

COPYING AUDIO TAPES TO CD USING A COMPUTER

There seems to be a growing interest in copying audio cassette tapes and vinyl disks to CD. The low price of CD burners and media has made this practicable. Although this guide is about copying audio cassette tapes to CD, the basic principle applies to other audio sources. It should be noted that the audio signal from a turntable pick-up is not suitable for directly feeding into a computer sound card as it requires non-linear amplification. An appropriate pre-amp, either built into the turntable or in a hi-fi amplifier, is needed.

Requirements:

Audio cassette player, "Walkman" style is ideal.

Sound card for the computer (add-on or built into motherboard)

Lead with plugs suitable for the cassette player output socket and sound card input socket. A lead suitable for "Walkman" players, ie 3.5mm stereo plug to 3.5mm stereo plug, is available from Jaycar.

CD burner and blank CDs. You don't need special "audio" CDs – they are only for CD recorders that form part of a Hi-Fi system, not computer CD recorders.

Software

This guide assumes the use of "Audacity", a nifty freeware program available from <http://audacity.sourceforge.net/> There are lots of other programs available.

One end of the audio lead plugs into the headphone socket of the cassette player and the other into the "Line" input socket of the sound card (NOT the "Mic" socket).

Make sure you have plenty of room on your hard drive. Wave files need about 10 megabytes per minute of playing time, so a 60-minute cassette will need about 600 megabytes of space on the hard drive.

To check that the connections are OK, play a tape and you should hear it through the speakers. If not, check the speakers are turned on and also check that the sound has not been muted or turned right down via the audio icon in the system tray (bottom right). If you can hear audio CDs played in the CDRom drive then a cassette played through the "Line" input should also be audible.

Once you are satisfied that the connections are OK, run "Audacity". Firstly, choose "Edit", "Preferences", "Directories" and make a note of the "Directory to store files in". You can change it but there's no problem leaving it as is, just make a note of it because you'll need to know where the files are when you come to burning the CD. Close that window and from the drop-down menu (top right) select "Line in sampling". This will use the "Line" socket (to which the audio cassette player is connected) as the source for digital recording. If you now play a tape the volume meter should register a signal. Play enough to get a good feel for the variation in signal level before going to the recording stage. You may need to adjust the signal level via the mixer and/or the cassette player volume control. The signal should not drive the volume meter into the red. The signal should mostly be in the green and yellow regions.

Rewind the tape to just before where you want the recording to start.

When you are ready to record, press play on the cassette player and click the Record (red dot) icon on Audacity. You can record the whole side as one file because it is easy to split them into individual tracks later.

When you want to stop recording, press the stop button. You can now play back any part of the recording by selecting it and pressing the play button. You can also select the whole recording and remove clicks using “Effect” and “Click removal”. Background noise can be reduced by selecting a quiet part of the recording (eg between tracks) and using “Effect”, “Noise removal” then selecting the whole recording.

The recording can now be split into separate tracks by selecting each track, playing if necessary to confirm it is complete, then “File”, “Export as WAV”, giving it an appropriate name. They can also be exported as MP3 files if desired.

To close Audacity, select “File”, “Exit”. Hitting the close symbol in the top right corner closes the current file and re-launches Audacity. This can be changed in Preferences.

Once the contents of the audio cassette tape are recorded as one or more files on the PC the next step is to burn them onto a CD. This guide assumes that the burning software is Nero, probably the more common. For other software the principles are the same. Put a blank CD into the burner, noting the maximum writing speed (32x, 48x etc).

Run Nero and choose “Audio” (the musical note symbol), then “Make an audio CD”. This should open a window with a blank playlist. Click on “Add” and browse to the directory where Audacity saved the files you want to record. Highlight the file or files you want to burn and click “Add”. Check that the total playing time is less than the capacity of the CD. Most CDs will hold 700Mb, or 80 minutes of material but some are less. Once you have a playlist click “Next” and fill in the title and artist details (this is optional). Check that your CD burner is shown in the “Current Recorder” box and that the writing speed is not greater than the maximum speed of the blank CD. If you want more than one copy, put the required number into the box. Then click “Burn”. If the burn fails the CD is worthless (a “coaster”) and it may be necessary to burn at a slower speed.

If all goes well you should get a CD that you can play in any CD player although there can be problems playing “burnt” CDs in some older players.

Good Luck.