Tech Training: Audacity

There are multiple tools you can use to adjust an audio recording. Audacity is a free, multi-track, easy to use option and comes with a myriad of editing capabilities referred to as Effects. Audacity works with most common audio file formats such as WAV, MP3, AIFF, and FLAC and supports sample rates of 16-bit to 32-bit. During installation, you should be prompted to also install the manual… highly recommended and made accessible through the Audacity Help menu.

Overview

Import an audio file into a Track, select the portion of audio you intend to modify, apply an Effect, and Export Audio to create a new mono or stereo copy of the audio file with your changes applied.

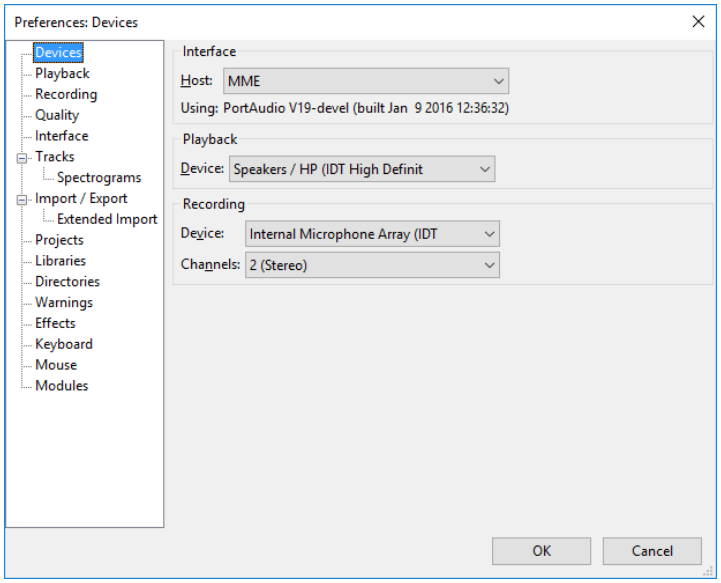
Initial Hardware Setup

- Connect sound card Line In to Line Out of source (cassette deck, MP3 player, etc.)
- Connect sound card Line Out to speakers or headphones

Initial Software Setup

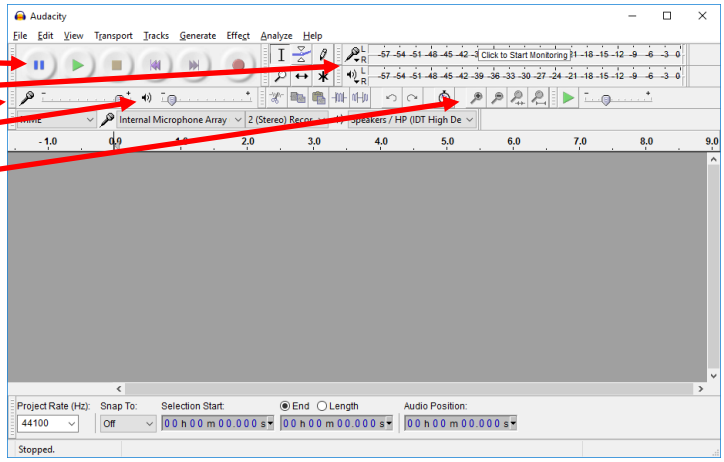
Download Audacity from the parent company (audacityteam.org) and install using defaults. Then configure it for Taylor use:

- Edit > Preferences
- Devices
    - Set Recording (Line In) and Playback (Line Out) devices
- Libraries
    - Download LAME MP3 and FFmpeg Encoders. These are used when converting audio file formats.



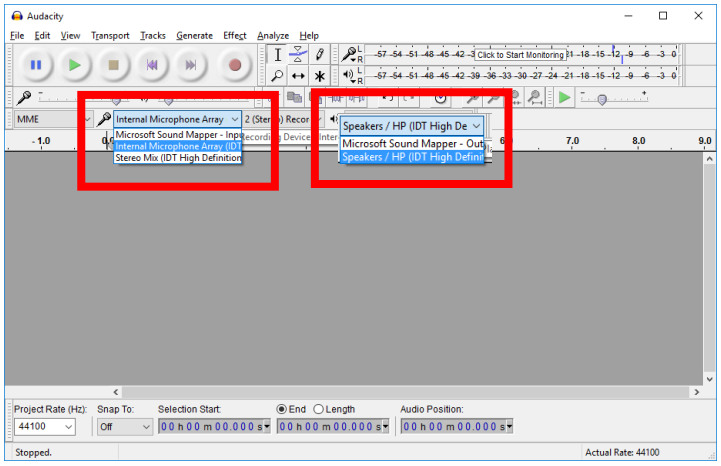
Basic Layout

- Transport Controls (play, stop, rewind, etc)
- Recording / Playback LEDs
- Recording Volume
- Playback Volume
- Zoom Controls



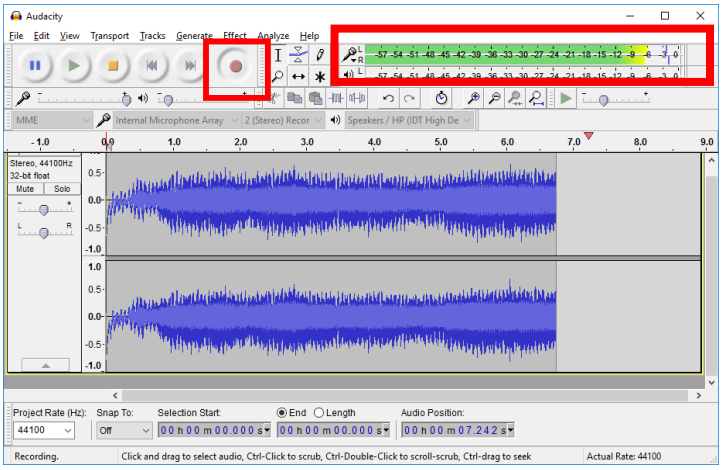
Set Up For Recording

- Choose your input audio device
  - All audio inputs detected by Windows are listed
  - We often record cassette tapes connected to the sound card's Line In
- Choose your output audio device
  - This is the device you listen to; usually speakers or headphones.



Test Recording

- Start playback
- Click Record. Audacity will add a track.
- Use the Recording Volume slider and the Recording LED to a pick a reasonable level. Recordings should peak at yellow / orange.

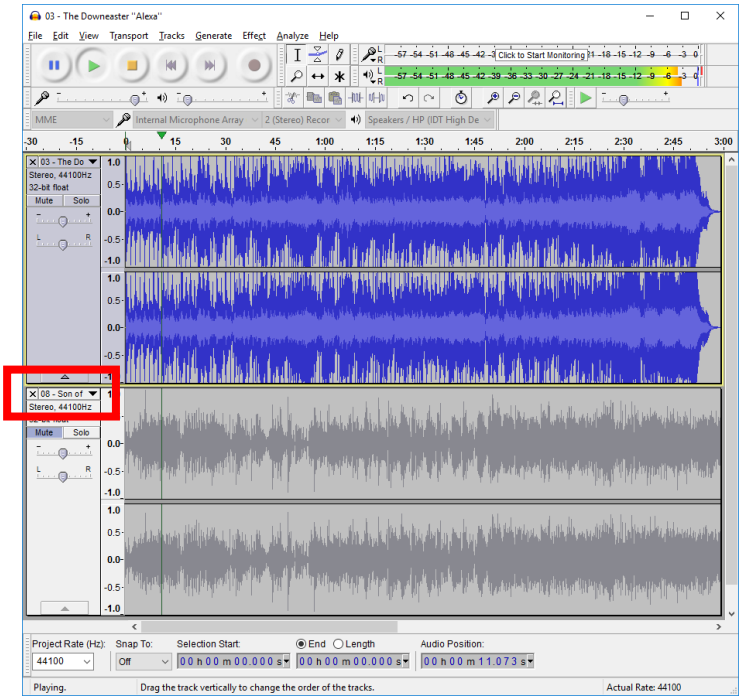


Capture the Project

- With recording levels set, record the project.

Sample the Recording

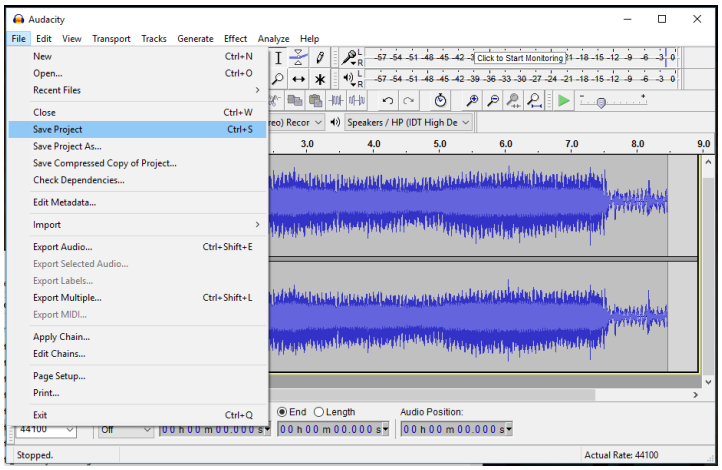
- Monitor playback volume using the Playback Level LED. Best practice is for raw audio to hit yellow/orange and finished audio to hit red but never exceed the maximum of 0.
- Use the Zoom In / Zoom Out icons (magnifying glass) to fine tune a selection. Helpful when selecting recorded but blank audio for deletion.
- Use the Mute / Solo buttons when working with multiple Tracks and you need to focus on a single track.



Save The Project

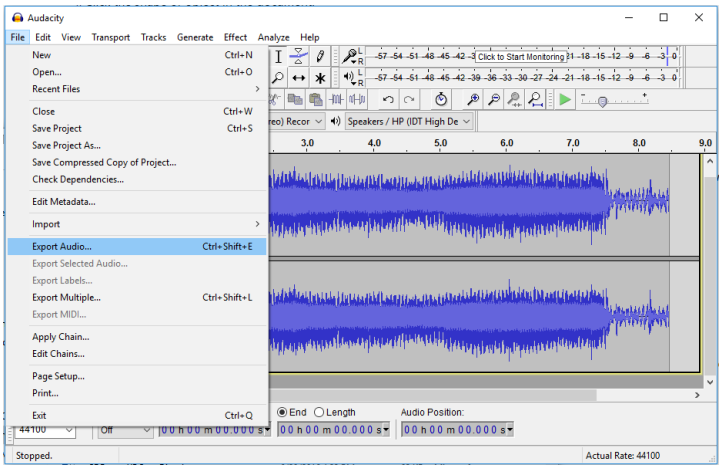
The project file contains no audio information, it contains only the instructions Audacity needs to modify/render the audio.

- Edit the audio
    - This generally involves trimming excess audio at the beginning and end of the audio (highlight and delete), fade-in, fade-out, and volume/EQ.
- Save the project file in the _TlcProjects folder



Render The Project

- Click File > Export Audio
- Export the finished audio to _TlcProjects
- Choose an appropriate audio file format
    - WAV = large filesize, excellent quality, Windows device only
    - AIFF = large filesize, excellent quality, Apple device only
    - FLAC = medium filesize, excellent quality, fair device compatibility
    - Ogg = medium filesize, excellent quality, fair device compatibility
    - MP3 = small filesize, good quality, excellent device compatibility



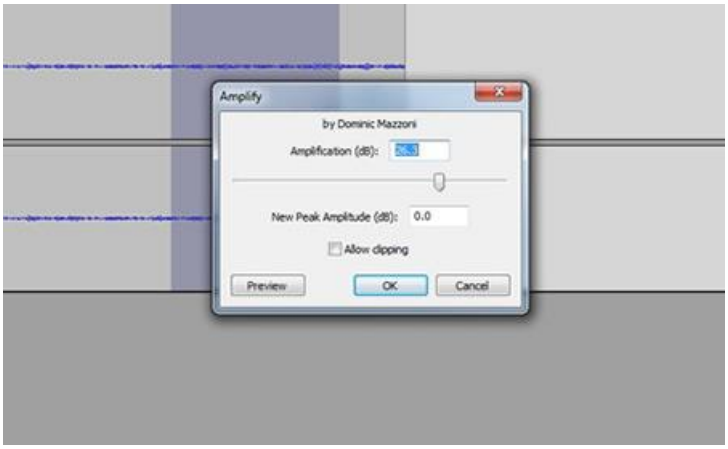
Popular Effects

- Amplify to modify volume level
- Fade In / Fade Out
- Equalization to cut/boost bass, mids, and treble
- Normalize to raise overall volume to maximum without clipping
- Limiter to eliminate audio clipping

Amplify

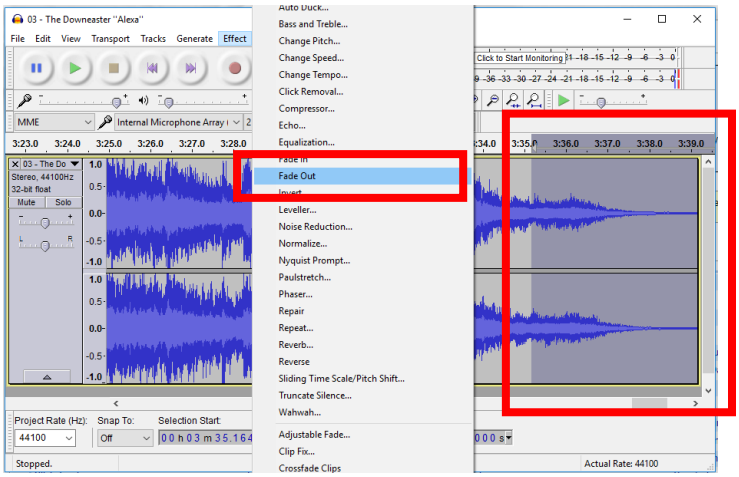
Load an audio file into Audacity, select a portion of audio, click Effects > Amplify.

- Use the slider to raise/lower the volume. As a general rule, leave Allow Clipping disabled.



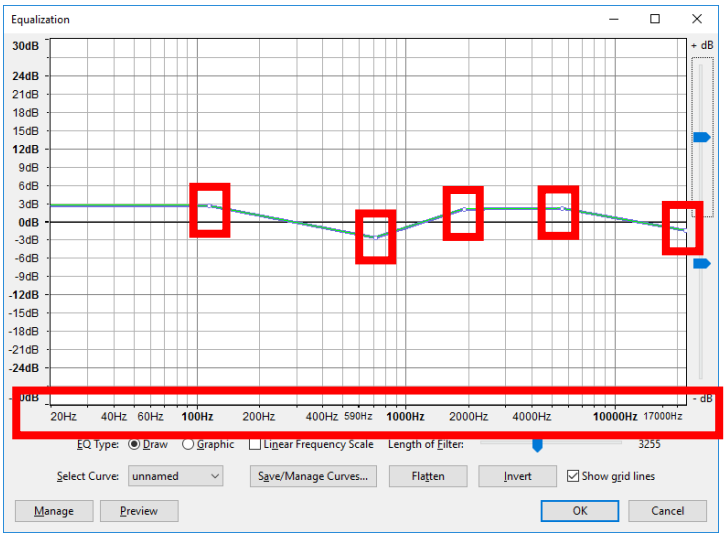
Fade In / Fade Out

- Select the portion of audio to fade out. The amount of audio you select determines the speed of the fade.
- Click Effects > Fade Out



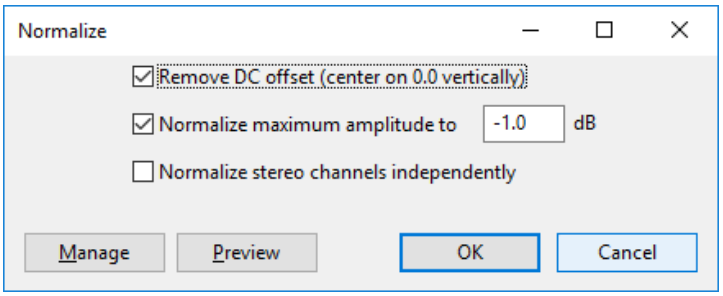
Equalization

- Select the portion of audio to equalize
- Click Effects > Equalization
- Double-click on the blue line to add a new data point
- Drag the data point up or down
- Add as many data points as you need. The resulting curve represents the amount of cut/boost that will be applied at each frequency.



Normalize

- Select the portion of audio to normalize
- Default options usually work fine



Limiter

Use to reduce the dynamic range of audio. Helpful when some sections are loud and others too soft. A limiter allows you to raise the overall volume by reducing the volume of the very loudest sections. Best practice suggests:

- Type = Hard Limit (any portion louder than specified in the Limit To field is reduced in volume)
- Input Gain (Left/Right) = raised just enough that playback volume of the softer portions is sufficient
- Limit To = -3 up to -.1
- Apply Make-up Gain = No