# Audio Conversion
## Audio Cassettes and Vinyl Records

# Table of Contents

# Warning Concerning Copyright Restrictions

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# When Using Libratory Equipment

- Do not drop or handle the equipment too aggressively as it may cause it to become damaged.
- Do not allow the equipment to come into contact with water or other liquids.  In the event that water or other liquids enters the interior, immediately turn off the equipment.  Continuing to use the equipment may result in fire or electrical shock.
- Do not handle the equipment with wet hands.  Doing so may cause electrical shock and damages to the equipment.
- Do not expose the equipment to extreme temperatures, humidity, or vibrations, which may cause damage to the equipment.

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# Checking Your Materials:
## Cassette Tapes

Do not use cassettes that
are

- broken
- cracked
- unraveled
- warped
- missing pieces
- excessively dirty



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# Checking Your Materials:
## Records

Do not use records that are

- broken
- cracked
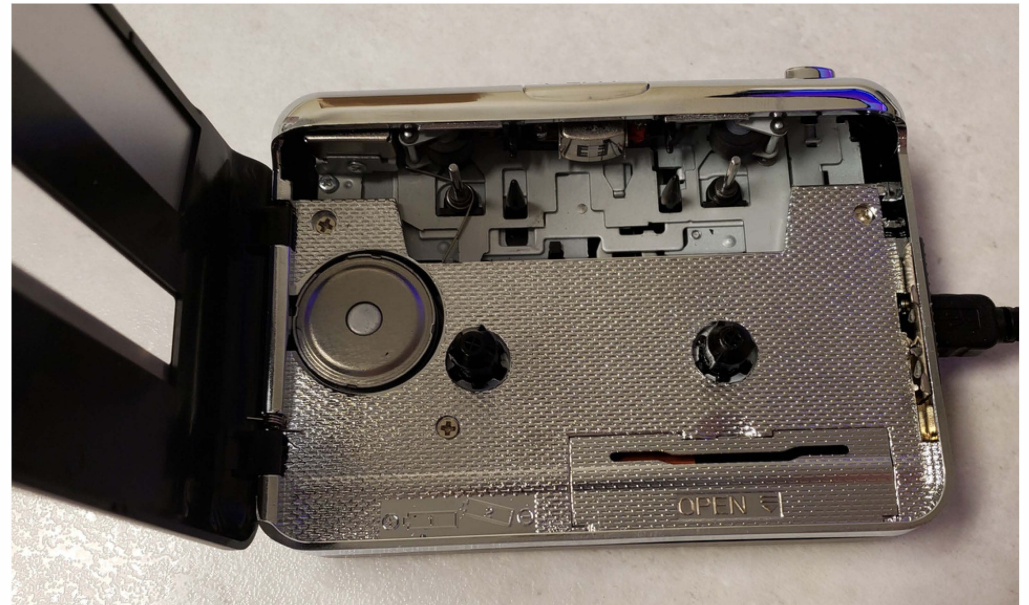- chipped
- warped
- excessively dirty

# Loading and Unloading the Cassette Player

Start by opening the cassette player.



To do this, push the tab on the side in the direction shown.



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Then, insert your cassette with the tape facing the top of the player.

To play the A side, make sure the  A is facing you.  Flip over for the B side.

Make sure this tab is in the right-most position. Otherwise, the cassette will continuously repeat.



Also, be sure to rewind your cassette, if necessary.

When you're ready, press the Record button in Audacity. Then, push the Play button on the cassette player.



When side A reaches the end of its reel it will automatically stop and play in the other direction, playing Side B.

At the end of this the player will stop by itself and the play button will pop up. Be sure to stop your recording at this point.



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However, if there is no more audio on Side A and the tape hasn't reached the end you can Fast Forward to the end of Side A. Make sure to stop your recording first.



When you're ready to play the B side, press Record in Audacity, then press the DIR (direction) button on the cassette player, followed by play on the cassette player.

When you're done, press stop in Audacity. If you did not finish side B you can press F.F. (Fast Forward) to bring the tape to the end. This means Side A is rewound and ready for its next use.



You can now take your tape out using the tab on the side of the player and move over to Audacity to finish your project.

# Loading and Unloading the Record Player

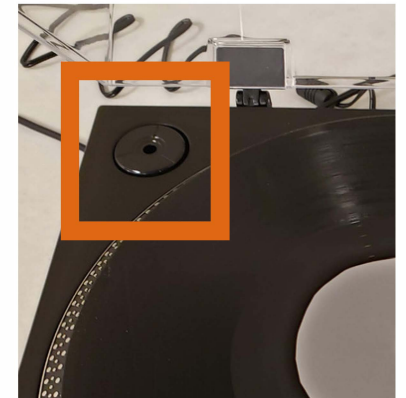Start by lifting the clear dust cover and turning the player on.

Do this by turning the power dial in the bottom left clockwise.





You can now place your record onto the turntable, making sure side 1 or side A is face up.

If your record has a larger center hole use the adapter located in the top left and place it onto the turntable before placing your record.



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After you've placed your record onto the turntable, press the 33 or 45 button in the bottom left, to correspond with your record size. Press both if your record plays at 78rpm.



**Size Guide:**

33rpm records are the largest and take up the full turntable.



45rpm records are the smallest, but have a larger center hole.



78rpm records are halfway between these sizes.



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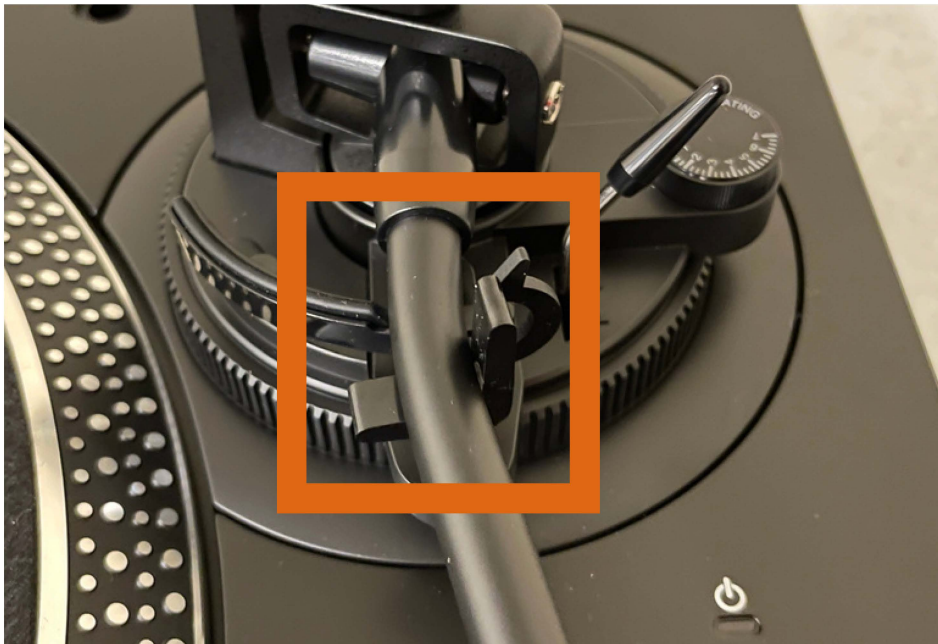Remove the protective sleeve of the needle by sliding it towards you.
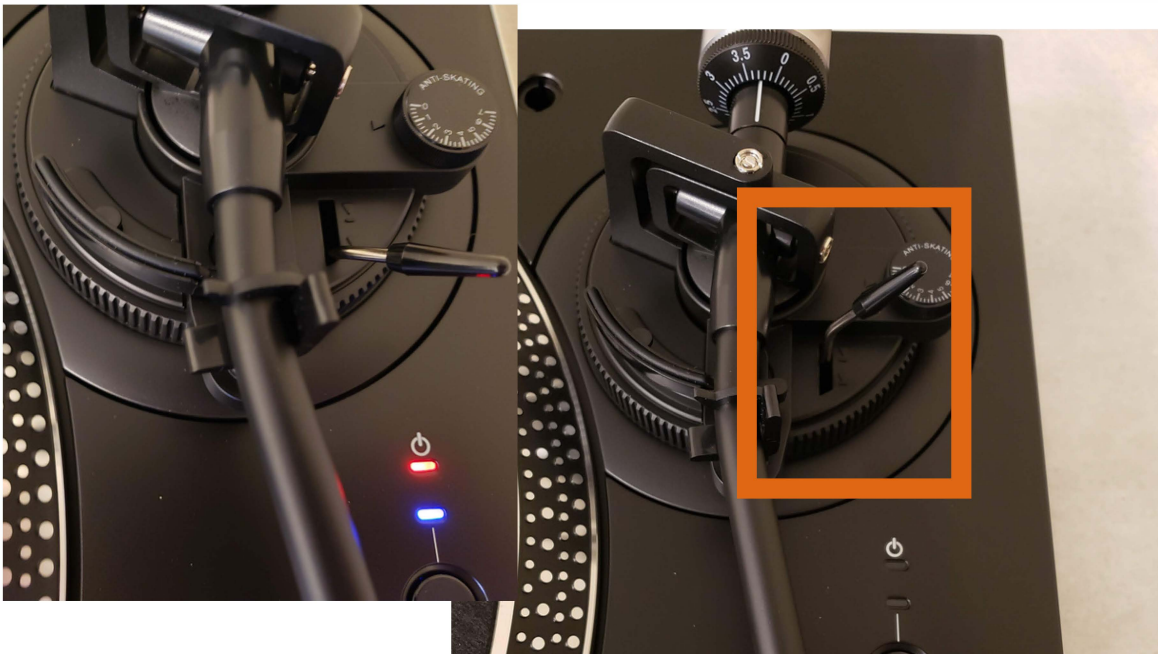


Ensure the lever that controls the needle's height is in its upwards (raised) position.

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At this point you can press the 'Start/Stop' button in the bottom left. Your record will now begin to spin.



Unlatch the tone arm by pushing the clip holding it in place to the right.

You should now be able to move the arm freely but it will not drop onto the record.



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When you are ready to begin recording you can gently move the needle head over to the edge of the spinning record, but do not lower it yet - Press record in audacity.



Lower the lever to the right of the arm, the needle will slowly drop onto the record.

To stop playing from your record, raise the lever to lift the needle off of the record, and return it to its cradle to be re-latched.

Make sure to press stop on Audacity.

Press the Start/Stop button on the record player to stop the record spinning.



You can now turn your record over and repeat these steps to record the other side.

If you are finished, you can turn the player off by turning the dial in the bottom left counter-clockwise, and now move over to Audacity to finish your project.



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# Scanning Audio with Audacity
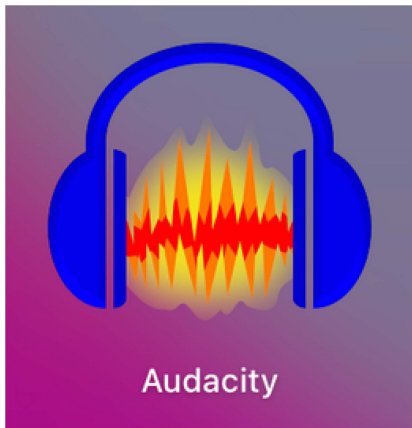
To start, open Audacity by clicking on the Audacity icon.

When you open Audacity, you may see a window like the one to the right.  Click OK,

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This will be your main Audacity window. Before starting to record anything you will want to make sure your settings are correct.
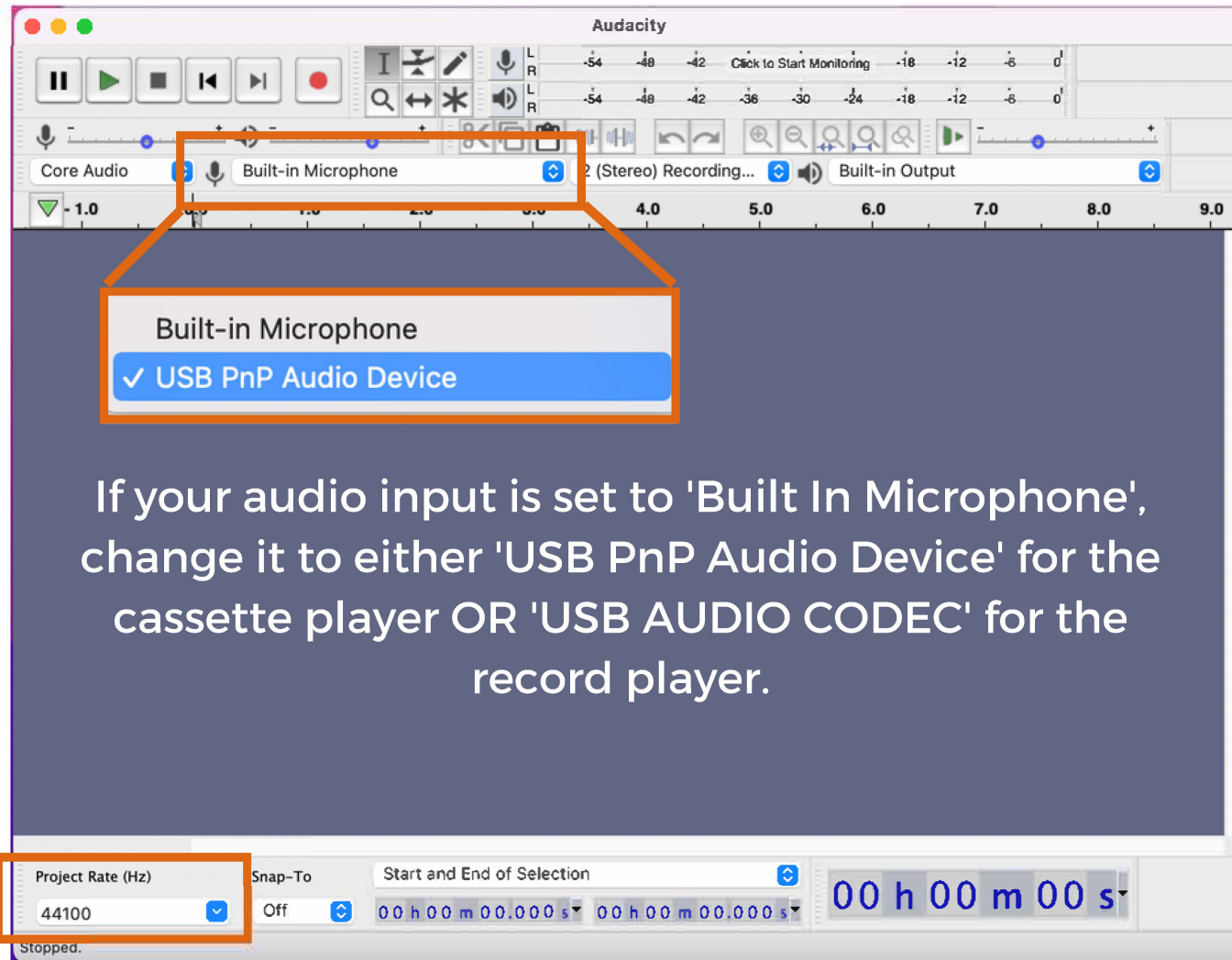


If your audio input is set to 'Built In Microphone', change it to either 'USB PnP Audio Device' for the cassette player OR 'USB AUDIO CODEC' for the record player.

Project Rate (Hz) should be set to 44100.

Next, make sure your audio is registering in Audacity. On the top bar you will see an area where audio levels will be shown and the prompt "Click to Start Monitoring". Click here and then begin to play from your device.
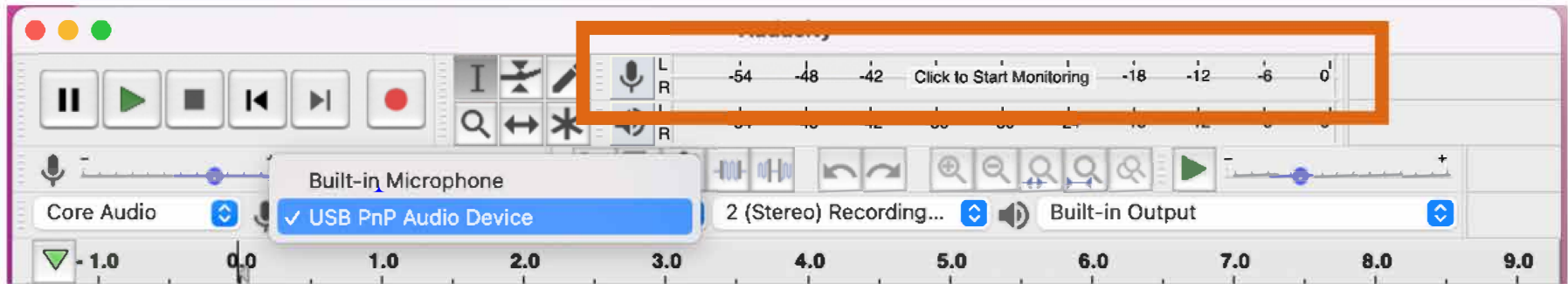


You should see two bars begin to fluctuate in green. It may take 30-60 seconds before this happens depending on your tape or record.
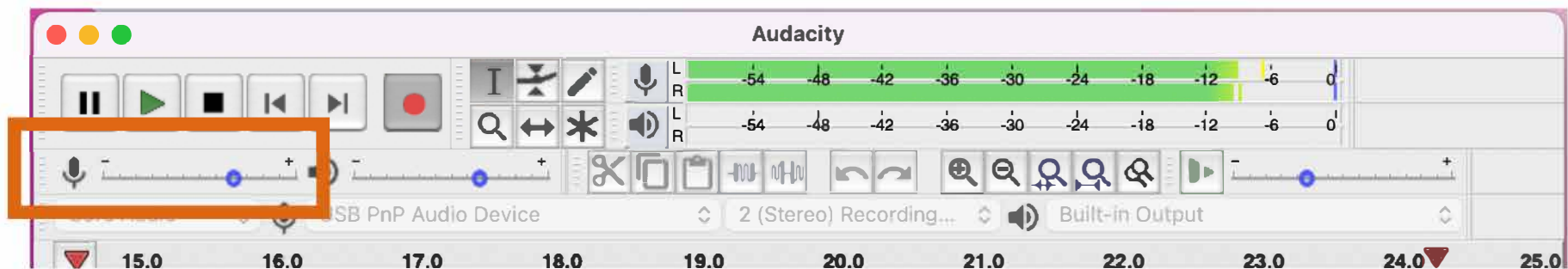


If the two bars reach all the way to the right and turn red at the end, lower the input level until the bars don't go beyond -12 on the scale.

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When you are ready, bring your audio device back to the start, either by rewinding or bringing you needle back to the beginning. Press the record button and then begin to play your audio.
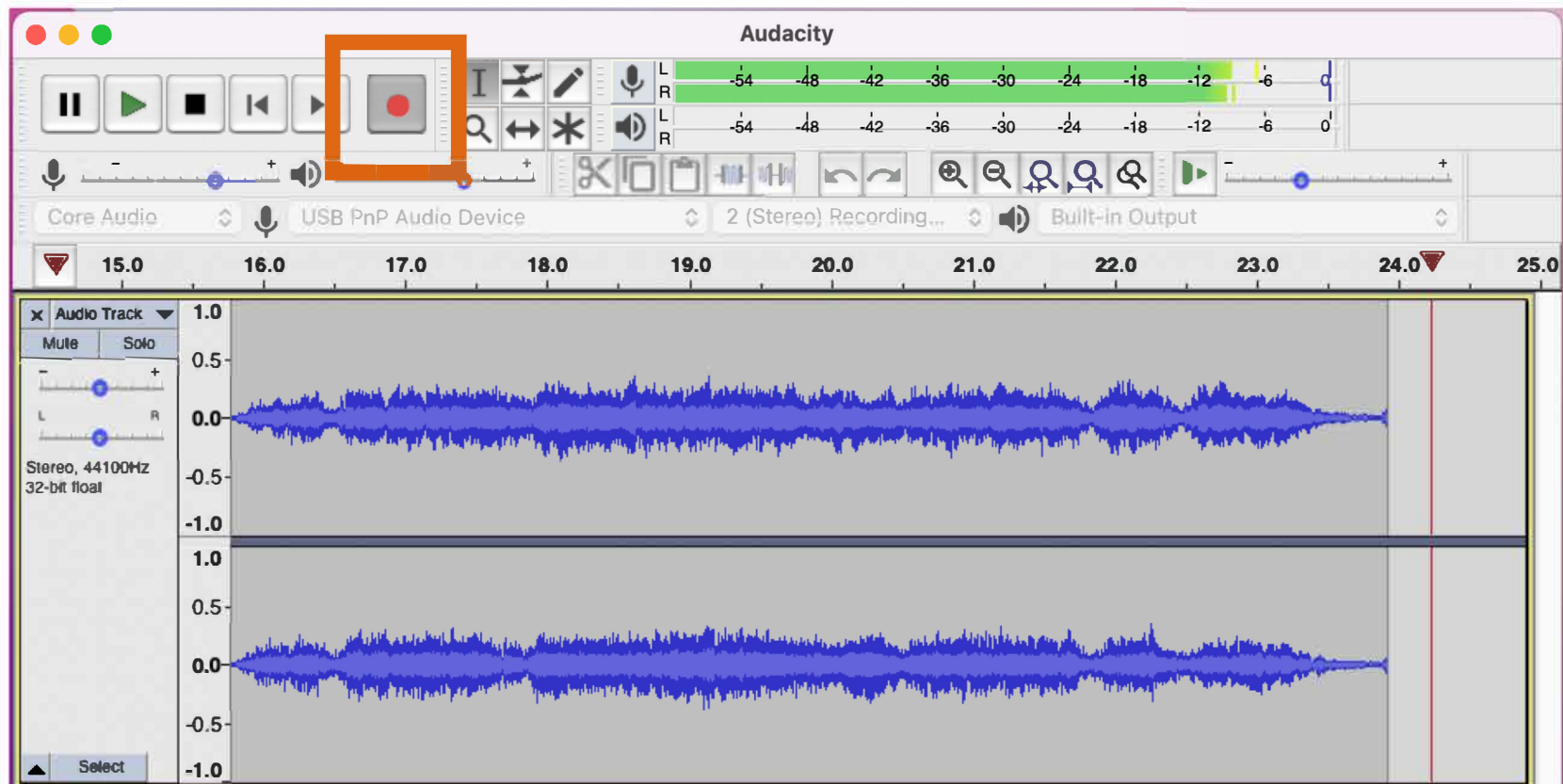


When you are ready to stop recording click the stop button. Don't forget to stop the music device too.

Before exporting your audio, you have the opportunity to trim any unwanted portions.

To do this, use your cursor to click and drag a selection across your audio track of the portion you wish to cut. To remove that selection press backspace on your keyboard.
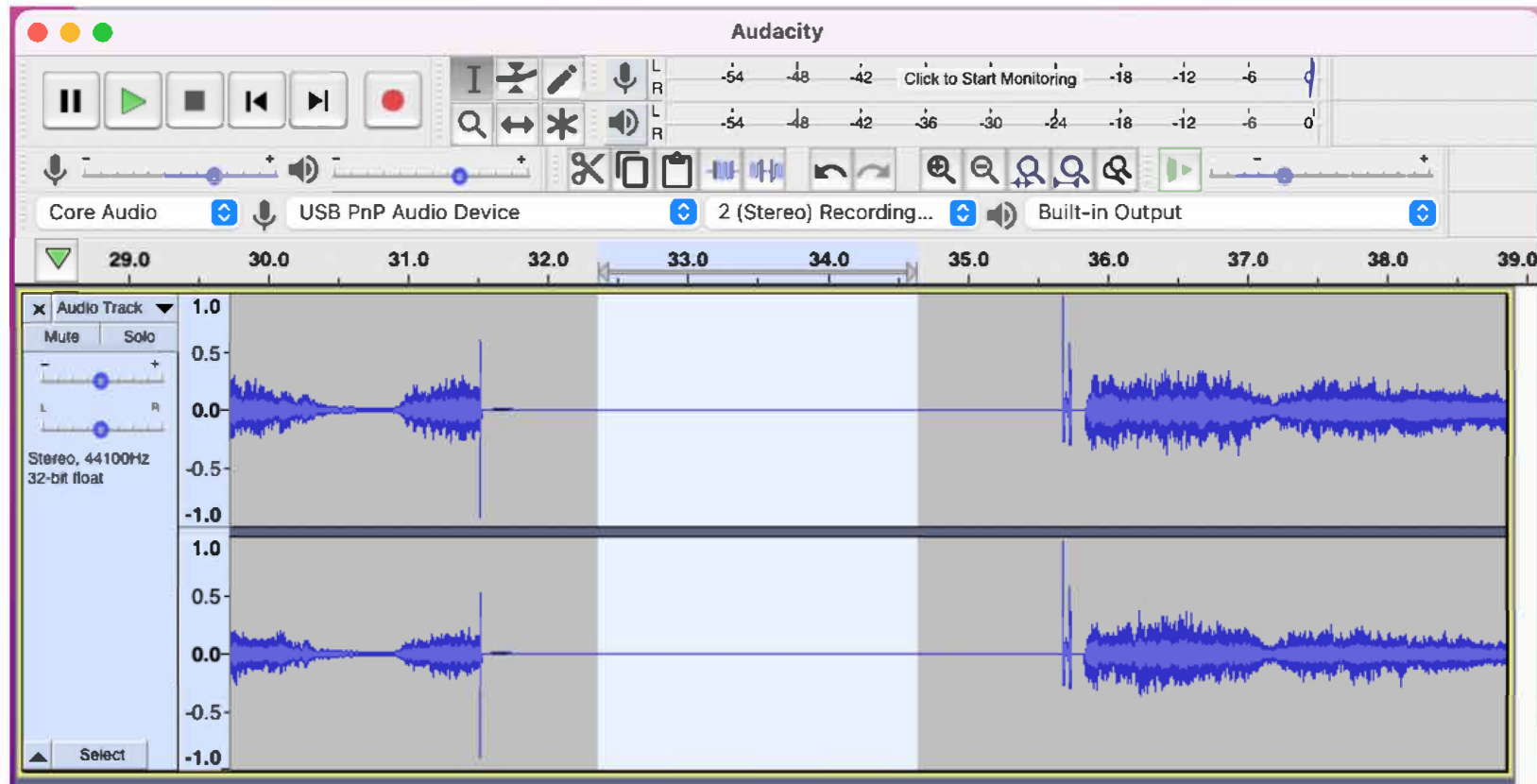
If you would like to export the audio track in its entirety, without splitting it into multiple files, go to your top menu bar and select 'File'. From here go down to 'Export', and then select 'Export as WAV'.

**Note:** Audio CDs can only fit about 1 hour and 20 minutes of audio per disk. If your track is longer than this and you would like to burn it to a CD you will have to split your audio track into multiple files (page 25).
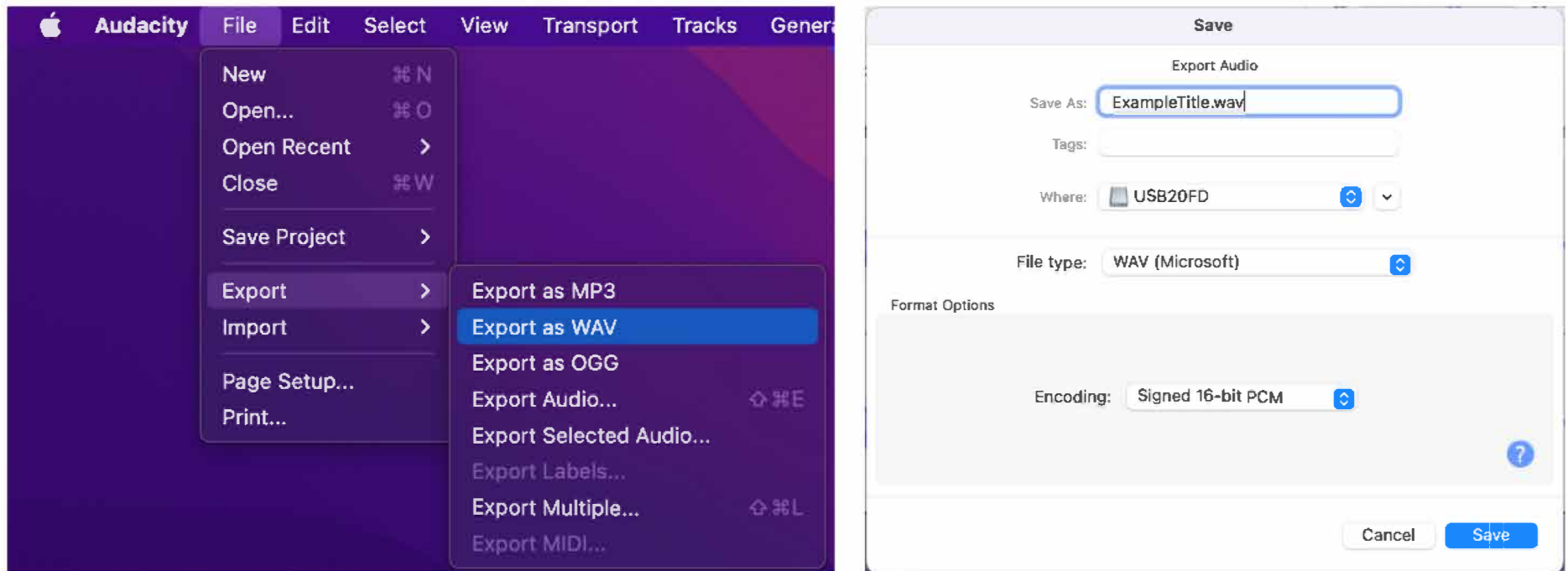


At this point you can select the title for your audio file as well as if you would like to save it to an external storage device.

After you click save you will also have the optional ability to enter additional details for the track, or metadata.
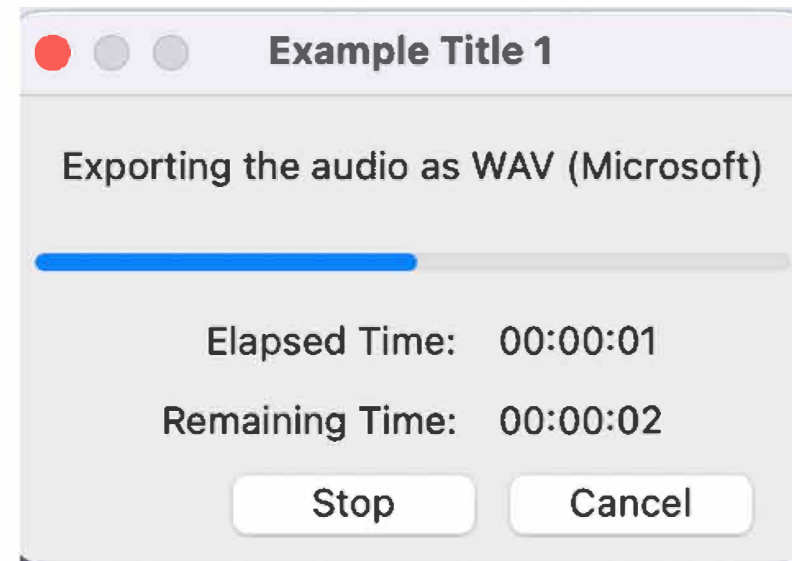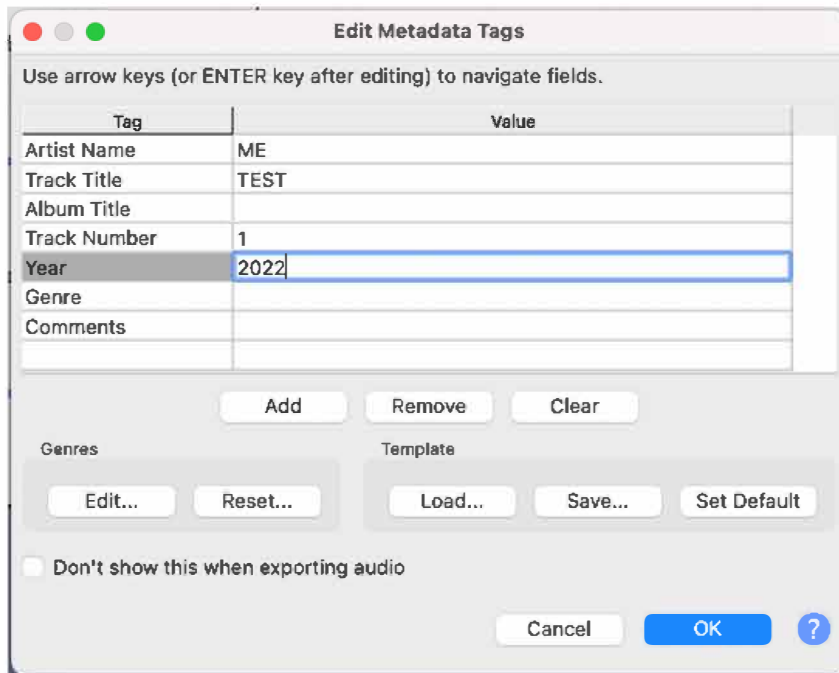


Once you click 'ok' it will begin exporting and a window will present an estimated time until completion as well as the option to stop or cancel the export if you wish.

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If you would like to export multiple separate tracks from your audio file begin by selecting the first part you would like exported.
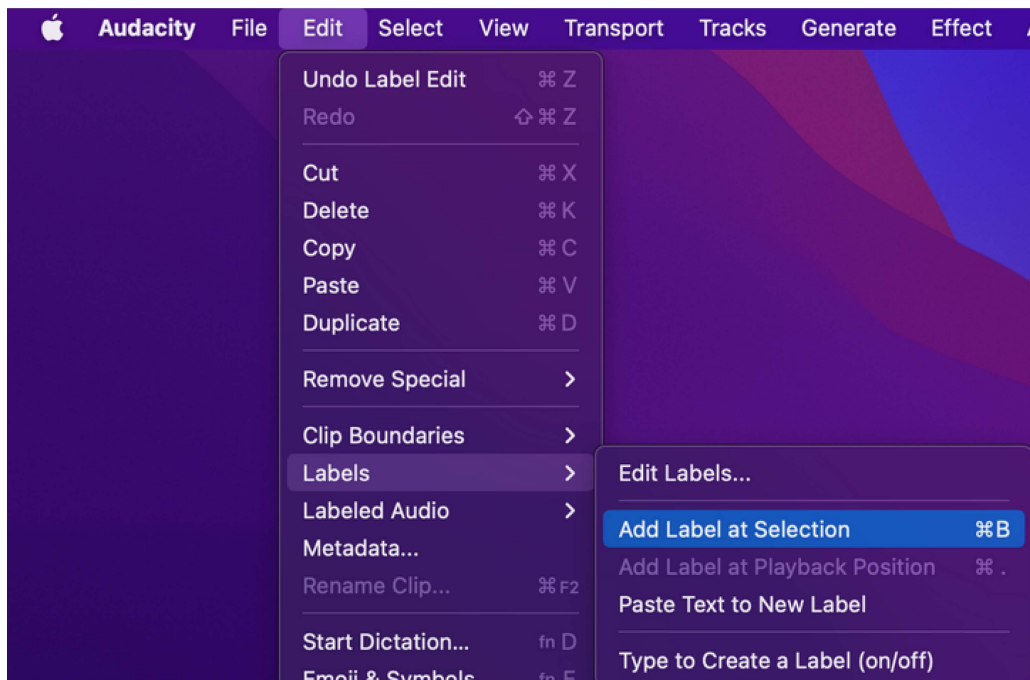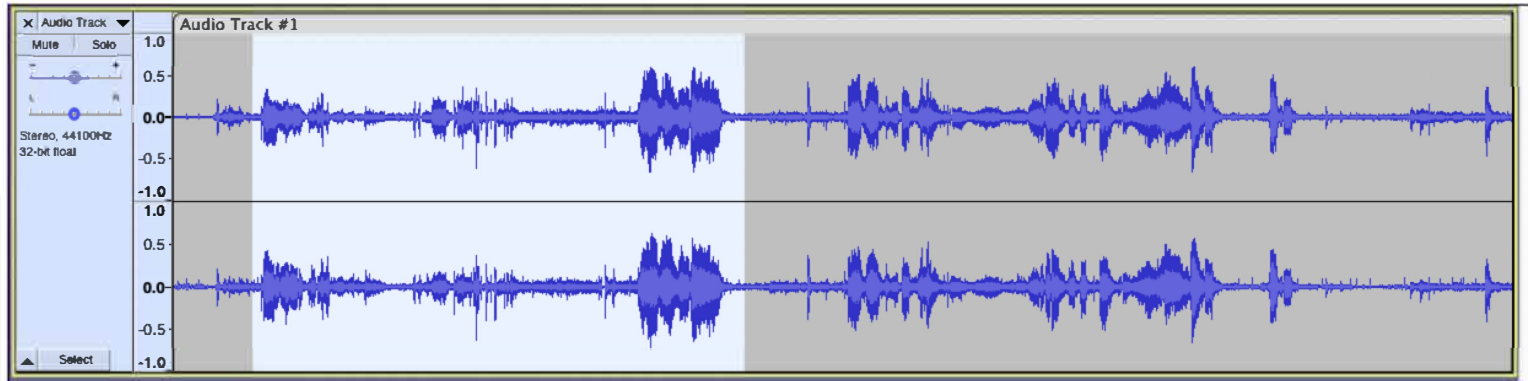


You now need to create a label for this selection; From the menu bar select 'Edit', down to 'Labels' and clicking on 'Add Label at Selection'. The keyboard shortcut for this is 'Command B'. Type in your title for this selection - this is the same title that will be used when you export.

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Repeat the steps of selecting and creating labels for each portion you would like to export as its own track.
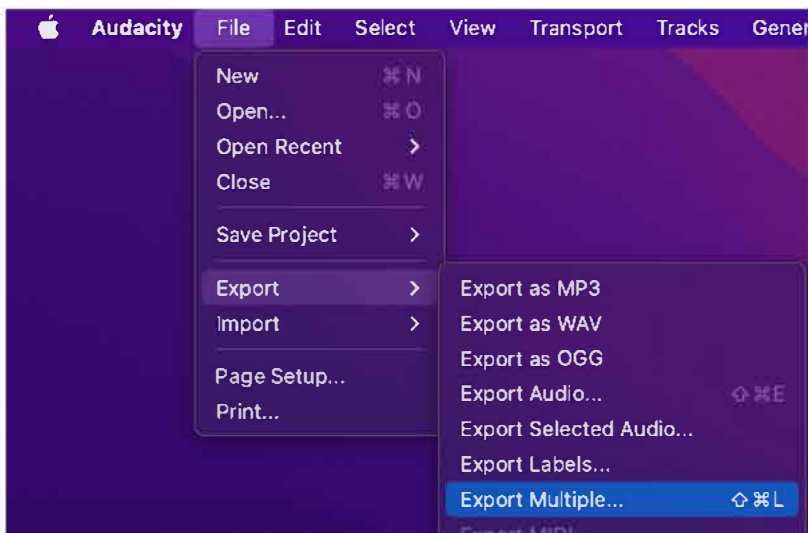


When you have each section you would like to export selected and labelled, you can export them all at once by going to 'File', 'Export,' and clicking 'Export Multiple'.

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The window that opens will allow you to choose where you would like to save your files to.
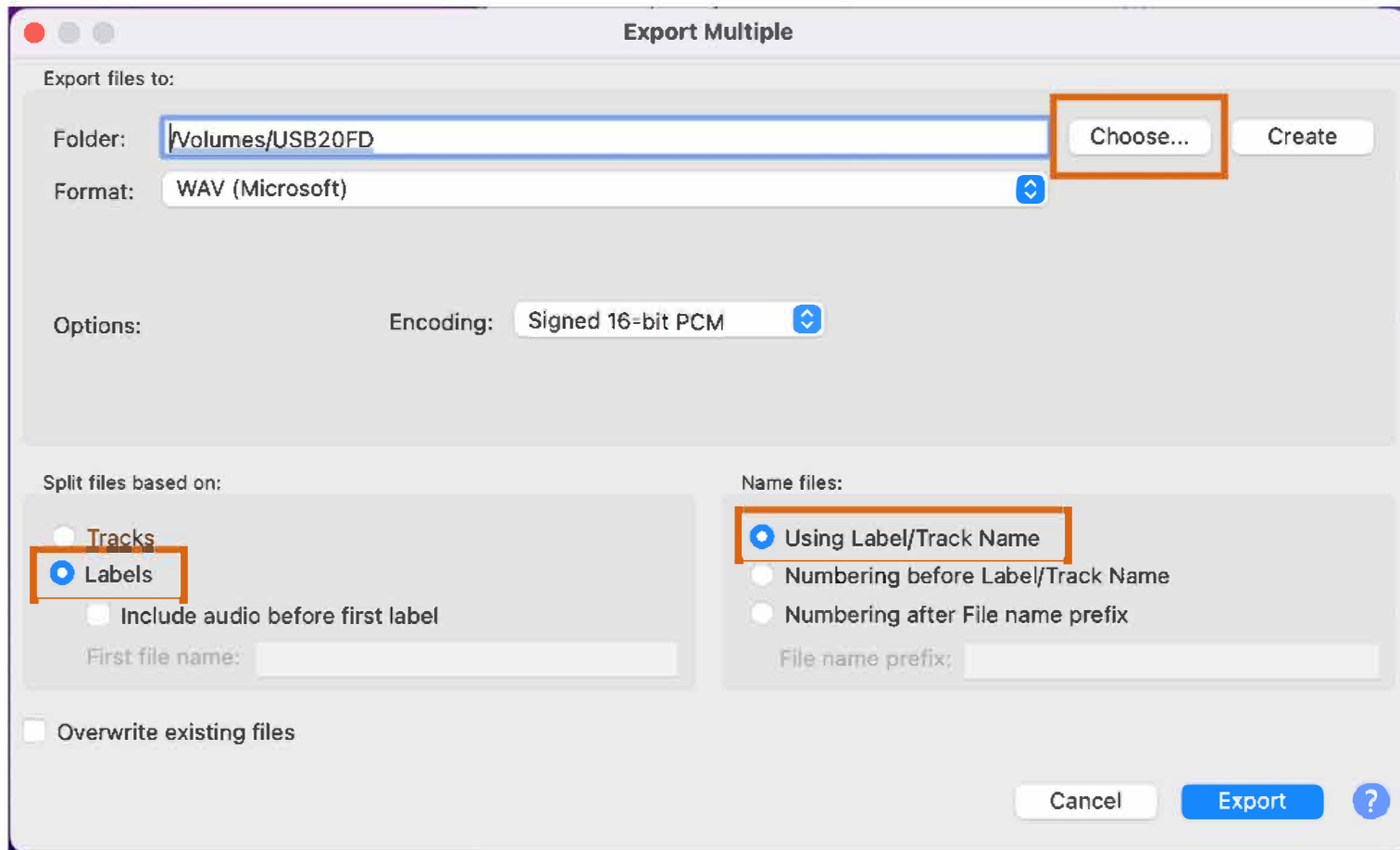


On the bottom you will want to confirm that the files are being split by labels, and the names for the files use the same as the labels.

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Once you click 'export' a new window will open for each track being exported. This allows you to input additional details. This is optional but can be helpful in future.
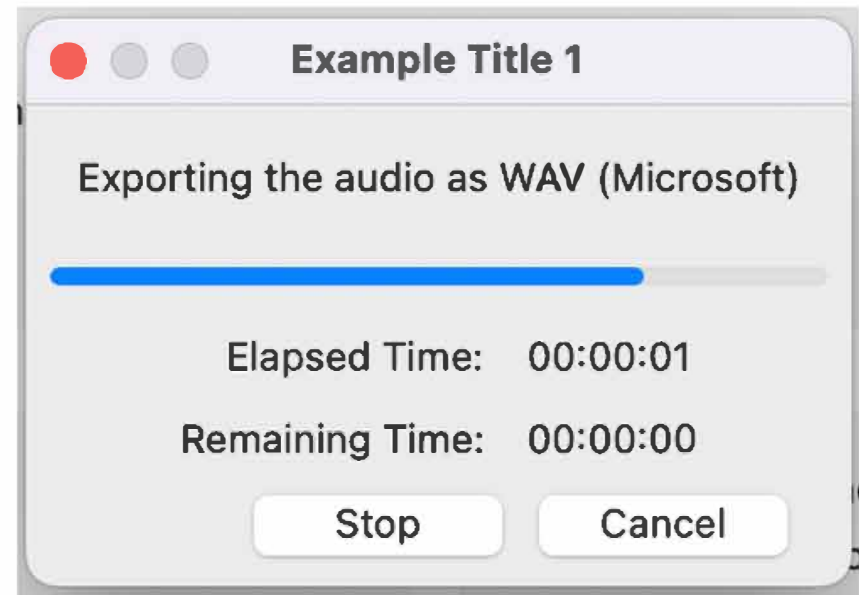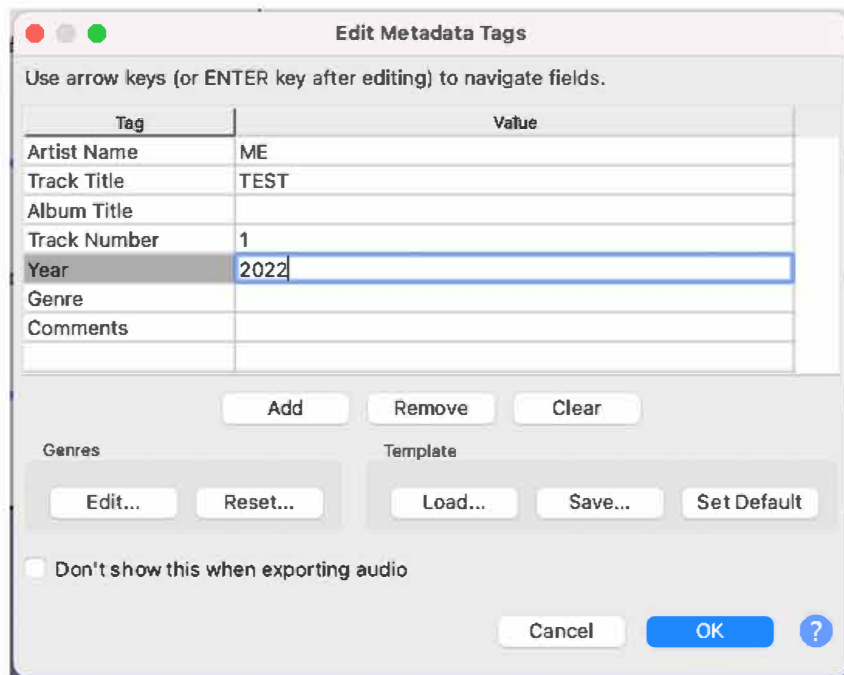


Once you click ok on the last track Audacity will begin exporting and a window will present an estimated time until completion as well as the option to stop or cancel the export if you wish.
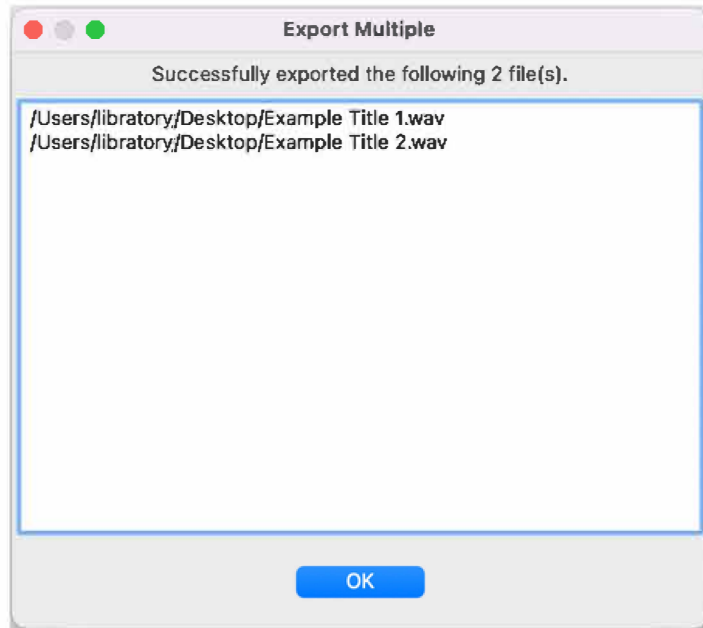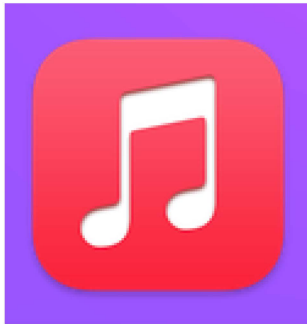
Once the export is finished a new window will open to confirm the tracks that have been exported.
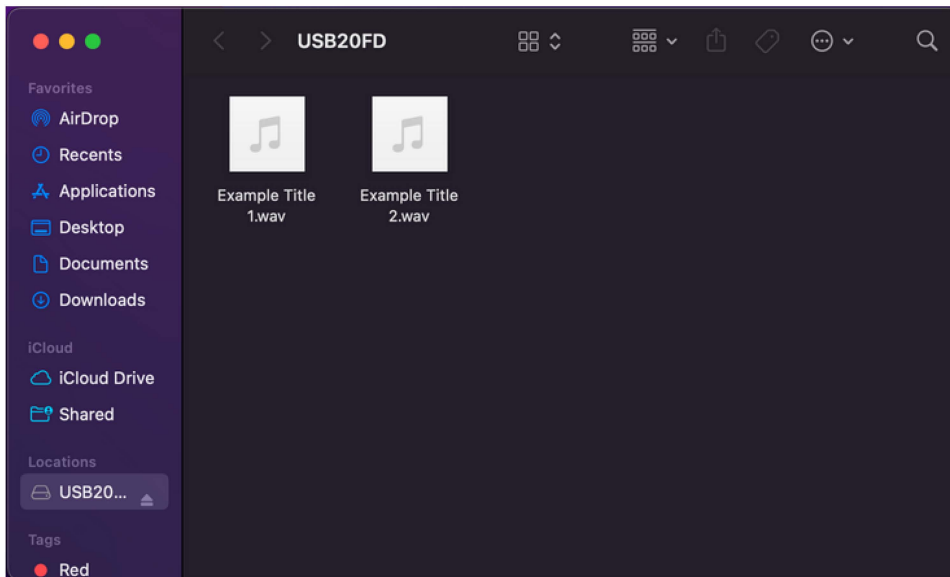


If you have not already done so you can now move your files to your external storage device and eject it.
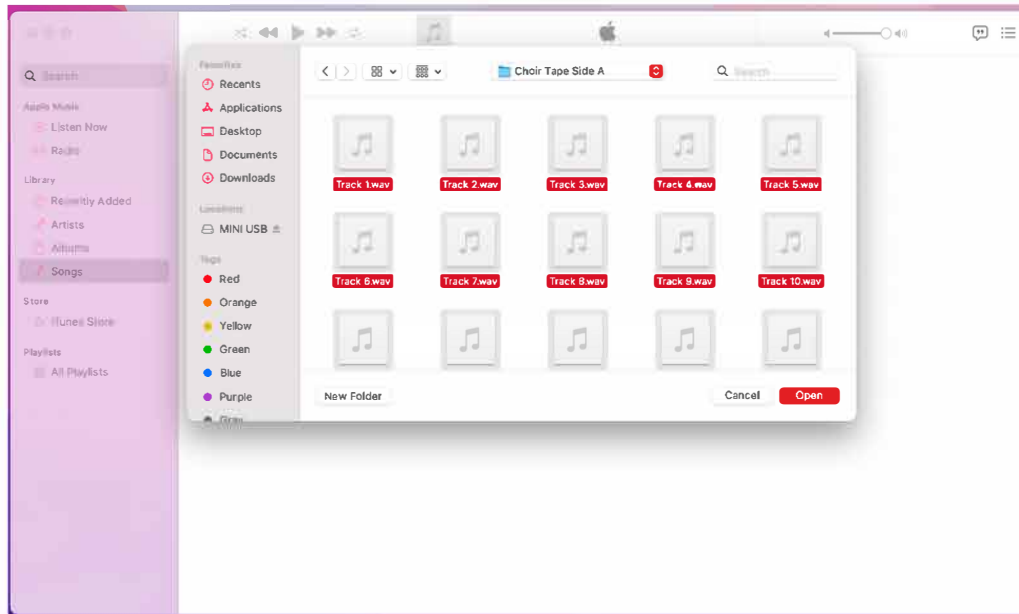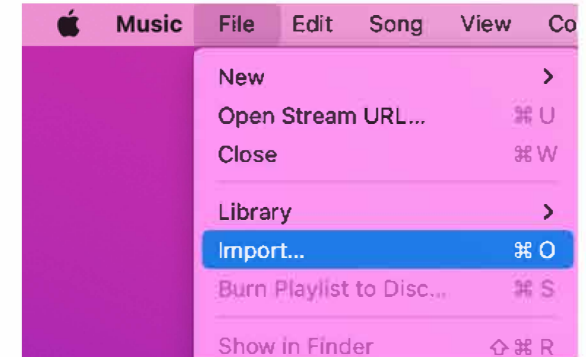
Otherwise if you would like to burn your audio tracks to a CD continue on to page 30.

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# CD Burning

Begin by opening Apple's Music app.

You will then need to import your audio by going to the menu bar, selecting 'File', and then 'Import'.

| Music | File | Edit | Song | View | Co |
|---|---|---|---|---|---|

New
Open Stream URL...    ⌘U
Close    ⌘W

Library

Import...    ⌘O

Burn Playlist to Disc...    ⌘S

Show in Finder    ⇧⌘R

Select the audio files you want to burn and then click 'Open' in the bottom right.

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Once all of your audio files have been imported into Music, you will now have to create a playlist. To do this go to 'File', followed by 'New', and then selecting 'Playlist'. Enter a name for the playlist.
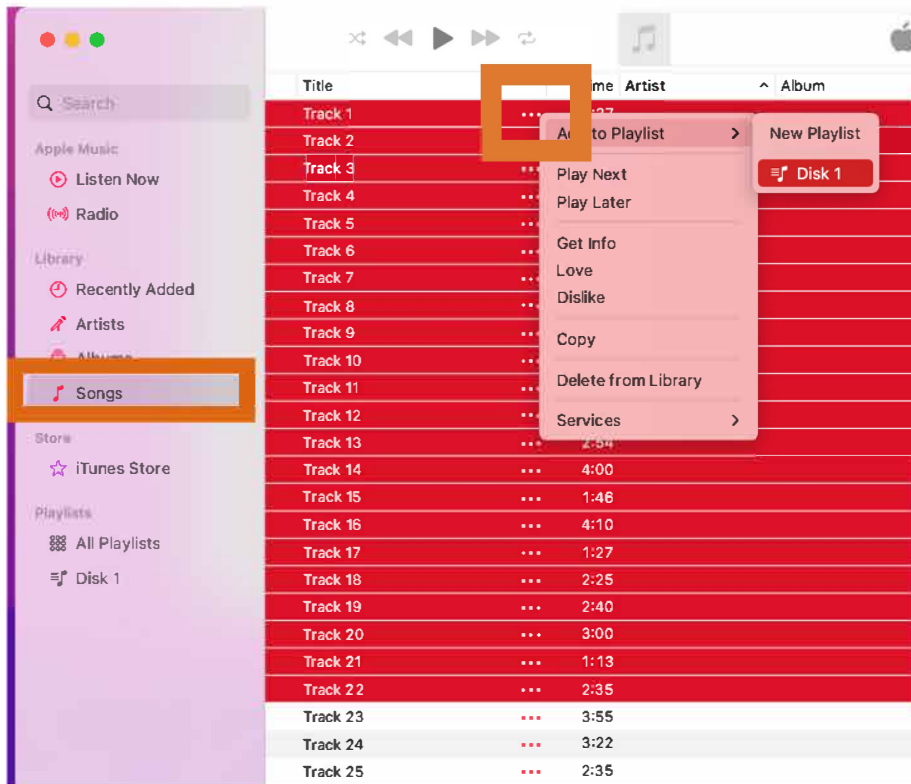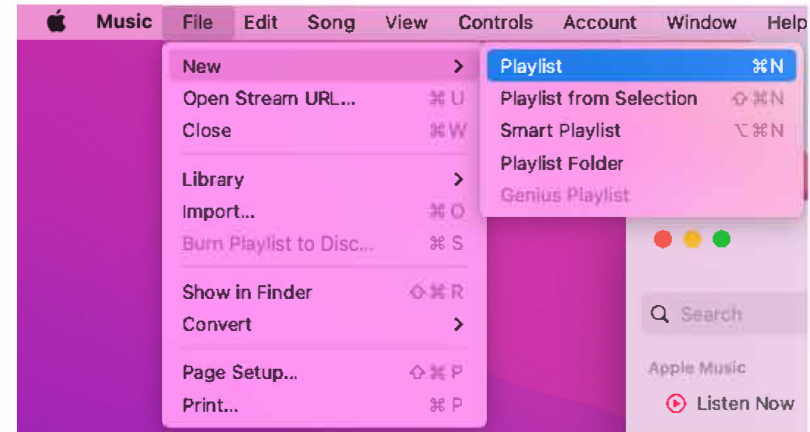
To move your audio tracks to the playlist, first navigate back to 'Songs' on the left menu bar.

Select the audio tracks you would like to be burned onto your CD. For any of those selected songs, click on the 3 dots to the right of the title, followed by 'Add to Playlist', and click on your playlist name.

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At this point it is important to note how long your playlist will run for. You can see this by selecting the playlist on the left menu bar - On this screen the runtime will be under the playlist's title.
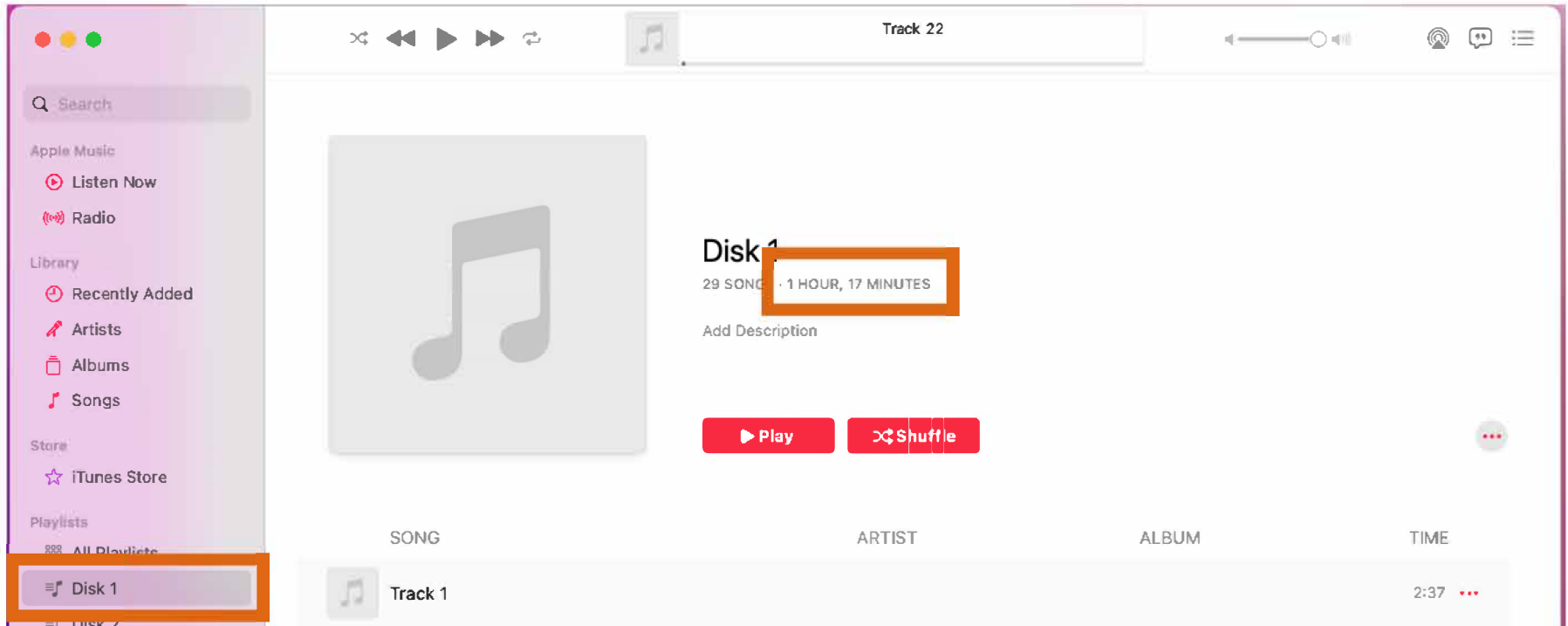


Audio CDs have a limit of about 1 hour and 20 minutes. If the run time is longer than this, you will need to create a separate playlist for a second disk.

If you need to reduce the run time of your playlist, remove tracks starting from the end until the time is below 1 hour and 20 minutes.

To do this select the audio track you wish to delete, click on the three dots to the right side of your selection, and then 'Remove from Playlist'
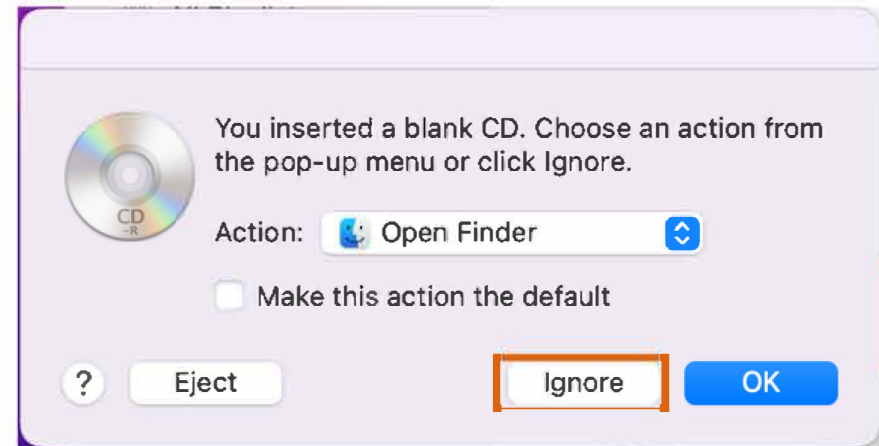


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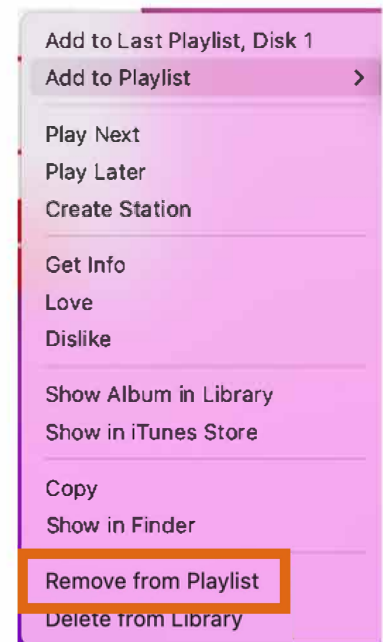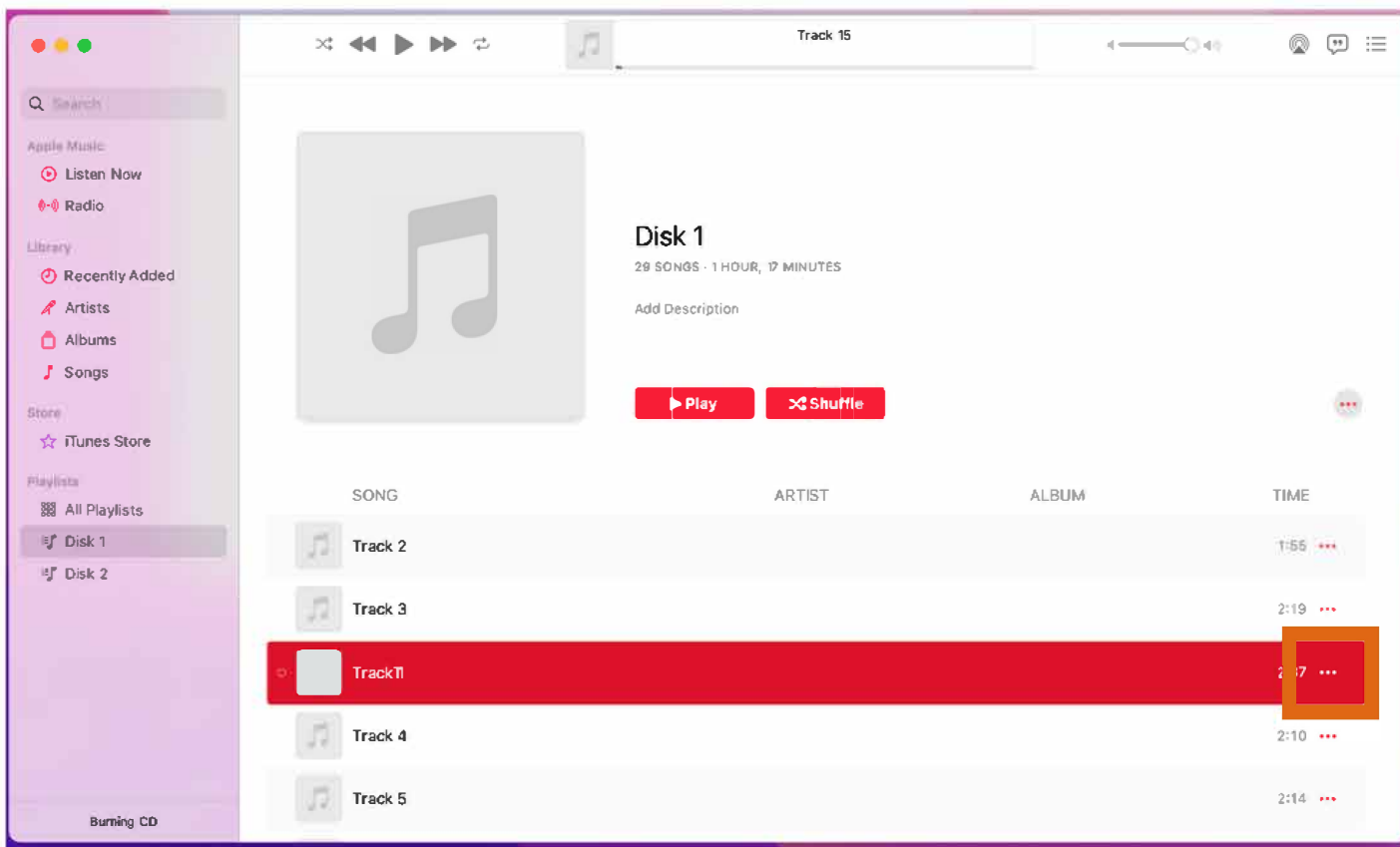
You will also be able to reorganize the play order of the tracks by clicking and dragging a track up or down to anywhere in the play order.
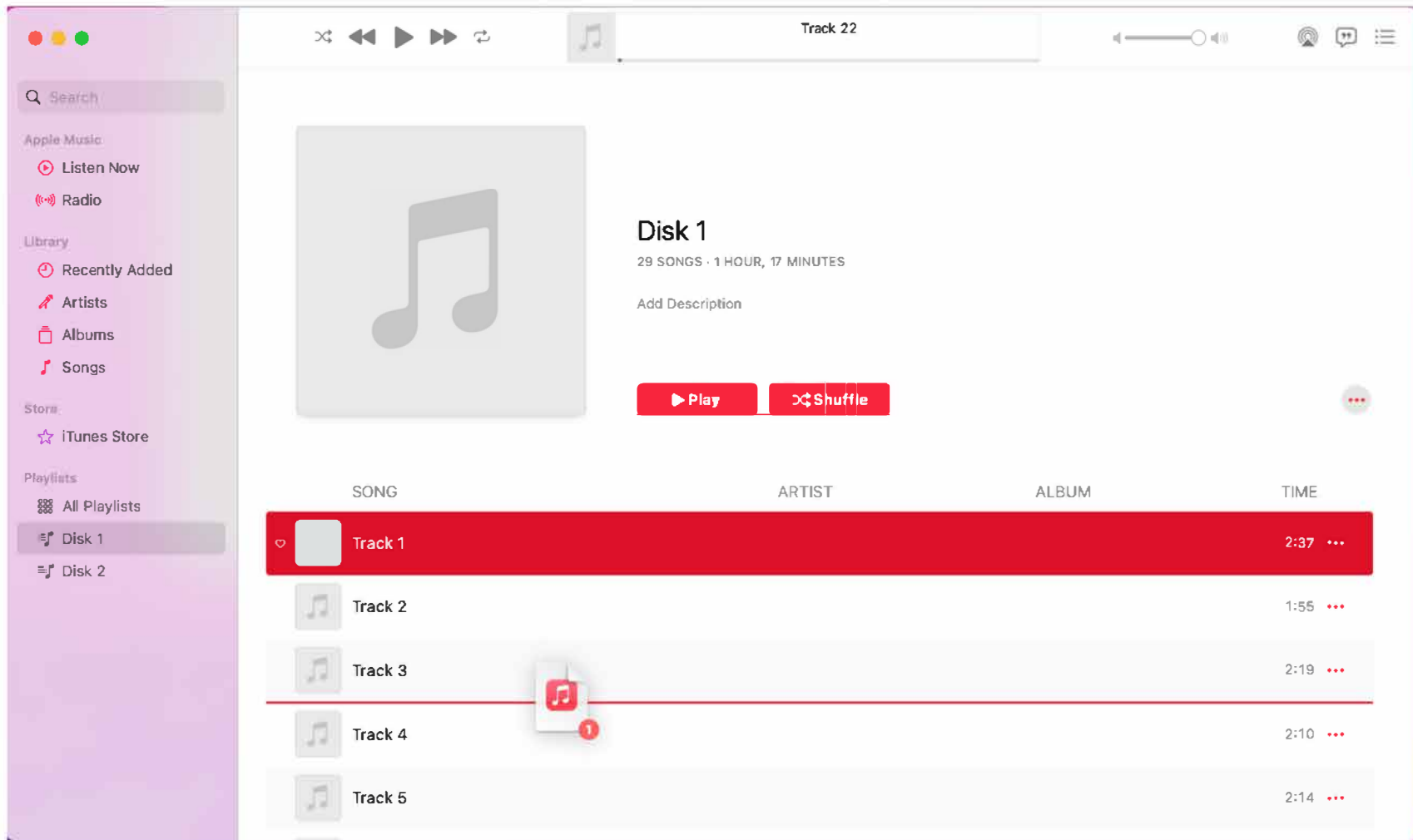
When you are ready to burn your CD open the disk drive by pressing the button on the front, and inserting your CD. Make sure that it is a CD-R and not a DVD-R.

If a window pops up stating you've inserted a blank CD and prompts you to choose an action, click 'Ignore'.



You inserted a blank CD. Choose an action from the pop-up menu or click Ignore.

Action:  Open Finder

Make this action the default

? Eject        Ignore        OK

In Music, while on your playlist, click the 3 dots to the right of your playlist's title and run time. Select 'Burn Playlist to Disk'.
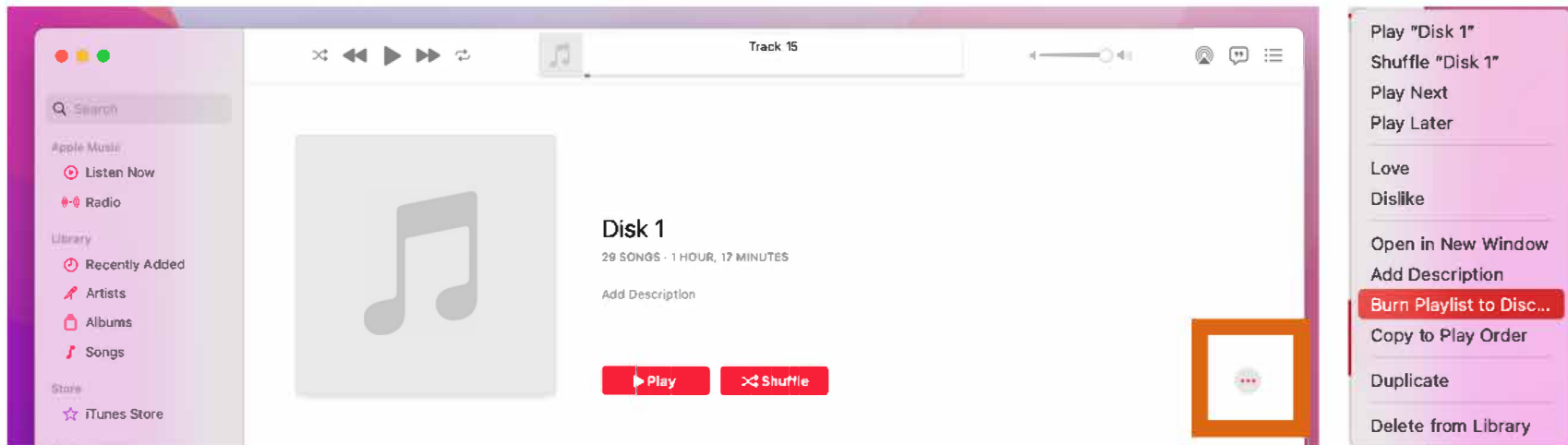
A window will pop up for customizing your burn settings. Make sure your disc format is set to Audio CD, then you can choose how long of a gap to have between songs.

Select 'Use Sound Check' if you would like iTunes to adjust all audio tracks to be about the same volume.
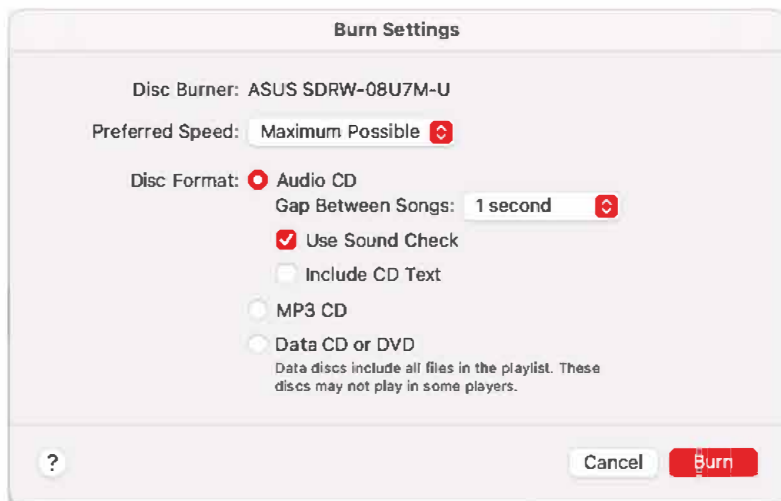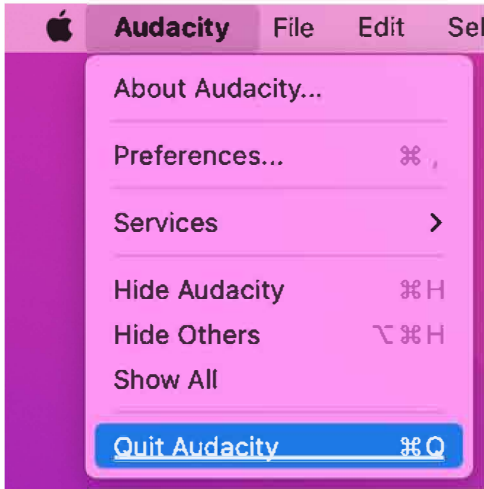
Finally, click 'Burn'.

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You will notice in the bottom left of your Music window text that reads 'Burning CD'. If you would like to check on the status of your burn, clicking the 'i' next to this will open an activity window with a progress circle.
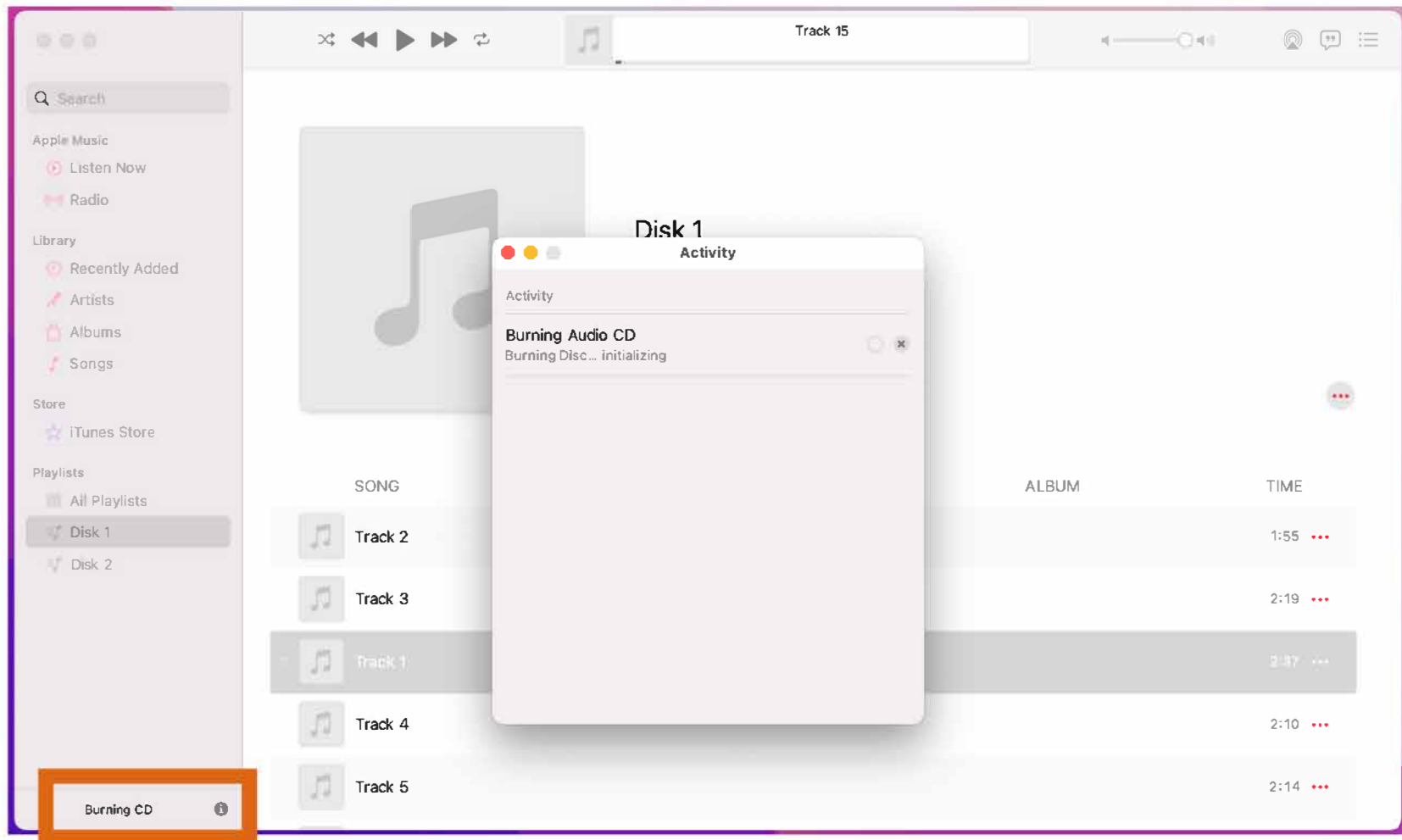
Once your CD is finished burning you will see a disk pop up on your desktop and the playlist on iTunes will have changed to include disk options in the top right, including an eject button.
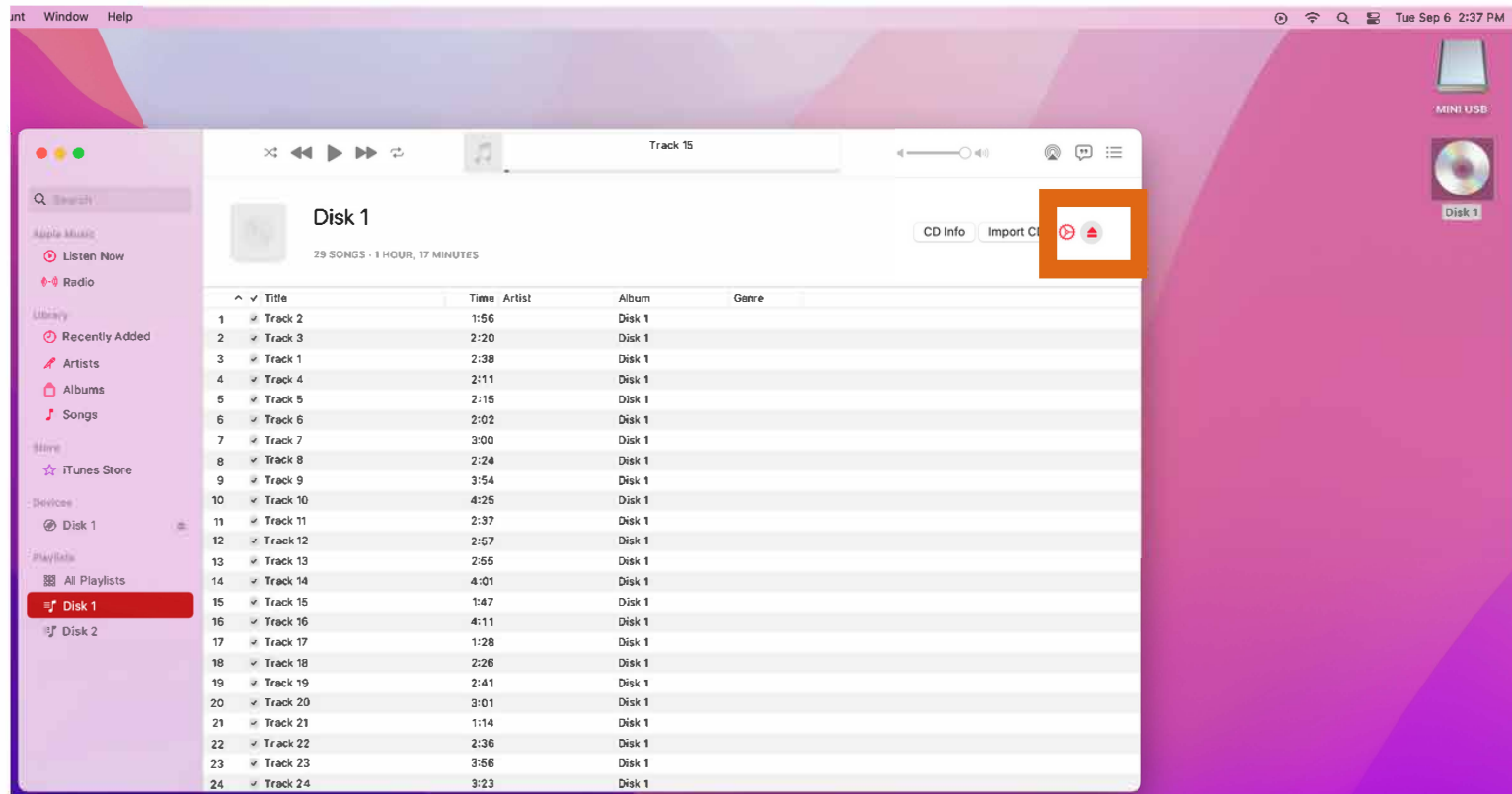


Before you are finished with this disk you may want to write down the track list of what is on the CD and their play order.

When you have finished burning disks, don't forget to quit Audacity if it is still open. If anything has not been saved, it will give you a final prompt to do so before quitting.

**Save changes to <untitled>?**

Save project before closing?

Yes

No

Cancel
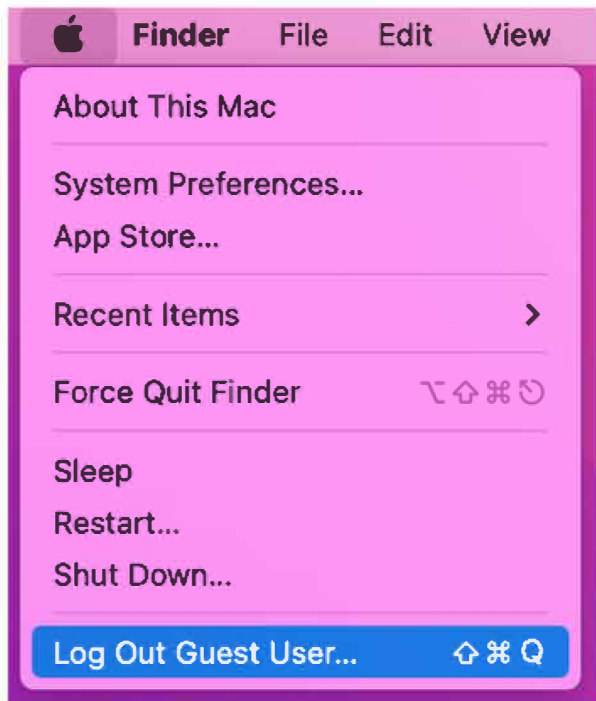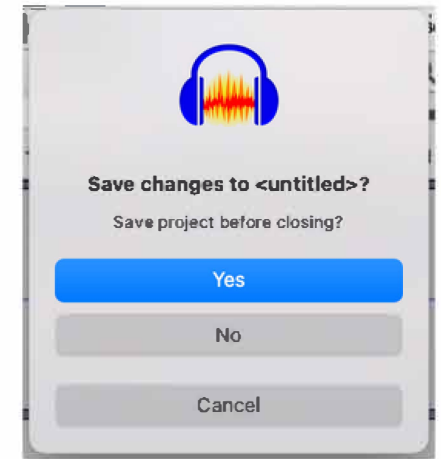
Finally click the apple logo in the top left of your screen and select Log Out Guest User.

**Warning**; this will erase anything saved directly onto the computer. If you would like to retain any files, save them to an external storage device before logging out.

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# Thank you for stopping by!