

Chapter 9 – Writing to DVD

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At each step in doing a clean-up, I listen to the resulting stereo file using a good sound reproduction system. DO NOT try to get by with using the little speakers that are sold for a few bucks with sound cards. They have a poor response to both low and high frequencies and this can easily mislead you!

I have found that recording mono records in stereo and not converting them back to mono is better practice. In fact, a stereo CD copy of some mono LPs seems to have some stereo content. This is perhaps explainable by considering that both sides of the groove of a mono recording are not identical. So when a stereo playback cartridge is used, the left and right channels are also not identical. Not all mono LPs exhibit this, but some do and I can demonstrate it.

Previously, I normalized individual tracks (songs) to the same volume – about 95% of the full sound card output. After a lot of listening, I now prefer to normalize the whole side of an LP as a unit before breaking it into tracks. This means that you have to do serious click and pop removal on the “side” recording or the loud clicks and pops will not let you normalize correctly. Any of the audio editors (*Cool Edit*, *Audio Audition*, *DC8*, *Sound Forge*, etc.) contain normalization routines. After I’ve separated the side into tracks, I finish the clean-up and then I’m ready to record to CD (or DVD).

In March of 1999 the DVD Forum, a group with members from the music industry and audio equipment manufacturers, released version 1.0 of the DVD-Audio Specifications. This did much to clarify DVD-Audio but also added some confusion.

DVD-Audio (or DVD-A) is a super set of CD audio. That is, it uses the same format as CD audio, PCM (Pulse Coded Modulation), but includes 6-channel surround sound as well as 2-channel stereo, and increases the range of both the sampling rate and sample length (number of bits). The CD audio standard (“Red Book”) allows only a 44.1 kHz sample rate and a 16 bit sample length. DVD-A expands this to a range of 44.1 to 192 kHz sample rate and 12, 16, 20 or 24 bit sample length. To take a look at the DVD-A specs, you can visit Digital Audio Guide.com [1].

The structure of a DVD-Audio disc:

Album: One per DVD-A disc

Group: Up to 9 per album

Track: Up to 99 per group

Soundfiles: Up to 6 per track

(Names can be assigned to the Album, Groups and Tracks but not to Soundfiles. So a track is the smallest item you can “jump to” with your player.)

The confusion comes from the interweaving of the DVD-Video (DVD-V) and DVD-A Specs. A DVD-V disc can contain some DVD-A tracks and a DVD-A can contain some video. For example, a DVD-A can display text and stills as in a photo album. Many current players support most or all of the current formats and carry the logos of the ones that are supported. That is, DVD-V, DVD-A,

SACD (Super Audio CD), MP3 and possibly others. I have found that MP3 files play from a CD but usually do not from a DVD. (Actually, it's even more complicated than I've indicated. A good reference on DVD-A is the *DiscWelder Chrome II* User Manual.)

Incidentally, SACD does not use PCM files and is totally different from a "Red Book" CD. As I mentioned above, it is DVD-A that is the next step up in music CDs. DVD-A is technically superior to SACD but it won't be the first time that better performance has lost out to advertising hype and product availability.

There are now several computer programs that can write audio to DVD. Some support the DVD-A specifications and some do not. I'll cover several of them in order of increasing price and give you my impressions and recommendations as a result of having used the full program or a demo. The first three are in alphabetically order since the price is virtually the same.

Disc Welder Bronze. \$99. Supports the DVD-A Specifications. You can download a demo and a copy of the User Manual from:

<http://www.discwelder.com>. File name is discWelderBronzeDemo.exe, file size: 7.6 MB.

The User Manual is Bronze.pdf and it's file size is 2.8 MB.

The primary problem with this program is that it supports only one group and 99 files within that group. What this means is only 99 individual tracks (selections or songs) that can be named. For popular music in 2-channel stereo this results in wasting about half the space on a DVD although for classical music in stereo or surround sound it may be quite acceptable. (And personally I don't like the type of copy protection they use on all the "Disc Welder" products so check it out before you buy.)

This "entry level" software does not support video menus to make song selections so it would play as a "long" CD. This is not necessarily a problem, just something to take into consideration.

I added these comments on 2 July 2007.

In spite of the reservations I mentioned above, I bought a copy of *Bronze* and it works very nicely. It's easy to make a "long CD" that will play on any player that supports DVD-A. Unfortunately, I have found that many new, inexpensive (under \$200) players don't provide this support. Still, if you want three to four hours of uninterrupted music, this is a good way to go.

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I still have a licensed copy of *Bronze* installed but I have found a better product at a lower price: *DVD Audio Solo*, a product of Cirlinca Inc. (www.cirlinca.com).

It is very easy to use and it supports both DVD-V and DVD-A. In addition, you can create a "universal" DVD by combining video and audio support on the same DVD so your music files will play on a DVD player that does NOT support DVD-A.

This is a HIGHLY recommended product: check it out at the web address above!

RESOURCES

1. **DigitalAudioGuide.com** is a source of a wealth of information about DVD-Audio. This includes info about commercial DVD-A discs, a player list with ratings and comments and a FAQ page which includes the DVD-A Specifications as well as a Discussion Board, News and Reviews.

<http://www.digitalaudioguide.com>

For info on the other audio editors listed above, please see Chapter 7 on Restoration Software.

Click [here](#) to download this chapter in *Adobe Acrobat* (pdf) format.

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