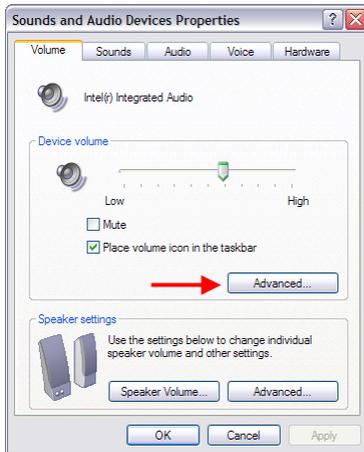# Audacity

Setup

Microphone Setup

Make sure that your microphone is plugged in and the computer is setup to record from the microphone.

1. Click on Start – Control Panel – Sounds and Audio Devices.

2. Click the Advanced button in the Device volume section.
3. A new window will pop-up.
4. Click the Options menu item then click Properties.
5. In the properties window click the recording radio button, and make sure the Microphone checkbox is checked. Click OK.
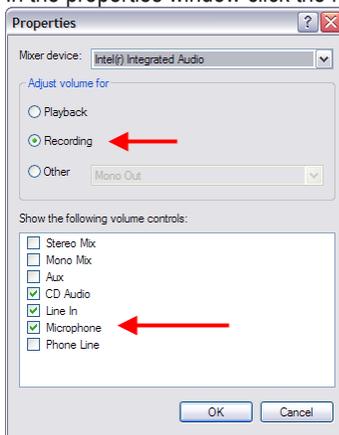
6. Make sure the check box under the microphone column is checked and the volume is not set to zero. Then close the recording control window and click OK in the Audio Properties window.
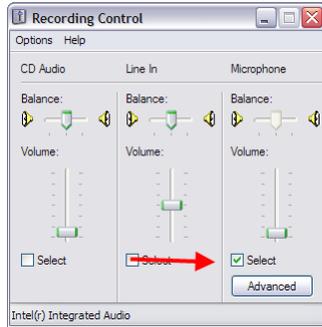

Find LAME

Before you can save a MP3 file, you must locate the LAME encoder for Audacity. There is a list of locations where you can download LAME at http://www-users.york.ac.uk/~raa110/audacity/lame.html.

1. Click on File – Edit – Preferences
2. Click on the File Formats tab, and then click the Find Library button.
3. Click the Yes button when prompted, and then browse to the lame_enc.dll file.
4. Select the lame_enc.dll file, and then click the Open button.

Recording
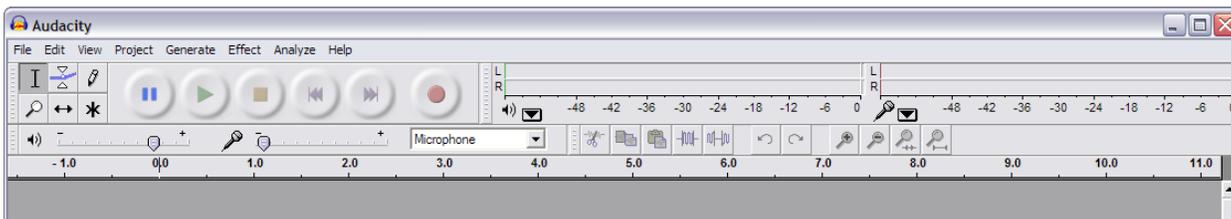
Press the Record button , Audacity will create a new track and record until you push the Stop button .

Tools

Selection
Use the selection tool to select a section of audio you would like to modify or change. To select, move the cursor to the point where you would like to start, and then left click and drag to end of the section you wish to select.

Volume Envelope
The volume envelope controls the volume level of the track. The wider the envelope, the louder the volume. To adjust the volume, click on the blue line at the edge of the track, and then drag in towards the center of the track to decrease the volume. Every time you click on the volume envelope, a point is created which you can use to adjust the volume. To remove a point, drag it outside of the track edge.

Time Shift
Use the Time Shift tool to move sections of audio to a different time in a track. Just click and drag.

Zoom
The zoom tool is used to change your view of the audio. Left clicking on a track will zoom in; right clicking will zoom out. You can also use this tool

to draw a box around a specific area of the audio to make it fill the window.

Draw

With the draw tool you can draw changes into the wave of a track, changing the sound.

Editing

The stand cut, copy, and paste work as you would expect in Audacity. Use the select tool to select a section of a track, cut or copy it, and then use the paste tool to put it in a different location. In addition to these standbys, Audacity includes several other editing functions useful when working with audio. They include:

- Trim: The trim function will erase everything except the selection.
- Split: Split will replace the selected audio with silence and move the selected audio to its own track.
- Duplicate: Like split, duplicate moves the selected audio to its own track, but it does not erase it from the original track.
- Silence: Silence replaces the selected audio with silence.
- Find Zero Crossings: Find Zero Crossings moves the selection to the next points (one on either side) in the track where the audio is silent.

Tracks

Tracks are organizational tools used to keep the different audio elements of a project separate and distinct, making them easy to edit, manipulate, and control. For example, if you were adding background music to your voice you would want a separate track for the music and one for your voice.

Creating

To create a track in your project, click on Project – New audio track. Some functions of Audacity may automatically create a track, like split and duplicate.

Naming

To name a track, click on the track pop-down menu , and then choose name.

Reordering

To move a track above or below other tracks, click on the track information and drag the track to the desired location.
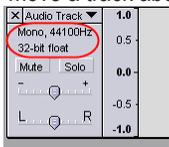
Adjusting Volume and Pan

You can use the slides on the right side of the track to quickly adjust the volume and the pan of the track. If you slide the knob towards the +, the track will get louder. If you drag the knob toward the R, the sound will pan to the right speaker.

Removing

To remove a track, select it, and then click on Project – Remove track.

Cleaning Audio

There are techniques you can use to make the audio in your project sound better, but you will never be able to correct flaws to the point that it will sound as good as if you created a good quality recording. It will always be easier, and you will be more successful, if you spend the time to get a good recording than if you spent the same amount of time trying to fix a mediocre recording.

Normalize

Normalizing evens out the volume in a selection. The most common application of the normalize filter is to even out the volume when you combine audio from several different sources. A good example is if you are creating a podcast and several of your colleagues contribute sections, each of them giving you an audio file they recorded and they all have different volumes, using normailze will make them consistent. You can normalize the project it will increase the volume of quite sections and decrease the volume of loud sections, making the volume consistent. Normalize can be found under Effects – Normalize.

Equalization

You can use the graphic equalizer in Audacity to adjust the bass, midrange, and treble of sound by adjusting certain frequency ranges. In my experience, the equalizer is a better tool at minimizing noise than the noise removal tool. The noise removal tool actually removes certain frequencies from the audio. Part of the 'good' information you want to keep could also be located in those removed frequencies. When you use the equalizer, you are emphasizing or de-emphasizing frequencies, never removing them so good information is never lost. The downside is that you never completely remove the noise, but you can reduce it to a point where it is not noticeable.

To start the equalizer, select the area of audio you want to equalize then click on File – Equalization. When the equalizer starts, it will display a graph of a blue line. The X-axis is frequency, and the Y-axis is decibel, or volume. The blue line works exactly like the volume envelope tool. You click on the line to create a point at the frequency you want to adjust and drag the point up or down to change the volume of that frequency. To adjust a frequency range you need four points. The first point should be right before the start of the frequency range, the second should be at the start of the frequency range, the third at the end of the range, and the fourth should be right after the end of the range. The first and fourth points anchor the line so only the range you want to change is adjusted. Drag the second and third point to either increase or decrease the volume. The image below illustrates an example of increasing the volume of a range.
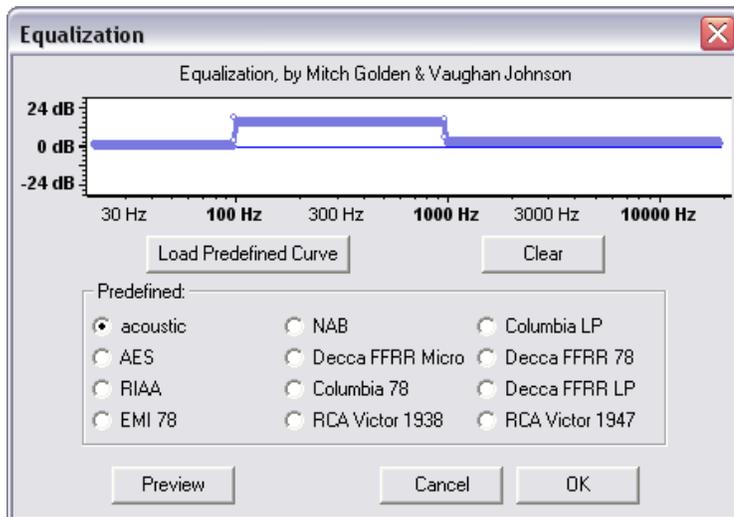
Here is a list of frequencies for common sounds:

*   Adult female voice: 165 to 255 Hz
*   Adult male voice: 85 to 155 HZ
*   Low frequency noise: 40 to 60 HZ
*   High frequency noise: 3600 HZ and above

These are just guidelines. You should experiment with the audio you are working with to get the ideal adjustment.

Saving

Audacity project

When you save a file in Audacity, it saves as an Audacity project that can only be opened in Audacity. This format is useful because it saves all your tracks separately for future editing. Audacity creates a project file and a folder that contains all the necessary audio information. If you need to move an Audacity project to a different drive or computer, make sure you copy both the project file and the folder. To save the Audacity project click on File – Save.

Mp3

Mp3 files are the most common compressed file type. They can be streamed for Blackboard, used in podcasts, and in PowerPoint presentations. To save your project as an mp3 click on File – Export as MP3.