

How to Digitize Audio Cassettes

Use this guide to digitize content from audio cassettes into WAV or MP3 files.

MP3 files are smaller and easier to store, share, and play. If you need the highest possible sound quality for archiving, you can save your audio as a WAV file. WAV preserves the highest sound quality, but the files are much larger and take up more storage space. If you have storage space, you can make both an archival copy (WAV) and a shareable copy (MP3).



Figure 1: Audio cassettes.

Equipment You Will Use:

- Memory Lab computer
- Tascam 202MKVII Audio Cassette Player
- Headphones

Software You Will Use:

- Audacity

Time Required:

- The runtime of the original audio recording, plus 3-5 minutes to adjust settings and manage the digital files.
- **Allow 15 minutes at the end of your appointment to transfer the digital files to your external storage device or upload to the cloud.**

Step 1: Prepare the Computer

Prepare the Memory Lab Computer and a Temporary Storage Folder

1. Ensure the Memory Lab computer is on. If not, press the circular power button on the tower (see Figure 2).



Figure 2: Power button.

2. Connect headphones to a jack on the Memory Lab computer (see Figure 3).



Figure 3: Headphone jack.

3. Create a new folder on the desktop to store your files while you are working. *Saving to the computer while digitizing is faster than saving directly to external storage. At the end of your session, you will transfer your files to your own storage.*

Steps to create a new folder:

- On the desktop, right-click on an empty spot on the screen.
- In the menu that appears, move your mouse over **New**.
- Click **Folder**. A new folder appears on the desktop with its name highlighted.
- *Recommended:* Type a custom name to replace **New Folder**, and then press **Enter** to save it.

Step 2: Prepare the Equipment and Cassette

Prepare the Tascam 202MKVII Audio Cassette Player

1. Turn on the Tascam player by pressing the **Power** button on the bottom left (see Figure 4).



Figure 4: Power button.

2. Check your audio cassette to make sure it is clean, free of dust, the tape is tightly wound onto the spools inside the cassette, and there are no loose labels on the case.
3. Confirm that your audio cassette is fully rewound. Look at the side you intend to capture and verify that all the tape is on the left spool. If not, you can rewind once the cassette is inserted in the player. In Figure 5, the cassette on the left is properly rewound.



Figure 5: Cassette is fully rewound (left); cassette is partially rewound (right).

4. On the Tascam player, press the **Eject** button near the left cassette deck to open it (the button is to the right of the deck; see Figure 6).



Figure 6: The **Eject** button is indicated by an arrow.

- To play or record from Side A, insert the cassette with the Side A label facing you. The broader side with the exposed tape goes in first (see Figure 7). Close the door gently.



Figure 7: The broad side of the cassette goes in first.

- If your cassette requires rewinding before you begin, press the **Rewind** button beside the cassette deck. The unit will automatically stop when the cassette is fully rewound.
- Press the **Play** button beside the cassette deck. *In the next steps, you can listen to a sample of the cassette to check the sound and adjust settings before you begin digitizing.*

Prepare the Audacity Software

1. On the desktop of the Memory Lab computer, double-click the **Audacity** icon.

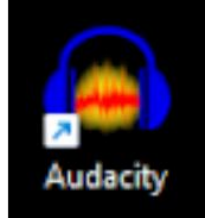


Figure 8: Software icon.

2. When the Audacity window opens, click on **Audio Setup** (see Figure 9).

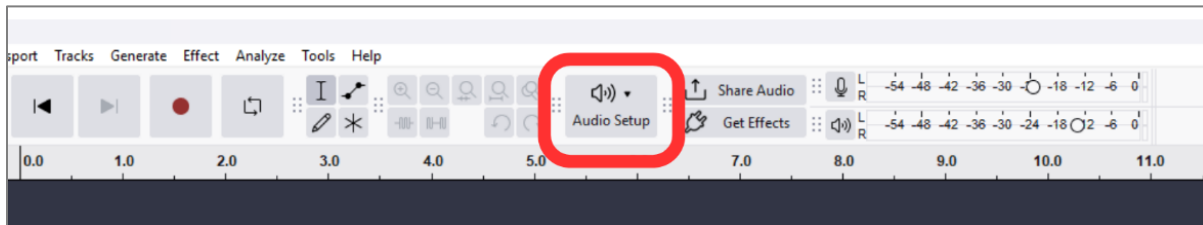


Figure 9: Recording Device setting.

- a. Under **Recording Device**, choose **Line (2 - USB AUDIO CODEC)**.

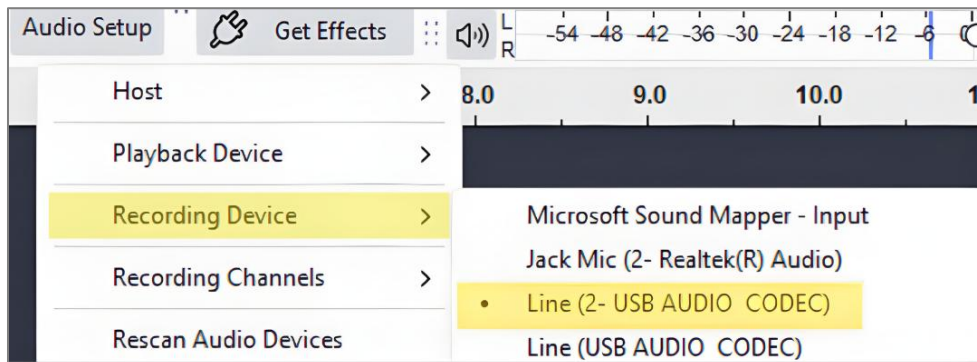


Figure 10: Recording Device setting.

- b. Under **Playback Device**, choose **Headphones**.

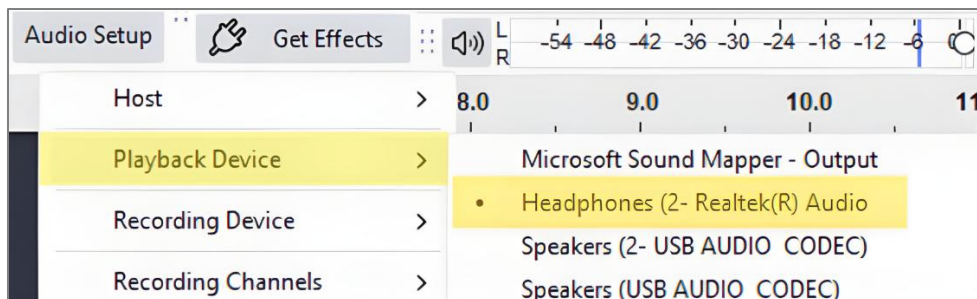


Figure 11: Playback Device setting.

- Look at the top right of the window for two sound meters: one for **recording volume** (beside a microphone icon) and one for **playback volume** (beside a speaker icon). Figure 12 identifies the recording volume meter.

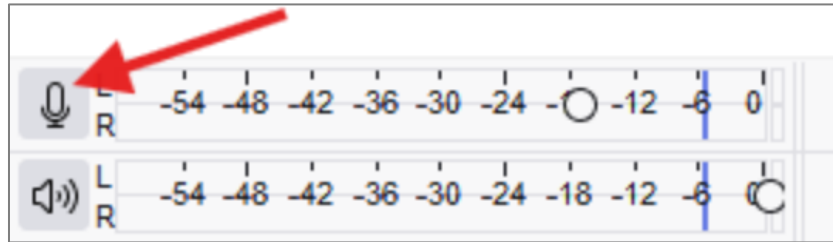


Figure 12: The recording volume meter is on top, with a microphone icon.

- Click on the **microphone icon (recording volume)**, then click **Enable Silent Monitoring**. Using the headphones, you should hear audio playing, and green lines indicating sound will appear (see Figures 13-14).

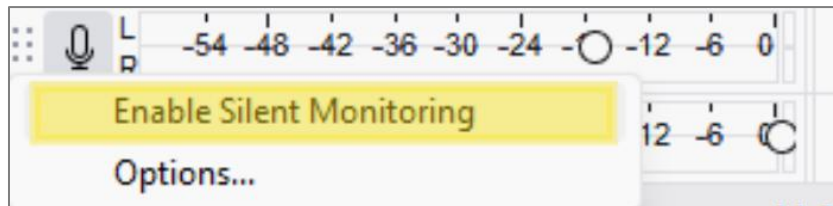


Figure 13: Click **Enable Silent Monitoring**.

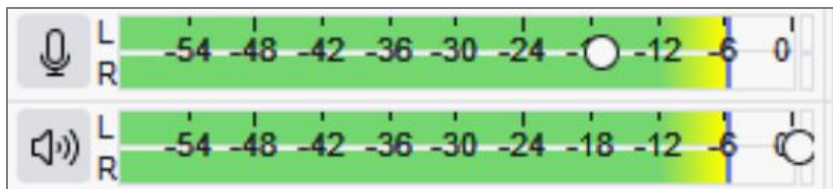


Figure 14: Green lines indicate the audio is playing.

If you see green lines in the two sound meters but hear nothing through the headphones, use the **Troubleshooting** guide on the next page.

TROUBLESHOOTING

If you see green lines in the two sound meters but hear nothing through the headphones, check the following:

- Headphones are selected as the **playback device** and are plugged into the computer.
- **Line (2 - USB AUDIO CODEC)** is selected as the recording device.
- The computer volume is up at least halfway and not muted. **Volume control** is in the bottom right of the screen (see Figure 15).



Figure 15: Look for the computer's **volume control**.

If you continue to not hear sound:

- In the **Edit** menu, select **Preferences**.
- Under **Recording**, make sure the checkbox for **Audible Input Monitoring** is checked (see Figure 16).
- Click **OK** and restart monitoring.

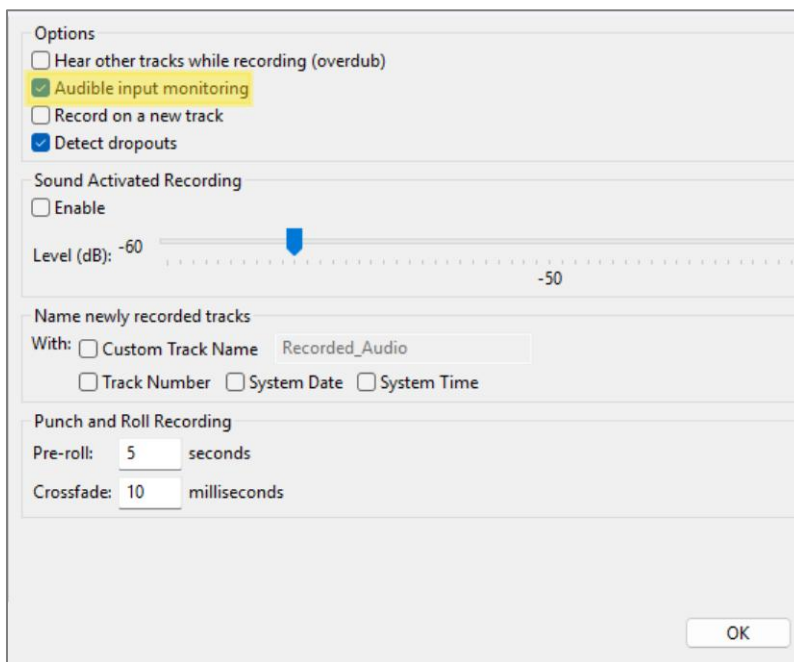


Figure 16: Check **Audible Input Monitoring**.

5. Listen to your audio to determine whether further adjustments are necessary:
 - a. If you hear background scratching or static, look at the bottom right on the Tascam front panel and make sure the **Noise Reduction** slider is set to **On** (see Figure 17).



Figure 17: Noise Reduction setting.

- b. If the audio is too soft, look in the **recording volume** meter (microphone icon) for a white dot. **Move the dot to the right to increase the volume** (see Figure 18) but avoid setting the recording volume too high. *If the green lines turn yellow or orange frequently, the recording volume is too high and the audio captured may have distortions.*

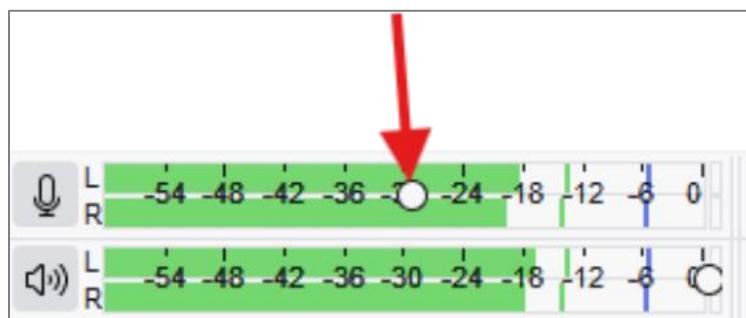


Figure 18: Slide white dot on the recording volume meter.

6. Once you have completed adjustments, press the **Stop** button on the cassette deck.
7. Rewind the cassette again.

Step 3: Record and Export the Audio

1. In Audacity, click the red **Record** button (see Figure 19). Immediately after, press **Play** on the Tascam cassette deck. This will begin the capture of your audio.

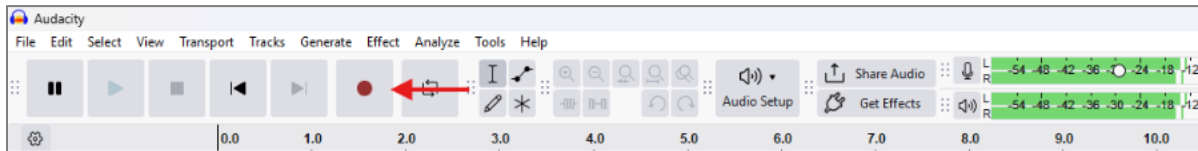


Figure 19: The red record button in Audacity.

Audio capture occurs in real time, so the recording process takes as long as the original audio runtime. **Do not use the Memory Lab Computer for other tasks during the recording.**

2. When your audio has finished, press the **Stop** button by the Tascam cassette deck and then click the **Stop** button in the Audacity window (see Figure 20).

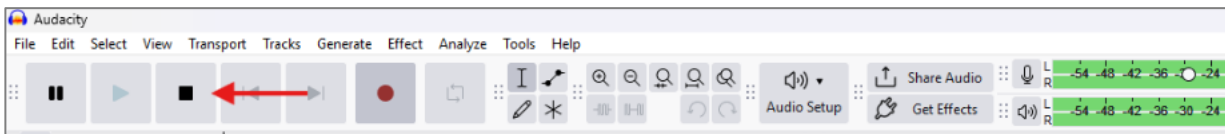


Figure 20: The black stop button in Audacity.

3. To save your file, navigate to the menu bar and select **File** and then **Export Audio** (see Figure 21).

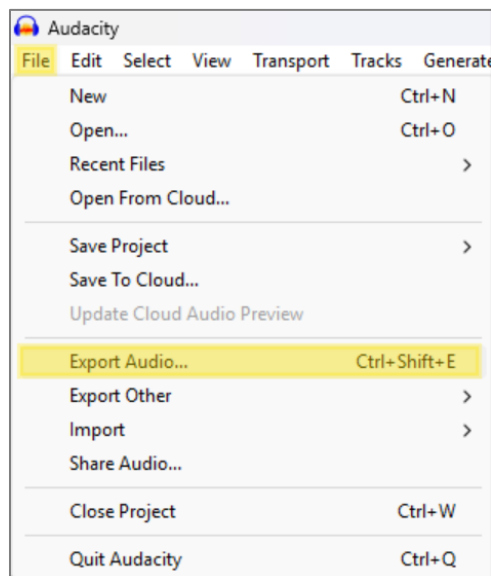


Figure 21: Select Export Audio.

4. Follow these steps in the **Export Audio** window (see Figure 22):

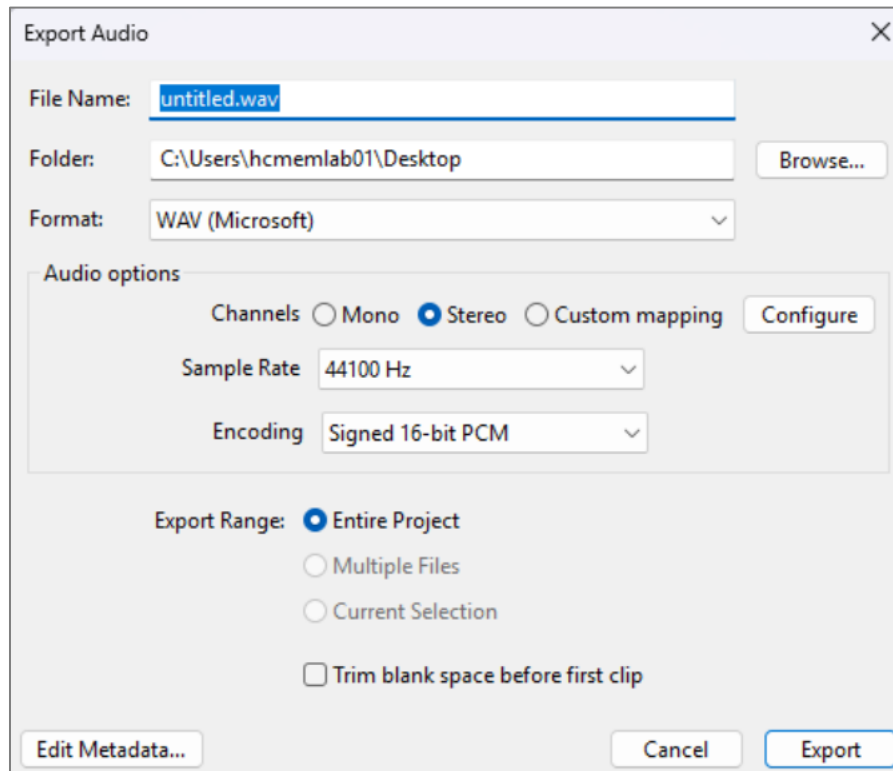


Figure 22: *Export Audio options.*

- a. **File Name:** Enter a name for your file.
- b. **Folder:** Click **Browse** to locate and select your save folder on the desktop, then click **Save**.
- c. **Format:**
 - Choose **WAV** for archival-quality purposes: a large file that preserves all the original audio details.
 - Choose **MP3** for listening and sharing: a smaller file with minor loss of quality.
 - Export both formats if needed and storage allows: first as WAV, then a second time as MP3.
- d. **Audio options:** Leave at default values.

- e. **Optional:** Use **Edit Metadata** (lower left) to embed details in your file, such as the person(s) speaking or original recording date (see Figure 23). Click **Ok** when finished.

Tag	Value
Artist Name	Marcy Deming
Track Title	Oral History Interview (3/16/1994)
Album Title	
Track Number	
Year	1994
Genre	
Comments	Interviewer: Mike Raiford

Figure 23: Input Metadata details.

- Click **Export** in the bottom right of the **Export Audio** window to save your file.
- Close Audacity after your recording has finished exporting. When asked if you want to **Save project before closing**, you can click **No**; your recording has already been exported. This function is for users stitching together several recordings before saving to a file.
- Press **Eject** on the Tascam cassette deck and remove your cassette, then gently close the door.
- Turn off the Tascam player.

Continue to the next page for instructions to transfer your files and complete your Memory Lab session.

Step 4: Transfer Files and Complete Memory Lab Session

Transfer your new digitized files from the desktop folder to your own storage using one of the options below. **Large files or multiple files may take up to 15 minutes to transfer.**

OPTION A: Use an external storage device (e.g. a hard drive or thumb drive):

1. Connect your external device to a USB port on the Memory Lab computer.
2. Double-click your folder on the desktop to open it.
3. Select all files by pressing **Ctrl + A** (or by clicking and dragging over them).
4. If **File Explorer** isn't already open, click the yellow folder on the taskbar.
5. Click **This PC**, then locate and select your external storage device.
6. Drag the files from the desktop folder to your external storage device. A file transfer progress bar will show the status of the transfer; see Figure 24.
7. Once complete, the files should appear in the external storage device.
8. After all files have transferred, right-click on your desktop folder and select **Delete**.

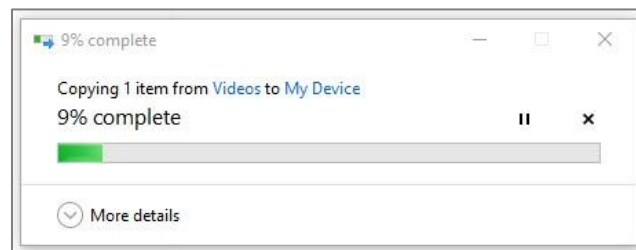


Figure 24: File transfer progress bar.

OPTION B: Upload to a cloud storage service (e.g. Dropbox or Google Drive)

1. Use a browser on the Memory Lab computer to access the internet.
2. Log in to your web-based email or cloud storage service to upload your documents.
3. After all files have uploaded, right-click on your desktop folder and select **Delete**.

Before You Leave:

- **Confirm your files are saved to your personal storage.**
Files are deleted daily from the Memory Lab computer!
- **Collect your original media from the Memory Lab equipment.**