

Copying a Minidisc to a CD

Materials Needed:

- Portable Minidisc Recorder
- 1/8" Audio Cable (details at the bottom of this document)
- CD Writer
- Blank CD's (notes at the bottom of this document)
- Audio Editing Software
- CD Creation Software

Instructions:

Although it may seem like these instructions are rather lengthy, the procedure is fairly straightforward. For the software, there are a number of programs with similar functionality; the packages suggested here are chosen to provide the greatest value for money.

To start, it might be a good idea to split up your recordings into separate tracks on the minidisc recorder. This will make it easier to pick the best takes from your recording session and find them later.

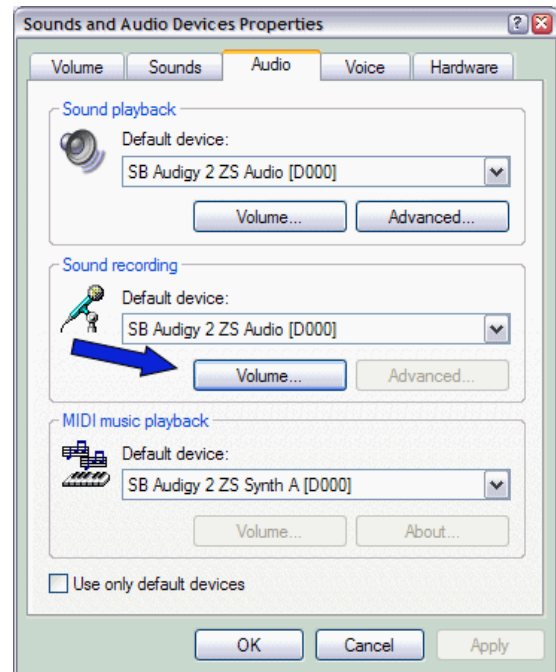
1. Setup - Begin by connecting everything together. One end of your cable must plug into the headphone output (NOT the microphone jack) of the minidisc recorder, as shown to the right with this Sony minidisc recorder. Connect the other end to your computer, either to the microphone input or to the line-in jack, making a note of which one you choose. The Microphone input will give you a higher volume signal, but usually with a small amount of added noise. At this point, turn up the playback volume on your minidisc recorder to its maximum level- if you try to change it during the copying process, some recorders will beep each time a button is pressed, ruining your final product.



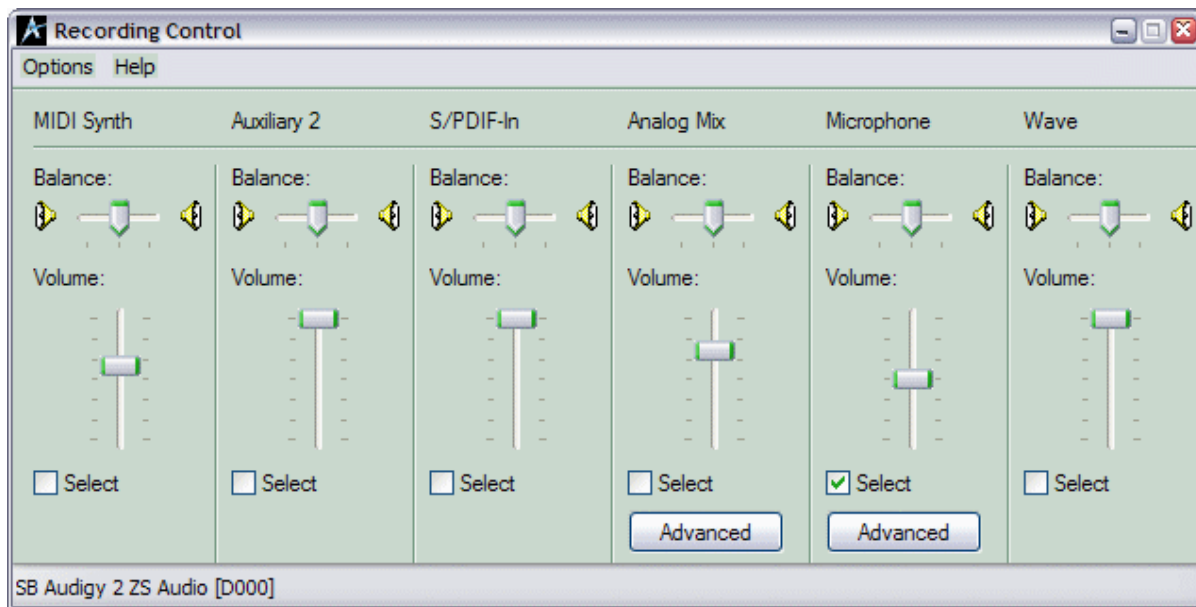
Mac OS X note - Most new Macs do not include a microphone or line input. A **Griffin iMic** is the most cost-effective way to add this feature.

2. Software - Now, as far as editing software is concerned, Audacity is a good free audio editing package for Windows or Mac OS X. For Windows, you could also try **GoldWave**, which runs about \$55, or **Adobe Audition** provides more powerful features, but for a higher price. These programs will allow you finely adjust your starting and ending points in recordings, adjust the volume, and perform basic splicing operations.

3. Preparing to Copy - Before copying the audio, you must select the correct audio input on your computer. In Windows, this is done by either entering the audio section of the control panel. Choose the 'Audio' tab as shown below, and then choose 'Volume...' under 'Sound Recording'.



Next, you must select the correct audio input (shown below), setting it to whatever input you decided to use in Step 1. Keep this window open so that you can raise or lower the recording volume level if necessary- if the signal is copied too loudly from the minidisc recorder, you will hear distortion on your final CD.



4. Software Setup - Set up your audio software to record at 44.1 kHz, 16 bits stereo. If you choose to use **Audacity**, these options can be found in the Preferences section of the File menu.

5. Begin Copying - To begin copying your recording from the minidisc recorder, first begin recording in your audio software, then play back the desired track in your minidisc recorder. You can always trim off the silence at the beginning or end of the recording before writing it to a CD, so you don't have to be terribly precise with timing. You may or may not hear your minidisc recording being played back through the computer speakers as it is being copied; some laptop audio hardware is half-duplex, meaning that it cannot record and play at the same time.

To save time, it's a good idea to do a test recording before you wait for the whole track to copy from the minidisc recorder. This way, you can troubleshoot problems without any significant wasted time. If you run into problems, the cabling is usually the first thing to check- make sure that everything is plugged into the proper place. If you're still not having any luck, try raising the playback volume on the minidisc recorder.

Most audio software will show you a real-time meter of the volume level of the signal as it is recording- this will allow you to verify that your recording is being copied successfully.

6. Editing - Once the desired take from your recording session has been copied, it's time to do some basic editing. After trimming the unwanted silence from before or after your recording, make sure you amplify your entire recording enough so that it is as loud as reasonably possible without distorting. This step is not strictly necessary, but it makes things easier for the person listening to your CD.

7. Saving - Now, save your file in Uncompressed WAV format. This will take up more hard drive space than MP3's will, but it preserves the sound quality before burning it to a CD. This part may seem obvious, but make a note of where you save the files on your computer- you will need find them later! Each file that you save will become a separate track on your final CD, so if you have a multi-movement work that you have recorded, it's probably best to copy each track to the computer separately. Just think of how things would sound if you were listening to a commercially-produced recording, using that as your guideline for track divisions.

7. Writing the CD - Once you have copied all the tracks to your computer, it's time to write your CD! Most new computers that include CD writers (which is nearly any new computer these days) will also give you software for CD authoring. Usually, this will be the **Roxio Easy CD Creator package**, though **Nero** is also common. On Windows computers, many media player programs include CD writing capabilities, so you have plenty of choices. **iTunes** (from Apple, though their Windows version also works very well) works very well, and it's quite easy to use. On a Mac, iTunes is still your best bet.

Roxio/Nero Instructions: Operation of these programs is similar and straightforward. Both give you a menu of different types of CD's to create, and you want to choose a 'New Audio CD' compilation. Then, simply drag your desired WAV files in the correct order over to the 'Compilation' window, and you're ready to burn the CD.

Using Other Software (Windows Media Player / iTunes): In most media players with CD-writing capabilities, you must first import your WAV files into the media player's library. Then, create a playlist with your recordings in the desired order.

Other Hints: Creating a library of your recordings on a computer allows you to quickly and easily make custom CD's for a variety of purposes. If you are applying to several summer festivals with slightly different audition requirements, it is easy to make a new CD for each without having to either make new recordings or go through all the above steps to copy

everything to your computer each time. This method also lets you make backup copies of your lesson recordings onto CD's, so that your minidisks can be reused.

The Cable



This audio cable is a cost-effective (\$5-10) way to transfer your recordings. It has a 1/8" headphone plug on both ends, and to make things easier, it's a good idea to find one that's at least six feet long. These cables are standard items- any store like Radio Shack will sell them, and Target might have a few in stock as well. Be careful if you go to Radio shack, since they also sell 'attenuated' cables that look the same on the outside, but significantly reduce the volume level of your recording. They also sell the correct cables, so just check before you buy.

A Note on Blank CD's

Nearly any type of blank CD-R is acceptable for making audition CD's (or copies of your recital). For compatibility reasons, stay away from rewritable CD-RW discs to make sure that the CD's you create will be heard properly. Many older CD players aren't capable of reading CD-RW discs, so it's a good idea to be on the safe side and stick with CD-R media. It is **NOT** necessary to get discs marked as 'Audio' CD-R's; these are designed for home audio CD recorders (which are not very common anyway), and you can use standard (or 'Data') discs if you're using a computer CD writer to make audio CD's. Specially-marked 'Audio' CD's will work, but they are more expensive.