

by Maniac_Dan

Disclaimer: Copying DVDs to sell or DVDs you do not own is illegal and immoral and should not be done.

After reading the letter in 19:3 questioning the methods of DVD copying, I decided to write an article detailing exactly how it's done, or at least get it close enough for normal people to make backups of their DVDS. I've only tested this on Region I NTSC DVDS. Readers in other countries should find a guide for their region and video format. Sorry. I also find it useful to bring a stack of VCDs with me on trips, since my laptop doesn't have DVD capabilities. Anyway, I'm going to detail the methods for ripping to either AVI, VCD, or SVCD.

Some of the steps are the same, but for steps that are different, I will assign them both a number and a letter, so 3(A) is the AVI instructions, 3(V) is VCD, and 3(S) is SVCD. Any step that applies to all three formats will have no letters. In order to rip to AVI, you need Smartripper and DVD2AVI. To rip to VCD and SVCD, you need these files plus TMpgEnc and BBmpeg. Also, for the ripping process to work on XP or some versions of 2K, you need a valid aspi layer driver. To burn your CDs you need software that supports VCD and SVCD burning, like Nero. (Links for these programs are the end of this article.)

Now for the steps:

- 1: Insert the DVD and play it for a few seconds in a software DVD player. This will "unlock" the DVD and allow you to rip it using Smartripper.
- 2: Load up Smartripper and take a look around. At the bottom of the screen is a "Target" box which needs to be filled in with a valid folder name. The rest of the first page is chapter selection for if you only want to rip certain scenes (like Monty Python sketches). The second tab is called "Stream Processing" and allows you to select the languages and special tracks you want ripped. I usually just rip them all and then only convert the English track, but if you're hard pressed for drive space, then cut out what you don't want. Next, click the settings tab. Under settings, I recommend setting keycheck to "Every VOB File" and filesplitting to "Max Filesize". Now set the max-filesize to 10,000MB (10Gb). This way the movie will be ripped to one big file on your hard disk. (Warning! This is only possible with NTFS. If you have a FAT file system, set max-filesize to 4,000MB.)
- 3: Click start and wait until the DVD is finished. It shouldn't take more than an hour.
- 4: Fire up DVD2AVI. Once again, I recommend taking a look around the program before blindly trying to follow my steps. Go to file->open. A blank box will appear with three buttons on the left side. Click "Add" and add the file(s) you just ripped to the box, then click OK.
- 5: Press F5 to make sure the movie looks OK and the VOB files are in the right order. You will not have audio and the video will be fast. This is normal. Make note of the aspect ratio on the box that pops up along the right side. You are almost ready to convert to either AVI or d2v/wav. Check your menu settings. For audio: Track number should be "1", channel format should be "Auto", Dolby Digital should be "Decode", MPEG Audio should be "Demux", and 48-144.1 should be off. Video settings should be left alone.
- 6(A): AVI users rejoice! This is the last step for you! Go to file->save "1", pick a filename and location, and click "Save". Now a box pops up asking you to select your preferred video compression method. Choose your poison (I recommend DivX 5.0.2) and click OK, then sit back for a few hours while it converts. If the file is too large, find an AVI splitter out there. I've heard AVIChop is good.
- 6(VS): VCD and SVCDs need a few more steps. Still in DVD2AVI, click file->save project. Name the project and click "Save". It will run through the movie file once or twice and then beep when it finishes. This process should take less than the ripping process, but it depends on your processor. Once it's done, write down the contents of the "Aspect Ratio" and "Video Type" boxes. We need that information for TMpgEnc.
- 7: (From now on, all unlettered steps refer to VCD and SVCD only, since AVI users should have stopped reading this already.) Now we have a *.d2v and a *.wav file. We need to merge these into a single MPG file. Fire up TMpgEnc. Once again, take a look at what it can do before trying to rip - this program in particular is very useful. I highly recommend playing with the "MPEG Tools" under the file menu. Now that you are ready to go, check out the bottom of the main TMpgEnc screen. You have three boxes there: "Video Source", "Audio Source", and "Output File Name". For video source, we want the *.d2v file we just created, and for audio we want the *.wav file. (Side note: listen to the wave before finishing this step. If it's not the audio track you want, go back to the DVD2AVI step and select a different audio

stream from the audio menu until you get the one you want.) For the Output file name, select where you want the MPG file to be saved. Now we need to set up the encoder. Click the "Load" button next to the output file name box, and navigate to the "TMpgEnc\Template" folder. From here we have the choice of loading a number of templates, but we're interested in only four: VideoCD (NTSC), VideoCD (NTSCFilm), SuperVideoCD (NTSC), and SuperVideoCD (NTSCFilm).

8(V): VCD users check where you wrote down the "Video Type" from the end of step 6. If it was higher than 90 percent Film, load the "VideoCD (NTSCFilm)" template. If the video type was anything else, just load "VideoCD(NTSC)". Now click setting. Leave everything alone except for this setting: Under advanced, change the "Source Aspect Ratio" to what you wrote down from "Aspect Ratio" at the end of step 6. Now click OK to go back to the main window. You're ready to convert to MPG. Click "Start" in the top left corner and then get some sleep. It takes up to three hours on a 2ghz Athlon machine, probably much much longer for most of you.

8(S): Video CD users, use the instructions from step 8(V) - just load the SuperVideoCD templates.

9: Boy, that took a while. Now we have an mpg file of the complete movie. Check it for quality, audio synch, and general not-being-screwed-up. When you're satisfied that the file is complete, it is safe to delete all the other files that you used for this project. Now the file should be roughly a gig for a normal length movie. We need to split it up. Stay in TMpgEnc. Remember when I mentioned the cool MPEG Tools? We're going to use one of them now. Go to file->MpegTools. Click the "Simple De-Multiplex" tab. Load the mpg file of the movie into the "Input" file box, and the other two should be automatically filled in for you. Click the start button. It will rip the MPG file into a *.mlv and a *.mp2 file. These we need to load into BBmpeg. Go to the BBmpeg folder and run "AV12MPG2". It looks very confusing when it loads, but don't fret. Take a look around again. What we need to do is simply click the "Start Encoding" button, ignoring the very confusing initial interface. Click the Settings button. We need to set something on three out of the four tabs you now have access to. On the "General Settings" tab, set the "Max Size(MB)" to a number equal to roughly half the filesize of the file you have, but don't go higher than 10MB less than the size of your CD you will burn it to. I like to keep mine set to 640MB, it seems like a pretty standard size. On the "Input and Output Files" tab, we need to set three things. The "Program Stream File" is the name of the output file you want. Your half-movies will be called t filename]O1.mpg and lfilename]O2.mpg. Now for the "Video Stream File" and "Audio Stream File", use the *.mlv and *.mp2 files we just created, respectively. The last tab is the "Program Stream Settings". Simply choose "VCD" or "SVCD" from the radio buttons. The fourth tab allows you to save your settings for this program. Do so if you are going to be using it a lot. Click OK to get back to the "Start Encoding" screen, then click "Start". This shouldn't take very long.

10: Now we have two (or sometimes three) files that are small enough to fit on CDs. Load up Nero. In the "Create CD" dialog, nero should have options for both VCD and SVCD. Select whichever applies. Under the ISO tab, select "ISO Level 2" for the filename length, and "ISO 9660" as the character set. Also check all the boxes under "Relax ISO Restrictions". Now we are ready to burn. Click "New" and it will take you to a normal CD creation screen, except the CD window has both a directory structure and a file list box in it. Drag your file to the white box under the directory tree, not into the tree itself even if you know where it goes. Nero will check the file. If it complains, just ignore it. It should still work. Now burn... and you will have yourself a fresh VCD or SVCD. Repeat this step for the rest of the disks needed to get the full movie.

11(V): Playing VCDs on computers: You can use a software VCD player, or just go into the CD and open "AVESQOI.dat" in the "MPEGAV" folder with your favorite media player.

11(S): Playing SVDS needs a compatible DVD software player or an MPEG2 codec for your Media Player. Personally, I use ATI's media center, or PowerDVD.

12: Enjoy! Props to KalEl - I learned how to rip DVDs using his site. Also, check out afterdawn.com - there are some good things on there. I would also like to ask Wilson to read this article aloud to the class like he always does. Thanks.

Links

<http://www.afterdawn.com/software/video-software/dvd-rippers/smartripper.cfm>

<http://www.afterdawn.com/software/video-software/dvd-rippers/dvd2avi.cfm>

<http://www.afterdawn.com/software/video-software/video-tools/tmpgenc.cfm>

<http://members.cox.net/beyeler/bbmpeg.html>

<http://www.adaptec.com/worldwide/support/driverdetail.html?cat=/Product/ASPI-4.70&filekey=aspi-v470.exe>

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