

Create a Super Video CD

by Andrew Tokuda

TRICKY

WHAT YOU NEED

- Mac OS 10.2 or later (\$129, www.apple.com)
- Roxio Toast 5.1.2 or later (\$99.95 boxed or \$89.95 download, www.roxio.com)
- MediaPipe (free, <http://mediapipe.sourceforge.net>)
- MissingMpegTools (free, <http://homepage.mac.com/rnc>)
- MissingMenuGen (free, <http://homepage.mac.com/rnc>)
- Apple Developer Tools (free, <http://developer.apple.com/tools/macosxtools.html>)
- VideoLAN Client (free, www.videolan.org)
- Video-editing app (such as Apple's iMovie or Final Cut Pro)
- CD-R/CD-RW drive
- Mondo disk space

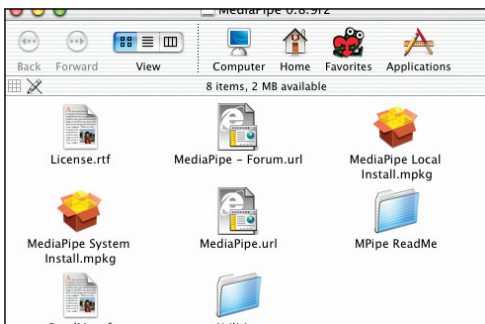


Got a TV and a DVD player? You can watch your iMovies in near-DVD quality from a mere CD-R disc if you create an SVCD.

We showed you in our April issue how to create a Video CD (or VCD) that allows you to play movies—housed on a CD—in most set-top DVD players. If you don't have a DVD burner, VCDs are a relatively cheap and convenient way of sharing your digital movies with those who don't have a computer—and a narcissistic way of fawning over yourself on TV. The downer is that you have to deal with a VCD's VHS-like quality. Or do you?

If you're willing to put a little extra muscle into your efforts, you can get near-DVD-quality video on a regular CD-R by creating a Super Video CD. It won't cost you a penny more than creating a regular VCD, since most of the required software is free and you likely have the rest. Here's how to make one.

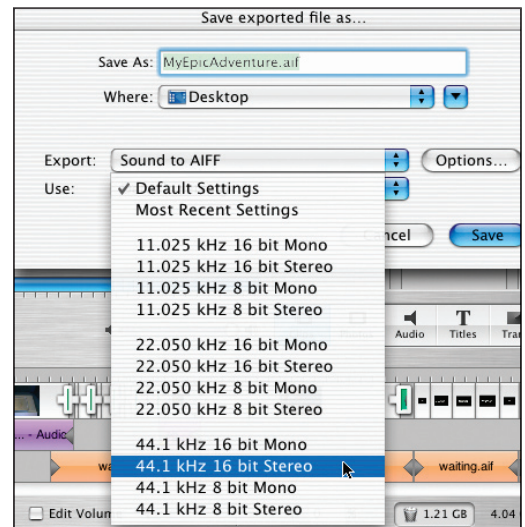
1 Get the Goods Before you can Toast, you've gotta have the ingredients, meaning you need to install the software first. First install Apple's Developer Tools. You can download the whopping 300MB free package from Apple's Developer site (or pay 20 bucks and Apple will hand it to you on a shiny 4 3/4-inch platter). Then install MediaPipe—double-click either Local Install if you only want the tools available to your account or System Install for all-user access. The remaining apps don't require installation.



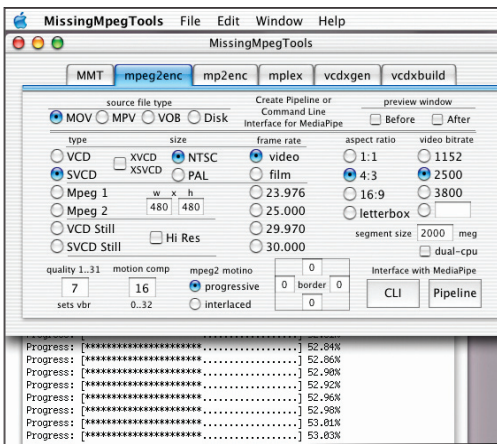
MediaPipe offers two installers; choose Local for sole tool access or System for all-user access.

2 Export Video and Audio Open the movie in your video editor, and export it (or its first chapter) in high-quality DV format at 720 by 480 pixels. To do this in iMovie, select Export from the File menu. In the resulting dialog, choose To QuickTime from the Export pop-up, select Full Quality DV from the Formats pop-up, and click Export. Do a second export of just the audio track, saving it as a 16-bit, 44.1KHz stereo AIFF file. In iMovie, select Export from the File menu, select To QuickTime from the Export pop-up menu, select Expert Settings from the Formats pop-up, and click Export. In the resulting dialog, choose Sound To AIFF from the Export pop-up, select 44.1KHz 16-bit Stereo from the Use pop-up, and click Save.

If you're using iMovie, export just the audio tracks by selecting Sound To AIFF from the Export pop-up in Expert Settings.



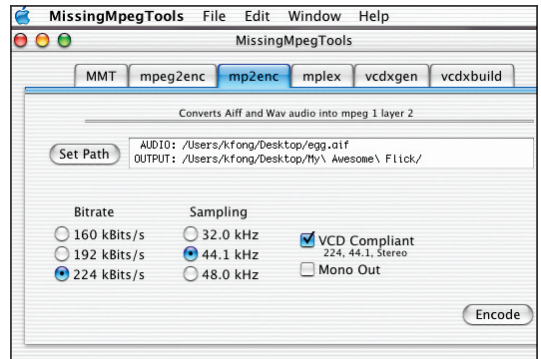
3 Encode Video to MPEG-2 Launch MissingMpegTools and click the Mpeg2enc tab. In the panel, click the MOV radio button, and in the resulting dialog, select your exported DV movie, and then click Choose. Another dialog pops up, asking you to select an output folder. Select a folder or create a new one to store your encoded files, and then click Choose. Leave the default settings unless your movie is wide-screen format (if so, select the 16:9 radio button) or you live in Europe (select the PAL radio button). If you have a dual-processor Mac, check the Dual-CPU box to speed things up. Then click CLI; the Terminal launches and



gobs of gibberish run across the window during the encoding process. This can take a looong time. Be patient. This might be a good time for lunch. Once you see the message “done!” followed by the Terminal prompt, it’s finished.

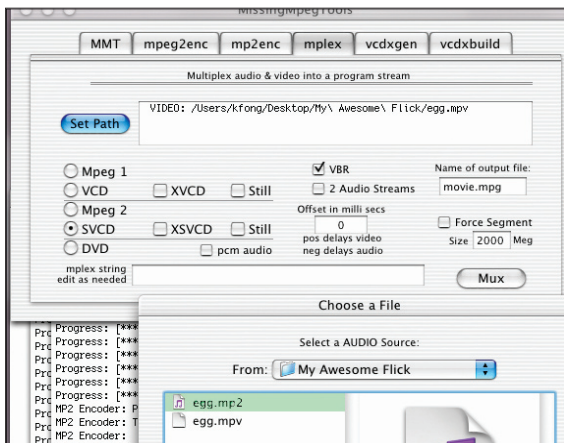
20 minutes later, the Terminal shows that our video encoding is only a little more than halfway done—and this is a 3-minute clip!

4 Encode Audio to MP2 Next, convert your AIFF file into an MPEG-1 Layer 2 (MP2) file. Click the Mp3enc tab, click Set Path, select your exported AIFF in the resulting dialog, and click Choose. In the subsequent dialog, select the same output folder you used for your video, and click Choose. Leave the default settings, but make sure the VCD Compliant box is checked. Then click Encode to start the Terminal process for the audio section.



Encoding AIFF audio to MP2 is a process similar to encoding video—and just as boring to watch.

5 Mux the Media You now have an MPEG-encoded video (MPV) and audio (MP2) file that you need to merge. This process is called *multiplexing*, or *muxing*. Click the Mplex tab, then click Set Path. In the resulting dialog, select the MPV file and click Choose. In the subsequent dialog, select the MP2 file and click Choose. In the next dialog, click Choose to select your current output folder. In the Name Of Output File field, name your movie, keeping the .mpg extension; leave the default settings. Then click the Mux button to fuse the files. If you have more videos, encode and mux each of them in sequential order. Keep in mind that an SVCD holds about 45 minutes of average-quality video (see “Quality Control,” p66). To preview your muxed video, play the MPEG file in VideoLAN Client.



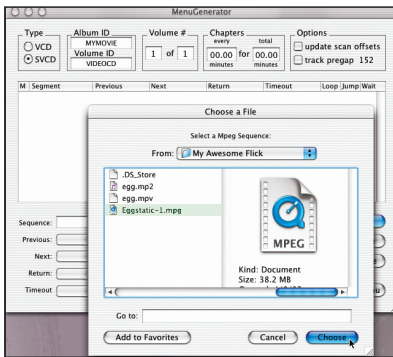
The multiplex section launches a series of dialogs where you choose a video and an audio file for fusion.

6 Make the Menu If you’ve got multiple videos, a menu is key for navigation. Because the user will navigate SVCD movie sequences via the numbers on a DVD player’s remote control, add a numeric reference to each movie thumbnail in your menu. For menu-creation instructions, see “Create a Static SVCD Menu,” p67. Your graphic should include numbered and titled thumbnails to represent each movie clip. Save the file as a TIFF or JPEG, import it into your video editor, and export the file as a two-frame DV-format movie. Launch MissingMpegTools, click the Mpeg2enc tab, and click the SVCD Still radio button. Click the MOV radio button, choose your menu movie file and output folder in the dialogs, and click CLI to encode the file. Click the Mplex tab, check the Still box in the Mpeg 2 section, click Set Path, and select the menu MPV and output folder in the dialogs. Name your menu file in the Name Of Output File field, and click Mux to create the MPEG.



We created this menu graphic, which displays numbered thumbnails of our videos, and then encoded it for SVCD compatibility.

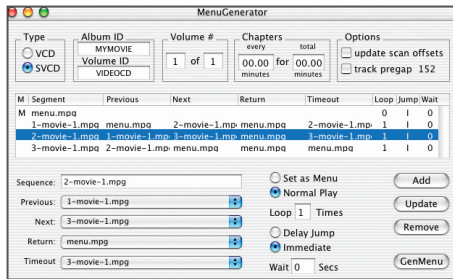
7 Order the Items Although MissingMpegTools can generate XML files—the SVCD building block—MissingMenuGen offers better navigation. Launch MissingMenuGen and click Add. In the resulting dialog, select your menu MPEG file and click Choose. Click Add again, select the movie MPEG file that should play first in your sequence, and click Choose. Continue adding movie MPEGs in the order you want them to appear on your SVCD. When you're finished, click the first entry in the window (your menu), and select the Set As Menu radio button. Set the Loop field to 0 (zero)



Times, which makes the menu display continuously until the viewer presses a button on the remote. Then click Update to confirm these settings.

Add the mixed MPEG files in the order you want them to appear by clicking Add, then navigating to each file.

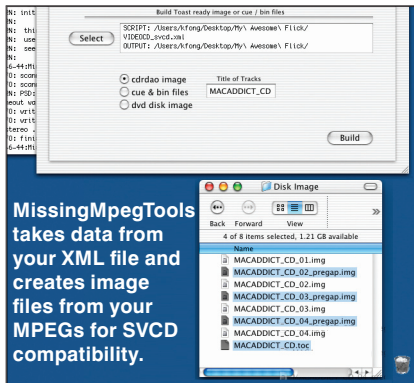
8 Map Out the Navigation Select the first movie file in the list. At the bottom of the window, use the Previous, Next, and Return pop-up menus to assign which movie file to play when the viewer presses the previous, next, and return buttons on a remote control. For example, assign the Next pop-up to play the next movie in the sequence. Use the Timeout pop-up to assign which movie to play automatically when the current one ends. Click Update after setting a movie's navigation but before selecting the next. Repeat for remaining files. If your movie is divided into chapters, set each Timeout pop-up to play the next movie in the sequence. If you have multiple, nonsequential movies, set each Timeout pop-up to go back to the menu file. When you're finished, click GenMenu, select the output folder in the resulting dialog, and click Save to generate the XML file.



MissingMenuGen allows you to set the SVCD's navigation control for a remote control.

9 Build the SVCD To make menu and movie files viewable on an SVCD, you need to turn your work into image files. Launch MissingMpegTools and click the Vcdxbuild tab. Select the Cdrdao Image radio button, then click Select. In the resulting dialog, select the XML file and click Choose. In the subsequent dialog, select the output folder and click Choose. Name your collection in the Title Of Tracks field and click Build.

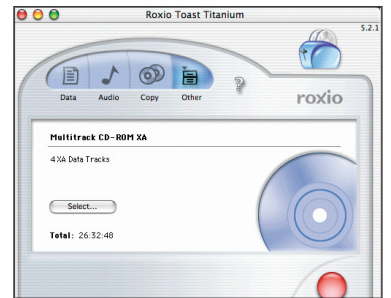
The Terminal once again displays the process as your menu and movies get converted into image files (with the extension .img). When it's finished, open your output folder and delete any image file that has "_pregap" or ".toc" in its name.



MissingMpegTools takes data from your XML file and creates image files from your MPEGs for SVCD compatibility.

10 Get Toasted Now that you've got your SVCD in virtual format, it's time to burn it for posterity. Launch Toast; in the window, click Other and select Multitrack CD-ROM XA from the drop-down menu.

From your output folder, drag all the image files into the Toast window in order. Then click Record to burn your disc. When Toast chimes to tell you it's done, fire up your TV and DVD player, stick the disc in, pop some corn, sink into your La-Z-Boy, and enjoy the show. Most newer DVD players can play SVCDs, but some older ones may not. If you can't play your creation, don't rant and rave about going through this entire process for nothing. Just grab your disc and go couch-potato it over at your friend's house.



After dropping our four image files onto the Toast window (one menu and three movies), we're ready to burn.

QUALITY CONTROL

What matters to you more, size or quality? When it comes to video, the answer can be subjective once you ponder the choices—and get your mind out of the gutter. We had you leave video bit rates at MissingMpegTools's default setting of 2,500 Kbps, which compresses DV into good-quality video. At this rate, you can fit about 45 minutes of MPEG video on a CD. However, you can set higher video bit rates, which yield better quality at bigger file sizes. Set a lower bit rate, and you can cram more movie minutes on

your disc at the expense of video quality. Depending on the bit rate you set, a single CD can store between 35 and 70 minutes of content.

If you've got a 30-minute or shorter movie collection, use a higher bit rate. For a longer movie, consider breaking it up across multiple discs rather than setting a low bit rate; anything below 1,500 Kbps can make your video look worse than VHS tape. The best way to determine your quality threshold is to grab a short video clip, encode it with different bit-rate settings, and view them all.

Andrew Tokuda is a video producer at 3rd Light Digital Media—that means he gets to play with really cool toys.

Create a Static SVCD Menu

by Kris Fong



WHAT YOU NEED

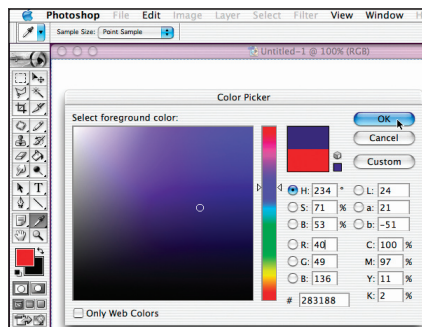
- Any image editor
- Any video editor

You've spent a good amount of time shooting your video and editing it, so what's one more task? Sure, you can stick all your movies onto an SVCD without a menu; the movies will play in sequential order. But if you want to give viewers the choice of skipping to the good parts in your indie movie, or choosing which movie to view from your grab bag of clips, a menu is in order. Here's how to create a still image menu. We used Photoshop, but you can apply our instructions to your own image editor.



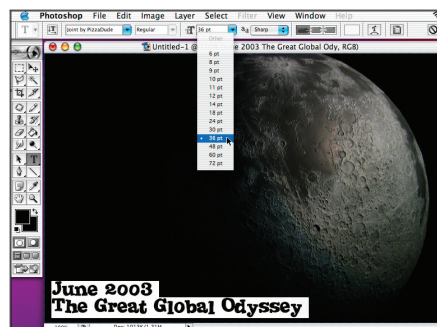
Wanna help viewers navigate through your SVCD when they play it in their DVD player? Create a menu.

1 Create the Backdrop Your videos are 720 by 480 pixels. Your menu should be likewise—unless you edit video in iMovie, in which case create a new document 720 pixels wide by 540 pixels high. If you edit video in a higher-end editor (meaning anything but iMovie), create a new 720-by-480-pixel document. Then give your menu a background color; click the foreground color swatch in the tool palette, choose a color, select the paint bucket tool, and click the canvas. Alternatively, you can paste in any image to serve as a menu background, as we did.



To create a solid menu background, choose any color from the Color Picker.

2 Add a Title Let your viewers know what they're watching by giving your SVCD a title. Select the text tool, choose a font and size from the respective pop-up menus in the tool options palette, and then select a text color (one that stands out from your background) from the color swatch. Click inside the canvas and type a title. Use the move tool to place it. If you want to change your font and/or size choice, select the text tool, highlight the text on the canvas, and choose different options from the pop-up menus.



If you don't like the font or size you started with, just highlight your title and experiment with choices afterwards.

3 Throw In Thumbnails To create thumbnail images, take a screenshot (Shift-Command-3) of one of your movies. Open the shot in your image editor and crop around the movie image. Repeat for other clips. If you've got lots of movies, size down each thumbnail accordingly so everything will fit in the menu. To add a thumbnail, open the image, copy it, and paste it in the menu graphic.



Depending on the number of movie sequences you have, scale your thumbnails to fit them all.

To resize a thumbnail, choose its layer in the Layers palette and from the Edit menu, select Transform, then Scale. Hold down the Shift key and drag any bounding-box corner to resize. Double-click inside the box to set the change.

4 Add Numbers and Text Use the text tool to add a number and title to each movie thumbnail. Remember which number you give each movie, as this number will dictate the order in which you encode and build your SVCD. When you're finished, flatten all layers, save the file as a JPEG or TIFF image, import the file into your video editor, and create two frames (iMovie users should drag the clip to the timeline, press the right-arrow key twice, select Split Video Clip At Playhead from the Edit menu, and delete the second clip in the timeline). Then export the file as a High Quality DV movie.



Because SVCDs require viewers to punch numbers on their remotes to jump around sequences, do them a favor and supply the reference.



Kris Fong is an editor at MacAddict magazine—that means she gets to play(giarize) really cool, uh, words.