4	Movie1: Chapter 00:33:38:13
Button 5	Movie1: Chapter 00:44:35:01
Button 6	Movie1: Chapter 00:55:15:20
Button 7	Movie1: Chapter 01:06:12:00
Button 8	Movie1: Chapter 01:17:09:04
Button 9	Movie1: Chapter 01:28:05:17
Button 10	Movie1: Chapter 01:39:02:07
Button 11	Menu1

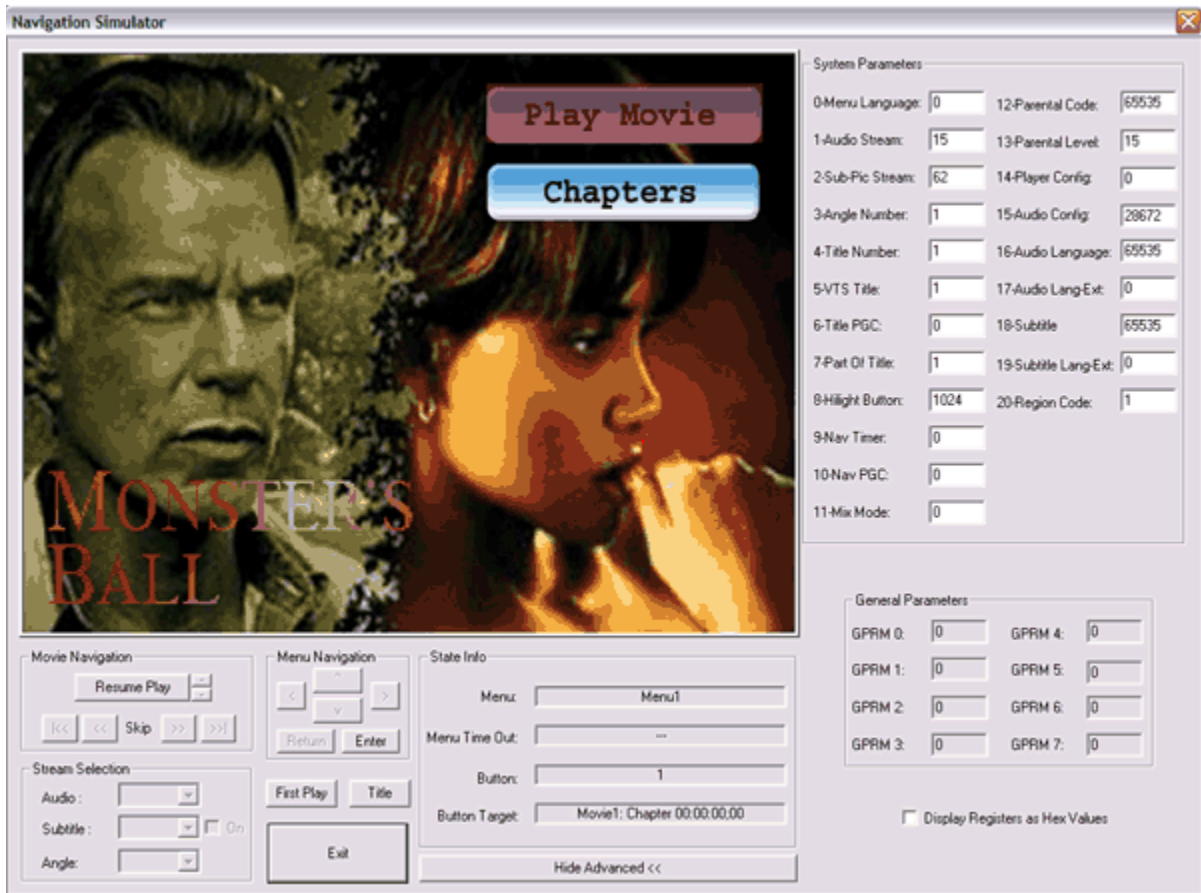
**Targets Bin (All Targets) Section:**

Targets Bin (All Targets)
Resume Play
Movie1: Chapter 00:00:00:00
Movie1: Chapter 00:11:12:20
Movie1: Chapter 00:22:25:20
Movie1: Chapter 00:33:38:13
Movie1: Chapter 00:44:35:01
Movie1: Chapter 00:55:15:20
Movie1: Chapter 01:06:12:00
Movie1: Chapter 01:17:09:04
Movie1: Chapter 01:28:05:17
Movie1: Chapter 01:39:02:07
Menu1

The bottom of the window features a 'RealView' preview area and a list of assets:

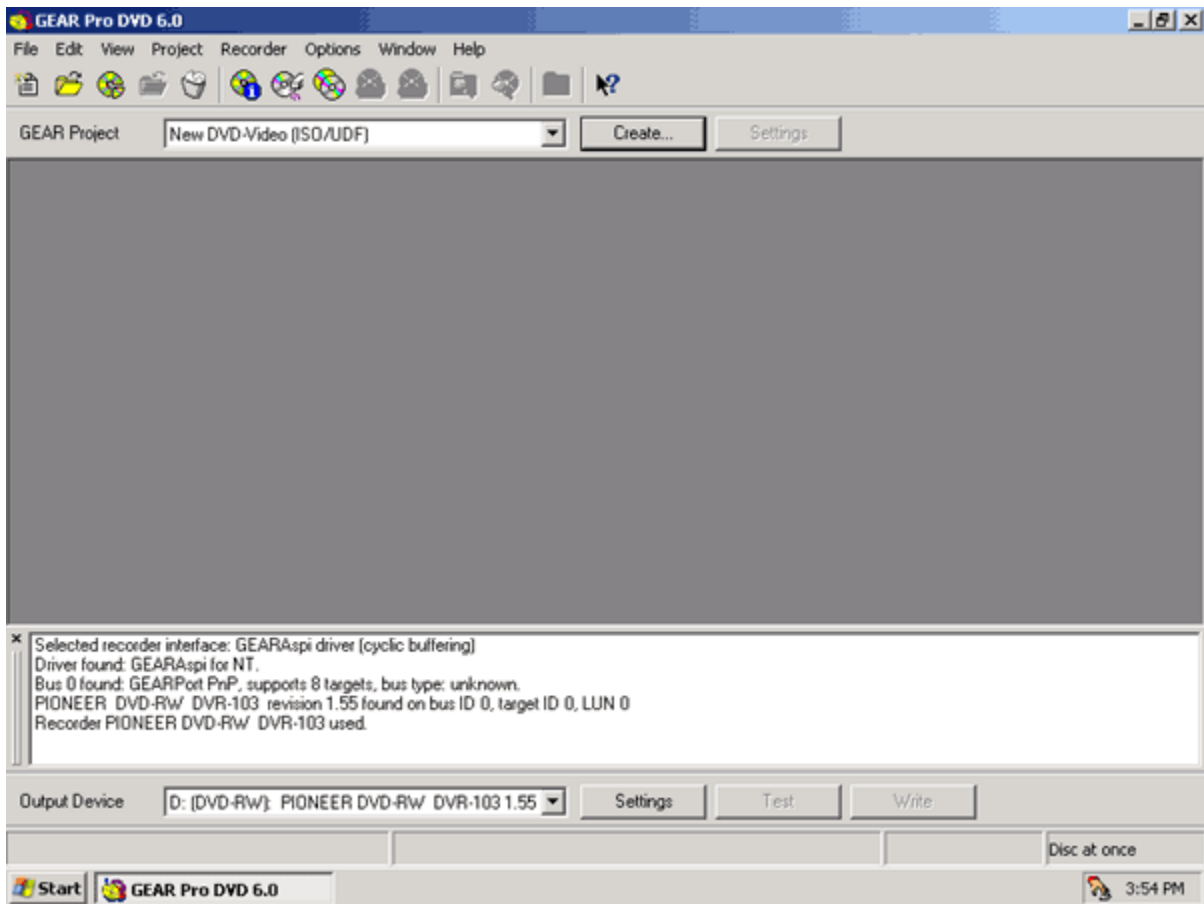
Name	Duration	Type	Status
chapters-elt_copy.caf/A		JPEG-Image	Ok
monsters_ball.jpg	N/A	JPEG-Image	Ok
VT5_01_1 - 0x80 - 6c01:51:43:11		Audio	Ok
re_VT5_01_1 - 0x80 01:51:45:29		Video	Ok

Can Use Maestro Simulator to test Navigation.

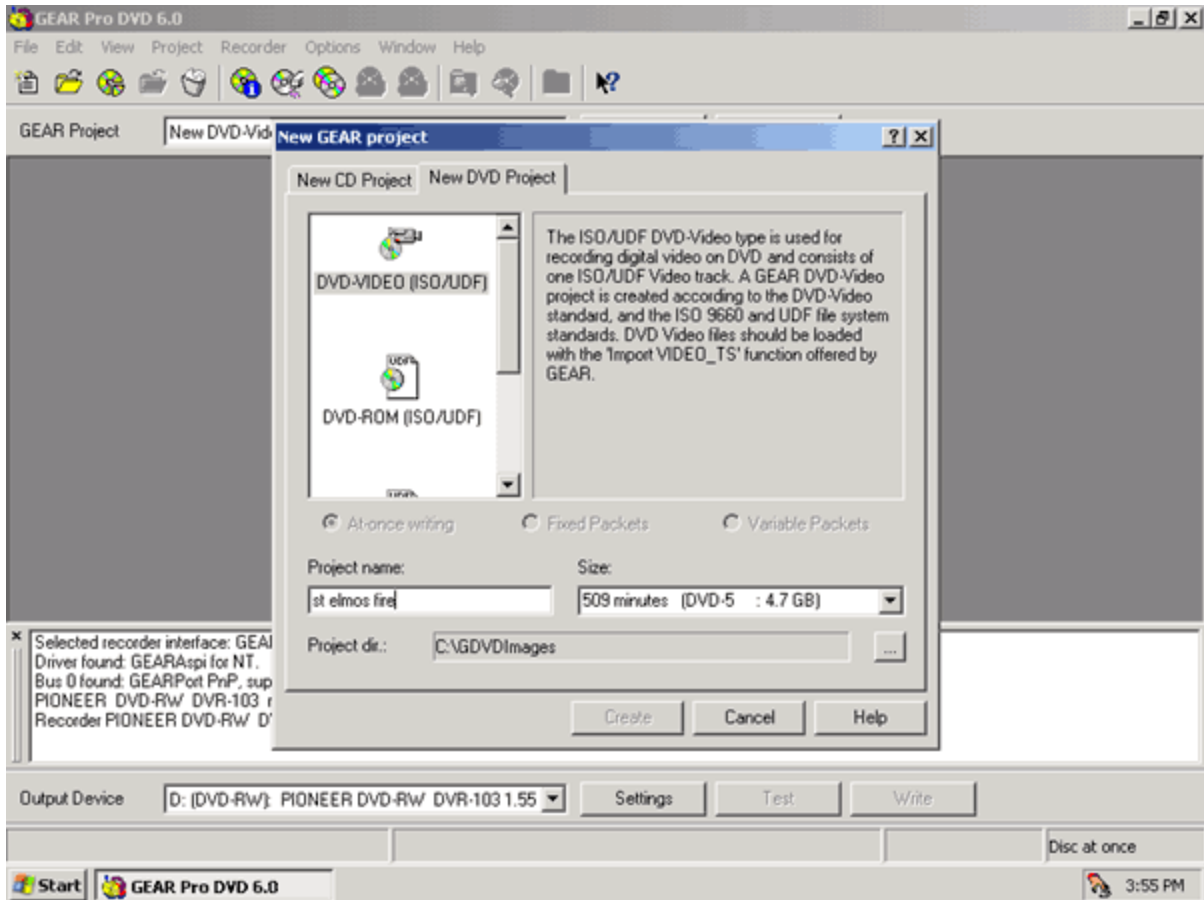


Don't forget to test the compiled DVD playback with Power DVD 4 (XP) or Win DVD 4. You need to choose the option to play files from the hard drive, and select the "VIDEO\_TS.IFO" file. This will ensure that you will get proper video playback on stand-alone players, so that you can back up a couple of steps in the event something screws up. Otherwise more power to you.

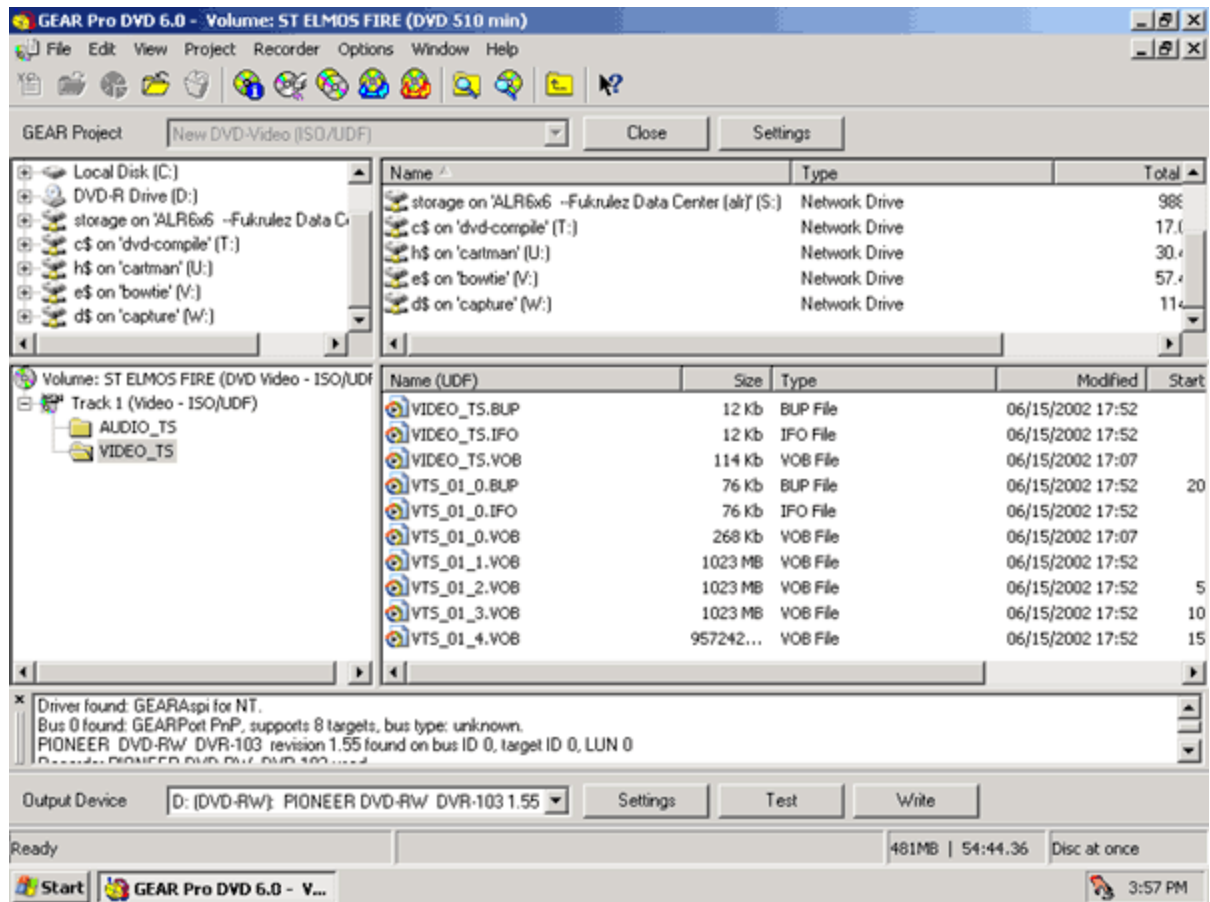
Burn the DVD with Program such as Gear DVD Pro 6.0



Create a new "DVD-VIDEO" project.

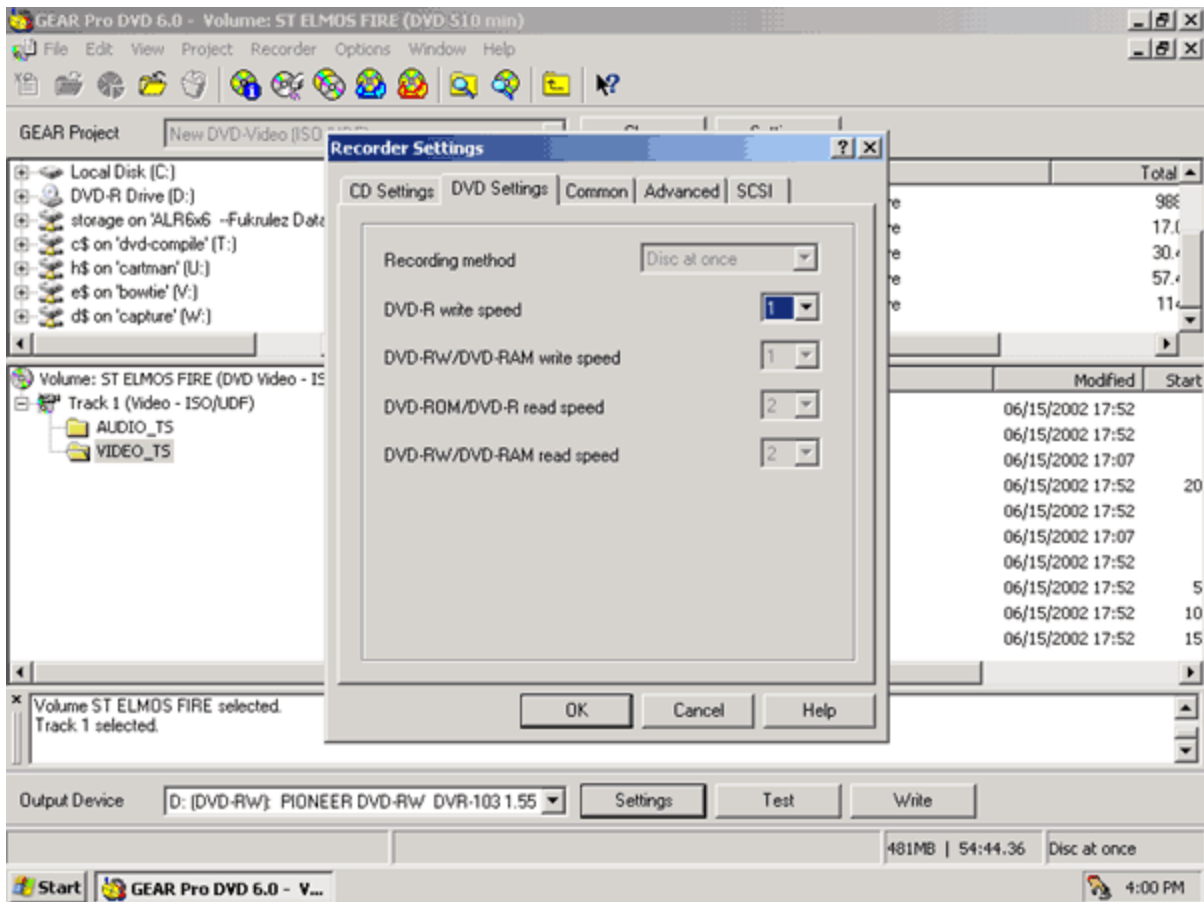


Import the contents of the Video\_TS folder inside the folder where you compiled the DVD.





Just in case you are interested in settings, otherwise "Don't you have DVD's to burn?"



Once satisfied with the settings just write the Disc.

*Knowledge is power, share it.*

*FukHead*