



AUDIO CASSETTE DIGITIZATION WORKSTATION

INTRODUCTION

This guide identifies, explains, and provides recommendations for the equipment needed to assemble an audio cassette digitization station.

There are two primary audio cassette digitization configuration options: one uses a dedicated audio cassette deck and a separate audio interface, and the other uses a combined audio cassette deck and audio interface. Both require a computer with audio capture and editing software. The setup using dedicated devices is more expensive, but provides better control over capture settings and adjustments than the combined device. In addition, the audio interface can be used to digitize and capture other audio sources. Specific project needs, budget, equipment availability, and other considerations will affect final purchasing decisions.

For more information about audio digitization, view related items connected to this resource on the Sustainable Heritage Network in the “[Audio Recordings](#)” category.

- [Audio File Types for Preservation and Access: Resource Guide](#)
- [Basic Audio Editing Using Audacity: Instructions](#)
- [Digitizing Analog Audio Sources Using Audacity: Instructions](#)
- [Audio Cassette Digitization: Workflow](#)

AUDIO CASSETTE DECK

There are very few manufacturers that produce new tape decks, and they may need to be special ordered through distributors. Good quality refurbished or second hand tape decks are viable alternatives, provided they are inspected, cleaned, and serviced prior to use. Most cassette decks can play the majority of audio cassette types, but if your cassettes are in a less common format, consult manufacturers’ specifications for more information.

- **TEAC W-890Rmkii**
 - <http://www.teac.com/product/w-890rmkii/>
 - RCA output
 - Mid-range consumer equipment

AUDIO INTERFACE

Audio interfaces convert analog audio output from the cassette deck into a digital format that can be captured and stored on a computer. Most interfaces can accept input from a range of audio playback devices, not just cassette decks. Audio interfaces come in two form factors: PCIe cards that are installed in a computer, and external devices that connect to a computer via USB or another standard.

- **Recommended Technical Specifications**
 - All audio interfaces listed below meet or exceed these specifications:
 - Convert audio with at least a bit depth of 24 bits and frequency of 96kHz
 - Output support for WAV files
 - Support RCA, XLR, or ¼" audio cable inputs (for use with most cassette decks)
 - Support the appropriate output for the computer being used: PCIe (installed card), USB (3.0 or 2.0), Firewire, or Thunderbolt
- **Sound Blaster ZXR sound card and audio control module**
 - <http://us.creative.com/p/sound-blaster/sound-blaster-zxr>
 - <https://us.creative.com/p/sound-blaster/sound-blaster-zxr#buy>
 - PCIe mounted card
 - Requires installation in a PC
 - RCA and ¼" inputs
 - Limited output setting control
 - Not macOS compatible
- **Zoom UAC-2**
 - <https://www.zoom.co.jp/products/audio-converter/uac-2-usb-30-audio-converter>
 - https://www.bhphotovideo.com/c/product/1116979-REG/resident_audio_z_uac2_uac_2_usb_3_0_audio.html
 - External, USB connected
 - No installation required

- XLR and ¼” inputs
- Limited output setting control
- Windows, macOS, Linux, iOS compatible
- **Sound Devices USBPre 2**
 - <https://www.sounddevices.com/products/portable-audio-tools/usbpre2>
 - https://www.bhphotovideo.com/c/product/734341-REG/Sound_Devices_USBPRE_2_USBPre_2_Microphone.html
 - External, USB connected
 - No installation required
 - RCA, XLR, and ¼” inputs
 - Extensive output setting control
 - Windows, macOS, and Linux compatible
 - Quite expensive

COMBINED AUDIO CASSETTE DECK AND AUDIO INTERFACES

There are devices that combine the cassette deck and audio interface into a single unit. These devices also require a separate sound card in the connected computer. While these devices are convenient and generally less expensive than the two-device arrangement, they often have a limited range of settings and poorer build quality.

- **AGPtek® Tape to PC Super USB Cassette-to-MP3**
 - <https://www.amazon.com/AGPtek%C2%AE-Cassette-Converter-Headphones-Software/dp/B00ADXLBS4>
 - External, USB connected
 - No installation required
 - No output setting control (output quality is limited)
 - Only exports to MP3
 - Poor construction
- **Marantz Professional PMD-300CP Dual Cassette Deck with USB**
 - <http://marantzpro.com/products/view/pmd-300cp>
 - https://www.bhphotovideo.com/c/product/1262615-REG/marantz_professional_pmd_300cp_dual_cassette_deck.html
 - External, USB connected
 - No installation required
 - No output setting control (output quality is limited)
 - Only exports to MP3

AUDIO CAPTURE AND EDITING SOFTWARE

Software is required to capture and edit the audio output by the conversion device.

Audacity is a free, open-source audio capture and editing software that has been used by audio professionals and amateurs for nearly two decades, and has extensive support resources available online.

- **Audacity:** <http://audacityteam.org/>

GENERAL SPECIFICATIONS FOR COMPUTERS

A computer is required to capture, edit, and store the audio files output by the audio interface. See below for minimum system specifications for basic audio capture and editing. More resource-intensive work may require higher-specification equipment. Conducting any other work on a computer while it is digitizing audio is strongly discouraged, as it can introduce errors or artifacts into the audio file. The specifications below are conservative minimums, and do not include other peripherals such as monitor, keyboard, etc

- 500GB to 1TB internal storage. If possible, split between SSD and HDD.
- 8GB RAM
- 2GHz processor
- PCIe expansion slot, if using a PCIe audio interface
- USB (3.0 or 2.0), Firewire, or Thunderbolt ports as needed if using an external audio interface