

Audacity: Digitize Vinyl LP Records

Using the Audio Technica USB Turntable (hardware) in conjunction with Audacity, you can easily convert your old vinyl LP records into WAVs to make a CD or MP3s to listen on your portable audio device.

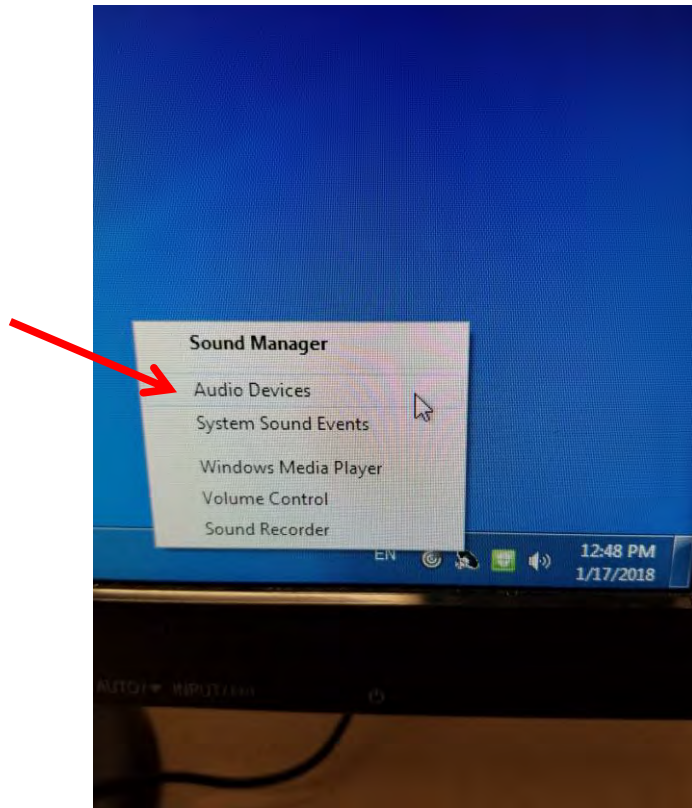
In order to digitize vinyl LP records, we will be using the Audio Technica USB Turntable located at the very top of our conversion station. Ensure that USB cable from the back of the turntable is easily accessible as we will need to make a simple connection.



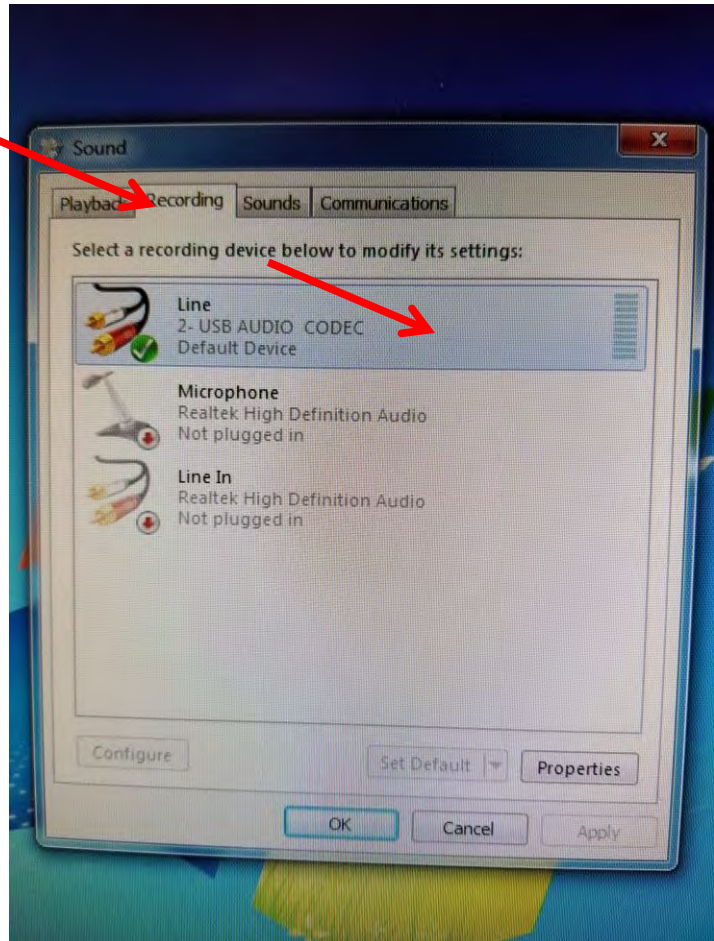
Plug in the USB cable into an available USB slot on the computer. For convenience, choose one of the front USB slots.



On the Windows desktop, right click on the speaker icon and select **Audio Devices**.

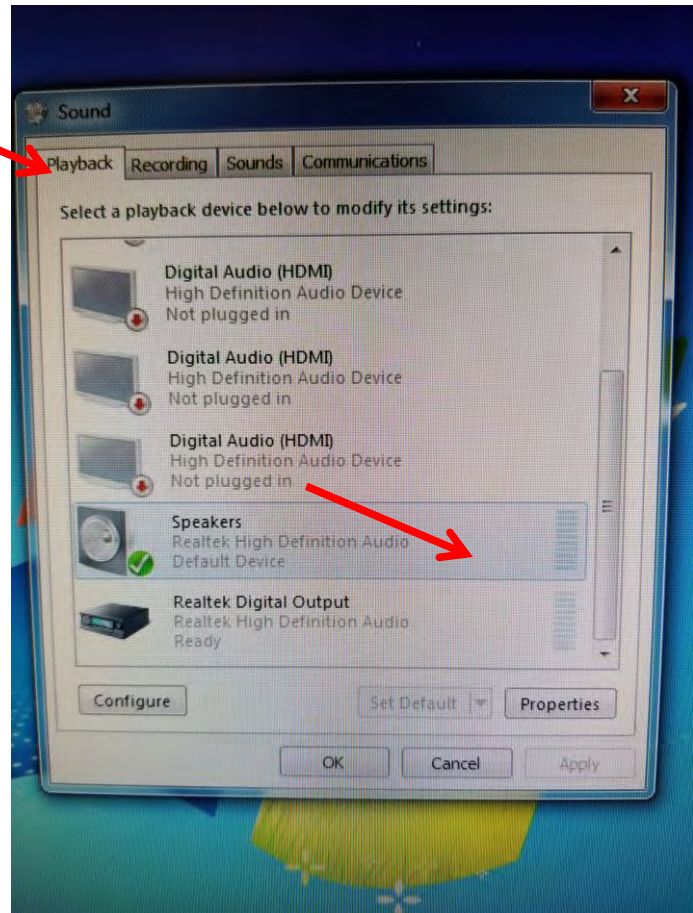


Ensure that you are on the Recording tab and verify that the **2 - USB AUDIO CODEC** device is showing up as Default Device. If not, you can click on this entry and select **Set Default**.

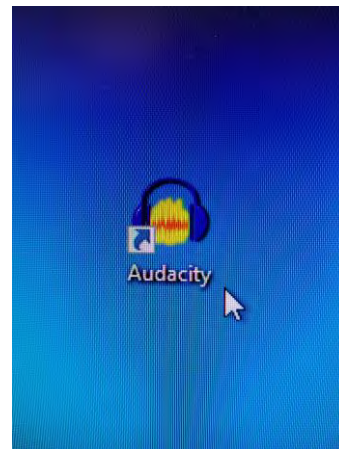


Switching to the Playback tab, ensure that the **Speakers Realtek High Definition Audio** device is set as the default. If not, you can click on this entry and select **Set Default**.

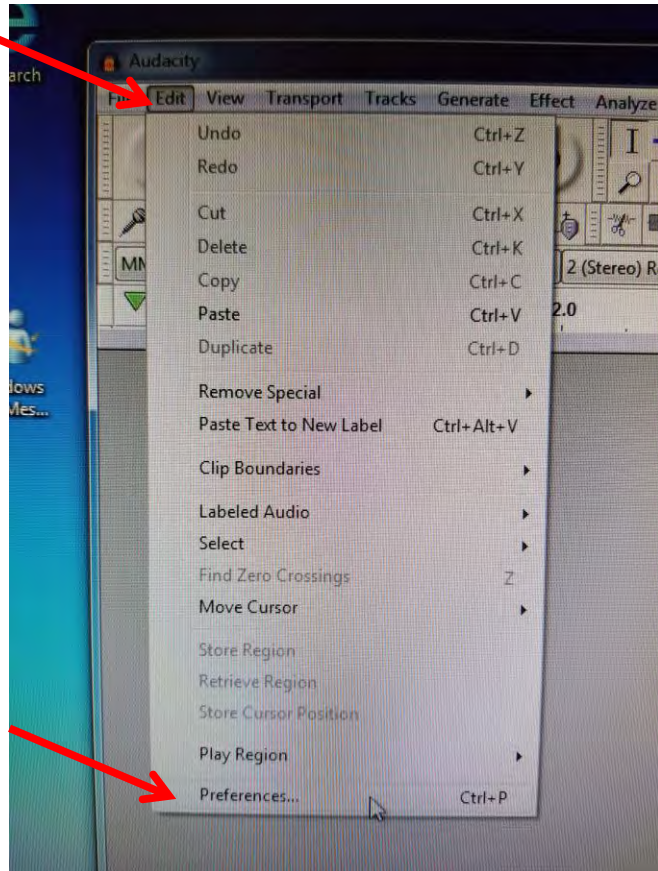
This Realtek device is the basic headphone output for the computer, ensuring that you can listen to / preview your capturing session while it is recording.



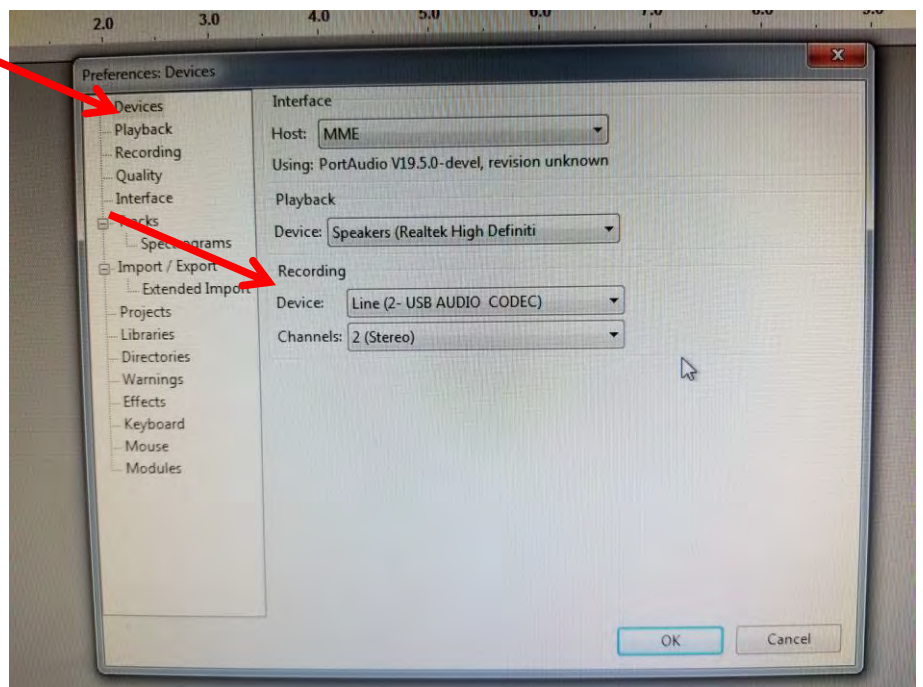
Double click on the **Audacity** icon on the Windows desktop.



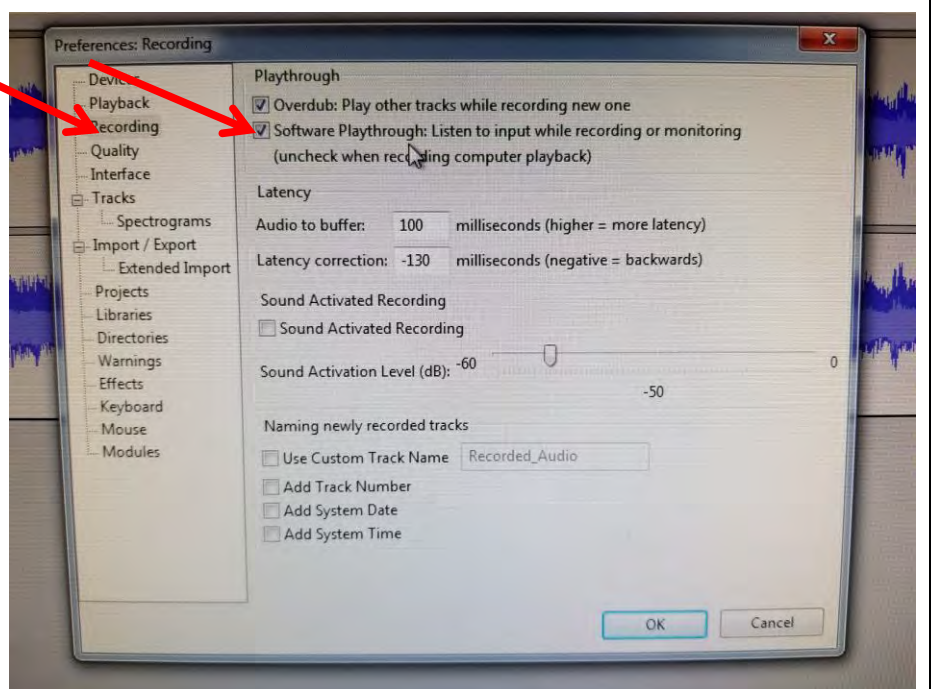
Let's make sure that the proper audio device is talking to Audacity. Click on the **Edit** menu and select **Preferences**.



Under **Devices** and in the Recording section, make sure that Device is showing **Line (2 - USB AUDIO CODEC)** and that Channels is showing **2 (Stereo)**. Your playback device can remain the default when using headphones to monitor your recording session. Leave Audacity Preferences still open for the time being as we need to make one more change in a minute.



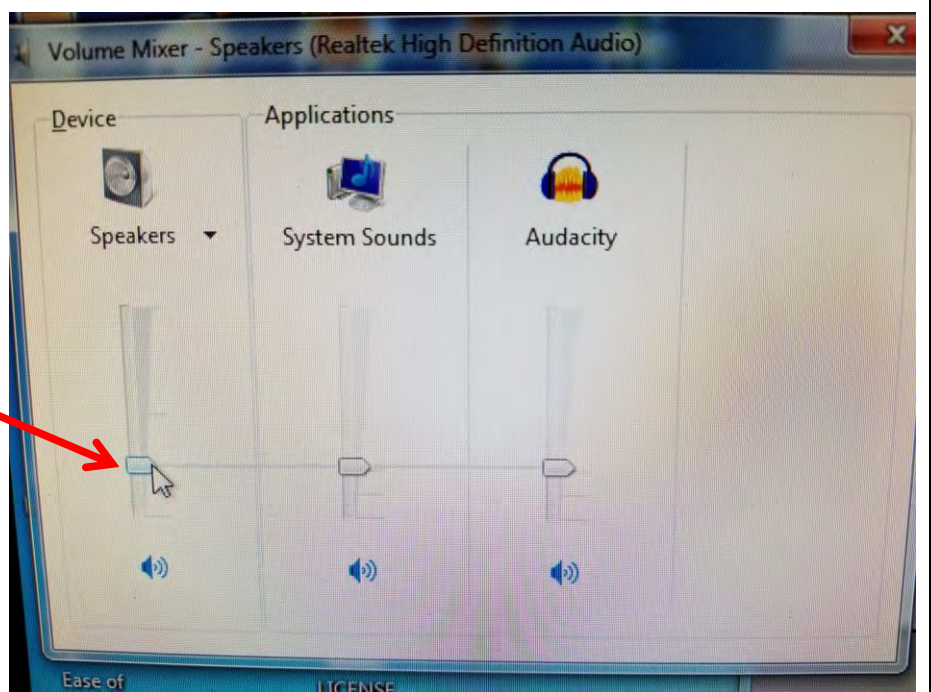
With Audacity Preferences still open, if you wish to listen to the music playing back as you are capturing it (recommended as you can monitor for excessive levels as well as cue up your tape), go to the **Recording** section and in the **Playthrough** section, ensure that **Software Playthrough** has a check mark on it. Finally click on **OK**.



Let's lower the output volume slightly to protect our ears from a sudden blast of loud sounds. Right click on the speaker icon once again on the Windows desktop and select **Volume Control**.



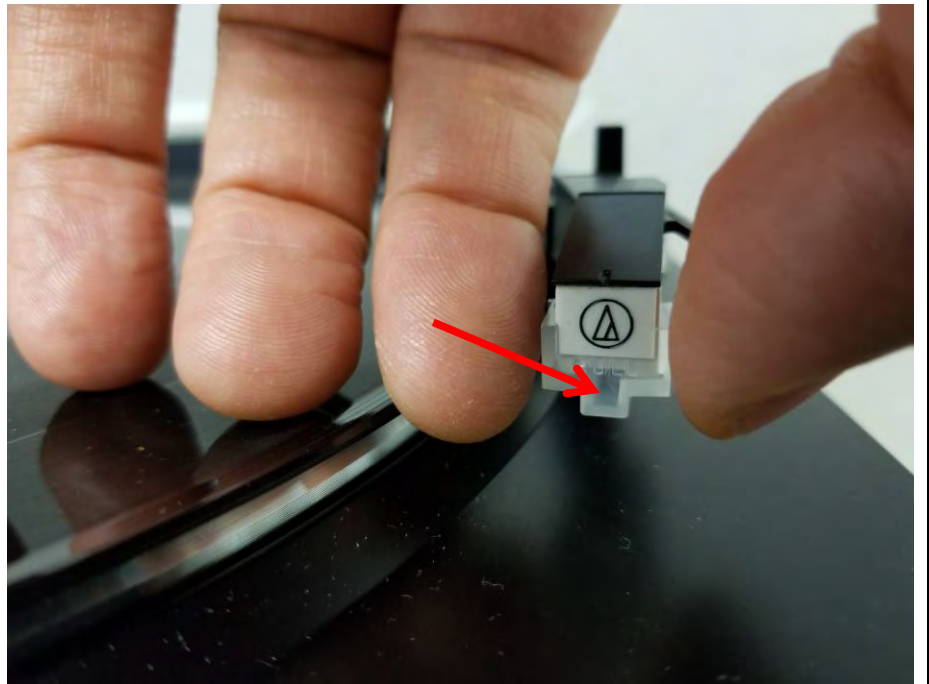
Slide the Device / Speakers slider down to about $\frac{1}{3}$ volume (approx. 33%).



Place your vinyl record onto the turntable platter as shown. If you are using a single EP, you may have to use the provided spacer adapter.



Remove the protective plastic shielding that is protecting the turntable cartridge / needle.



Press the **UP / DOWN** arrows button to raise the tonearm into position.



Position the cartridge to where you want to start playback of the record. Each song is separated and denoted by a wider groove or space on the record surface.

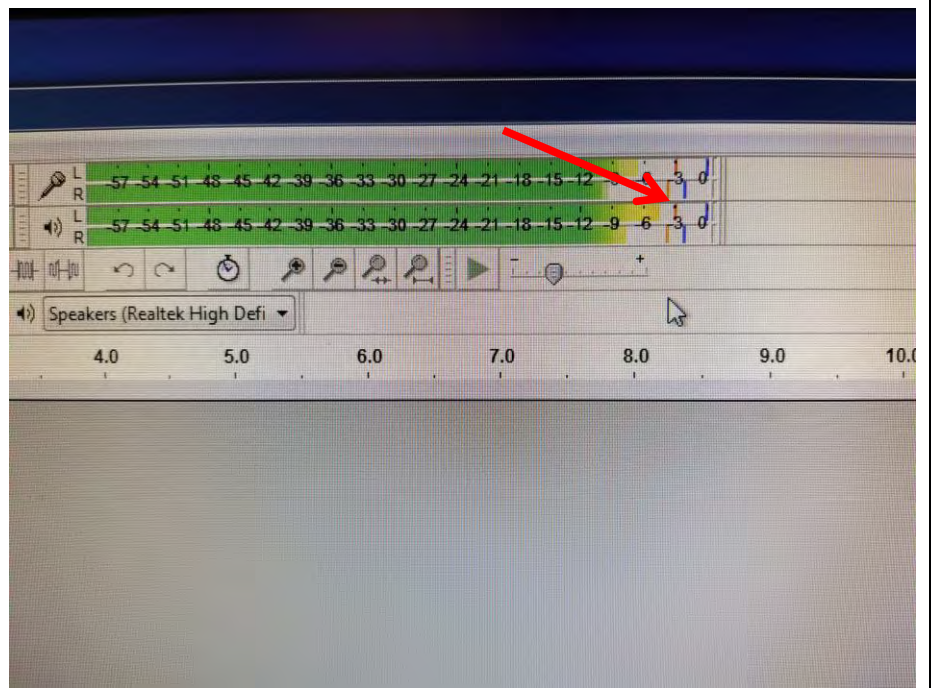


Press the **UP / DOWN** arrows button once again to lower the tonearm into position.

We need to do a quick audio test to make sure that our levels are correct for recording, which is in the next step. You will need to repeat these last 3 steps in order to start your actual recording session.



Clicking on the audio levels bars in Audacity will turn monitoring on. If your record is playing, you can already see some audio levels represented by green and yellow bars. For a nice clean recording, you will want to ensure that your audio level is between -6 to -3 db. If you are getting close to 0 db, there is a risk of clipping, which is a garbled audio signal that is highly distorted and nearly impossible to clean afterwards.

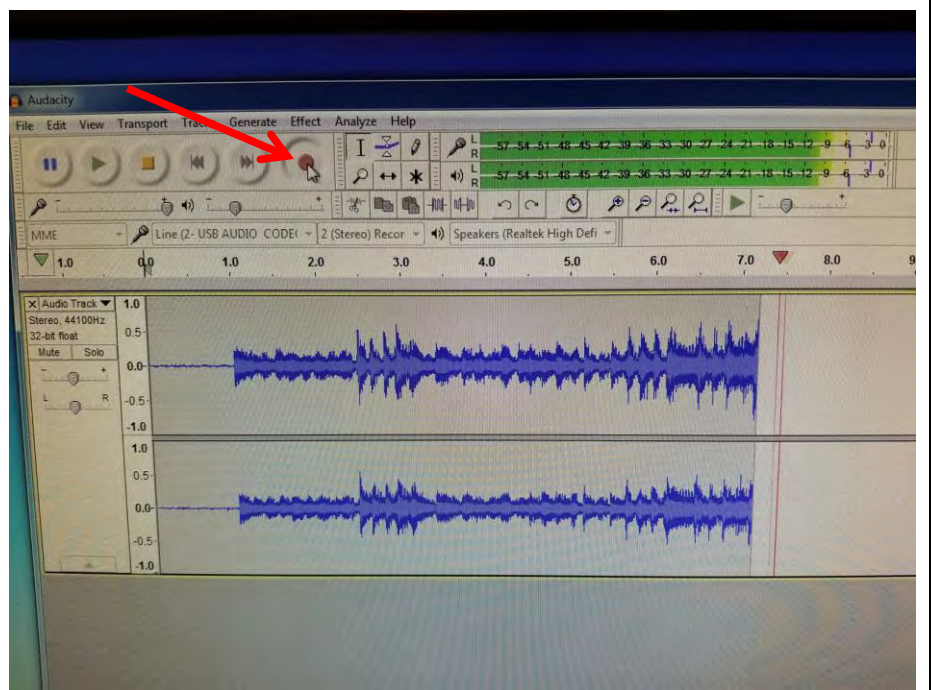


Press the **STOP** button to re-cue the record now that our audio test is completed. Repeat the **last 3 steps** prior to the last step (which was our audio test).

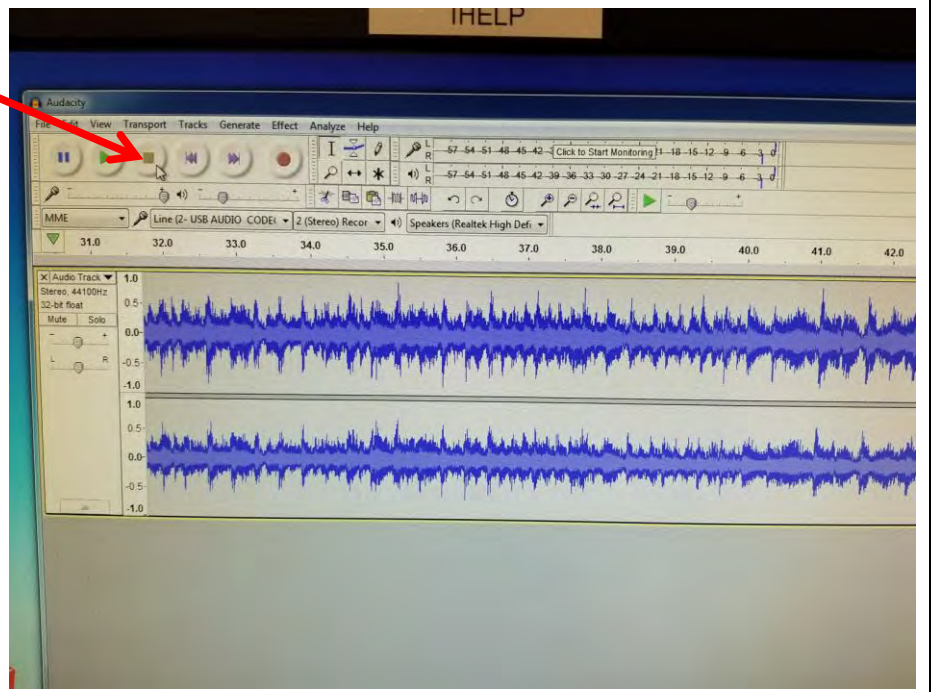
Simply put, you will need to press the **UP / DOWN** arrows key to reposition the tonearm and cartridge from where you want to start recording.



Once you have your record cued and playing, let's start capturing in Audacity. Click on the **Record** button (red round circle). Note the nice clean waveform being generated as the signal is constrained to 0.5 never really hitting the top of 1.0 (which will produce noticeable clipping).



Once you are finished capturing, you can click on the **STOP** button which looks like a yellow square icon.



Press **STOP** on the turntable to stop the platter from spinning.

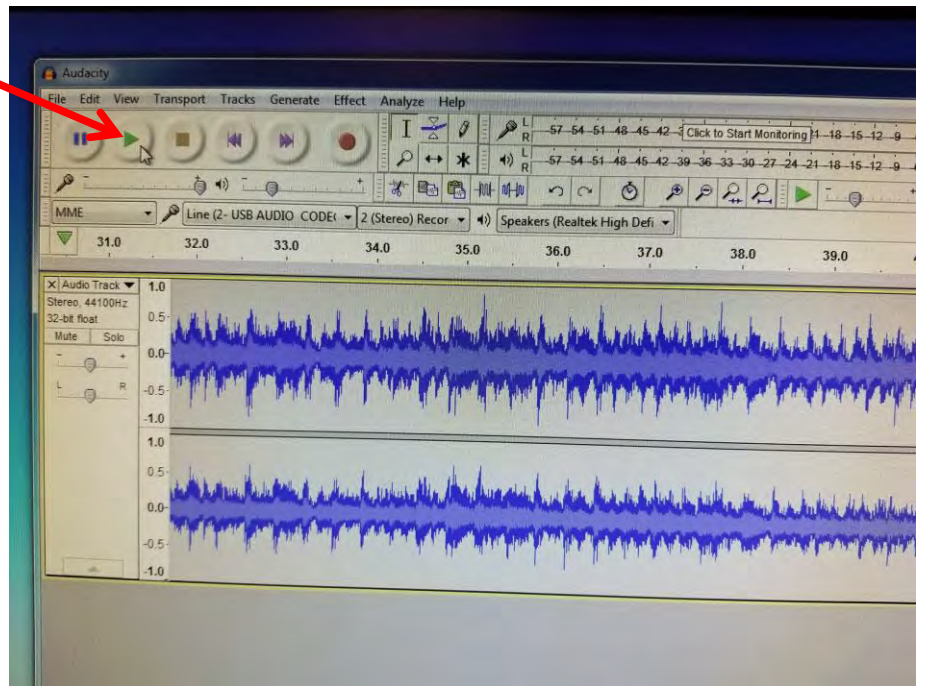


Replace the protective plastic shielding to protect the needle / cartridge.

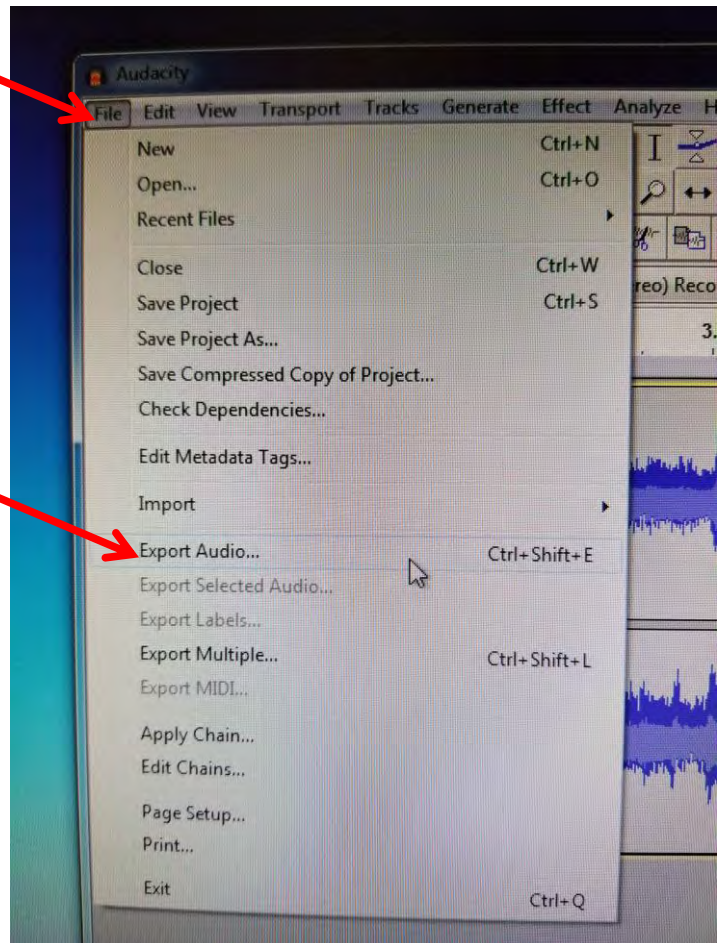


If you would like to preview your recording, press the **PLAY** button in Audacity (which looks like a green right facing triangle).

Please note that this tutorial does not include instructions on editing your recording. Please refer to the **Additional Resources** section for links to external video tutorials.

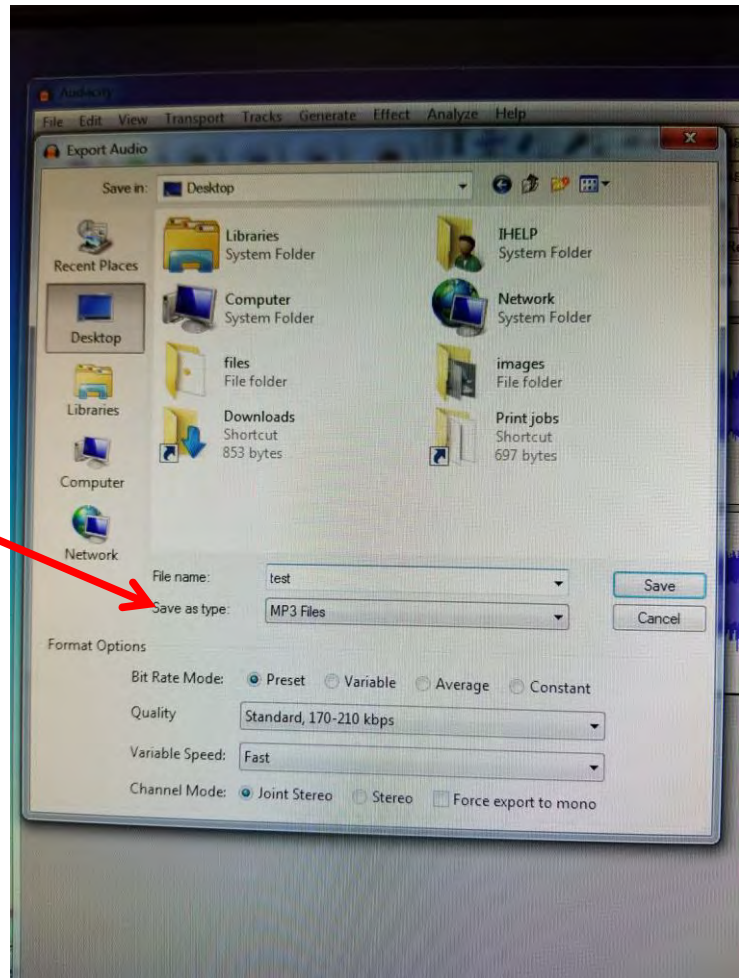


To export your audio file, click on **Export Audio ...** under the **File** menu.



Select your desired file format. **MP3** is a safe choice to load onto a portable media player like a smartphone or iPod. Leave all of the various settings under **Format Options** as default, which is fine for most people.

If your end destination is to make a CD, then you should select WAV format here under **Save as Type**

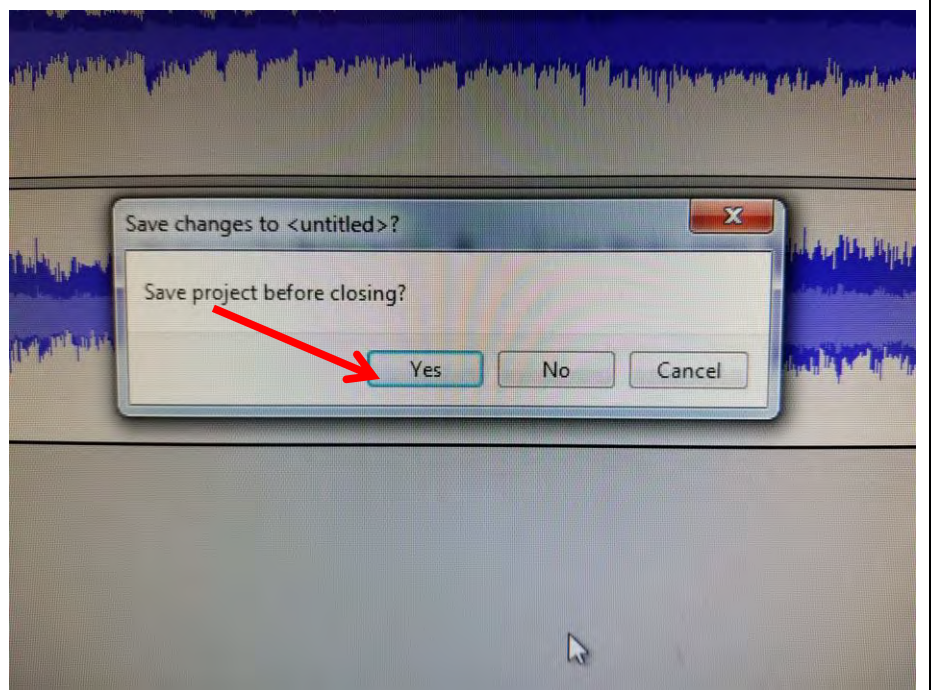


The MP3 file format allows for ID3 tagging for metadata such as track title and artist name. Fill in the details in the Metadata tag editor then click on **OK**. Use of ID3 tags is optional. Leave all fields blank if you do not want any metadata in your audio file.

Use arrow keys (or ENTER key after editing) to navigate fields.

Tag	Value
Artist Name	
Track Title	
Album Title	
Track Number	
Year	
Genre	
Comments	

While not necessary, you can save the Audacity project file for further editing in the future. Please note that it is recommended that you save your project files/folder into an external USB hard drive for safe keeping.

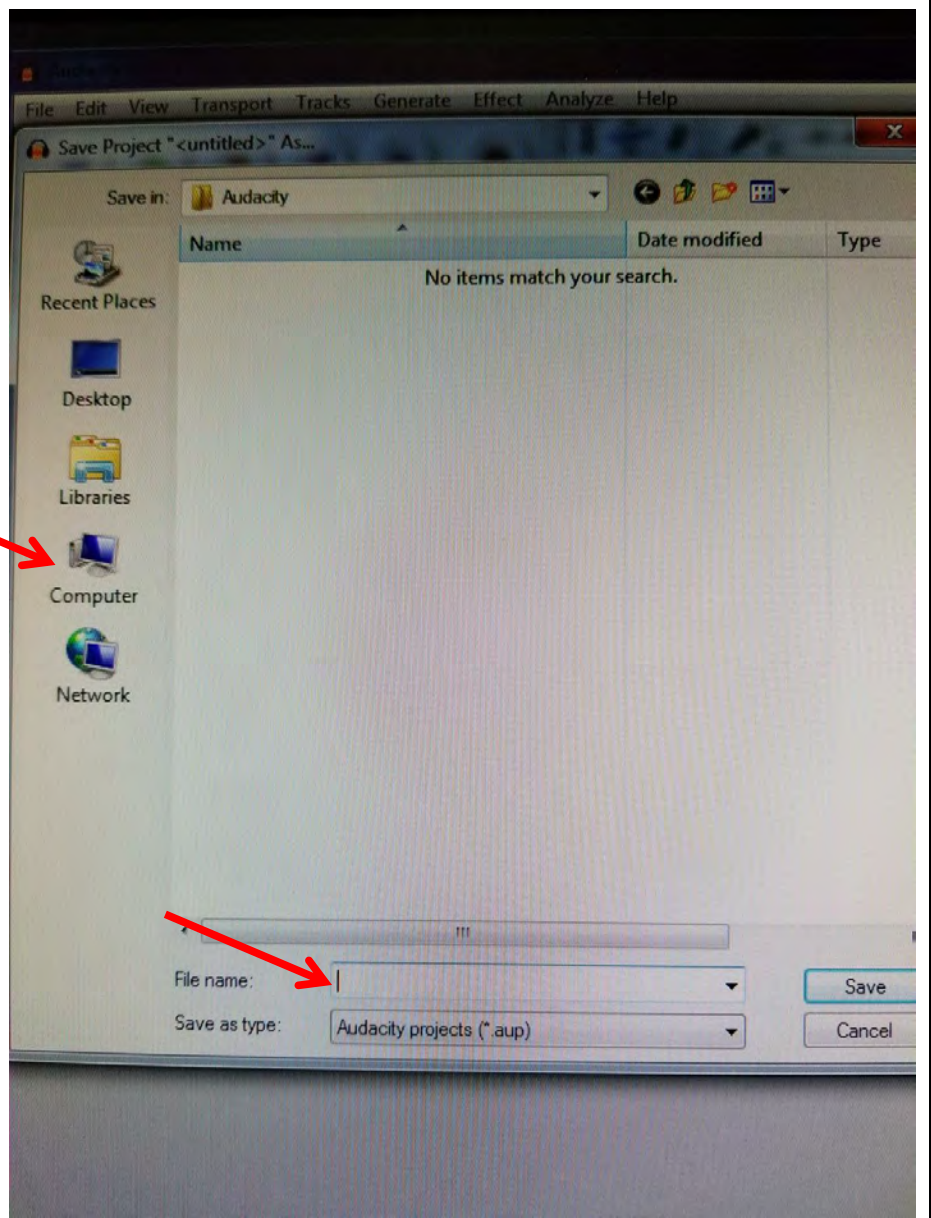


Audacity will warn you that a project file is not an exported audio file. For that, you will need to use the Export function as described previously.



Select a location for your project files and give your project a name. Once again, to ensure safe keeping, please ensure that you are saving to an **external USB hard drive**.

Pickering Public Library is not responsible for content left on public workstations as these computers are periodically wiped and set back to default settings.



Additional Resources

Audacity Basics: Recording, Editing, Mixing

<https://www.youtube.com/watch?v=8ClwSNm362E>

How to Use Audacity to Record and Edit Audio

<https://www.youtube.com/watch?v=2gM12DIlwA0>