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"Audacity" ABC's

A Basic Introduction to
Free Audio Recording Software

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Teaching and Learning Center

Acknowledgement

Some materials are taken from the Audacity Online Help
and
From the Audacity web site help page.

This workshop is designed to meet the following objectives:

1. Locate the Audacity web site.

2. Open Audacity.

3. Identify the Toolbars and Tools.

4. Define basic terms used with audio recording.

5. Record a sound file.

6. Save a sound file.

7. Open a saved audio file.

8. Edit and audio tile.

Audacity is a free audio recorder and editor which you can download from
http://audacity.sourceforge.net/
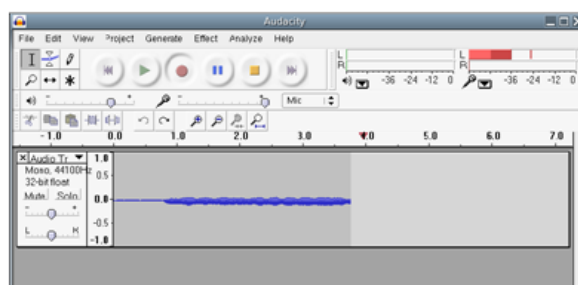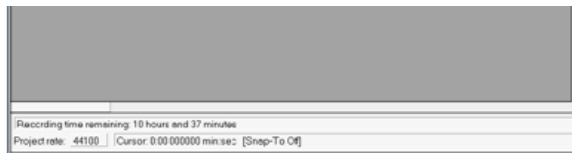
Download Audacity

| From the Audacity home page, download Audacity for Microsoft Windows.	**Download Audacity 1.2.4b** for Microsoft Windows
You also need to download the LAME MP3 encoder which will allow you to export your audio recordings as MP3 files. Select the "Download" tab to find the LAME MP3 encoder download. Select Windows (if that is your operating system). Select **LAME MP3 encoder**.	**Download** Stable: 1.2.4 **Windows** Mac Linux/Unix Download **Optional Downloads** • LAME MP3 encoder
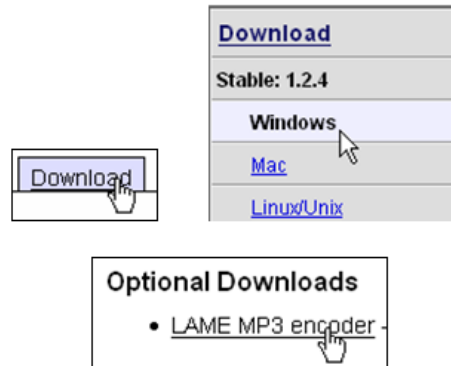
Note: Be sure to cleanse your computer of spyware immediately after downloading and installing any freeware or shareware from the Internet. For detailed instructions, please see the TLC handout *Spyware Removal.*

System Requirements
- Windows 98 or better
- A sound card with speakers or headphones
- A microphone

What Can Audacity Do?
- Record speech through a microphone or record from CD or from audio files previously saved on your computer
- Import and export WAV, AIFF, AU files
- Import MPEG audio (including MP2 and MP3 files) with "libmad"
- Export MP3s with the optional LAME encoder library
- Create WAV or AIFF files suitable for burning to CD
- Import and export all file formats supported by "libsndfile"
- Easy editing with Cut, Copy, Paste, and Delete

- Use unlimited Undo (and Redo) to go back any number of steps
- Edit and mix an unlimited number of tracks
- Fade the volume up or down smoothly with the Envelope tool
- Change the pitch without altering the tempo, or vice-versa
- Remove static, hiss, hum, or other constant background noises
- Adjust volumes with Compressor, Amplify, and Normalize effects

**Note:** Audacity does not currently support WMA, AAC, or most other proprietary or restricted file formats.

Sound File Formats

Audacity Project Format (AUP)	Audacity projects are stored in an AUP file - a file format only used by Audacity. (In order to use your audio file in any other program, you will need to save it in another format.)
WAV (Windows Wave format)	This is the default audio format for Windows and is supported by most computer systems.
AIFF (Audio Interchange File Format)	This is the default compressed format on the Macintosh.
MP3	This is a compressed audio format that is the most popular way to store music.
Ogg Vorbis	This is a compressed audio format that was designed to be a free alternative to MP3.

The Audacity Toolbars
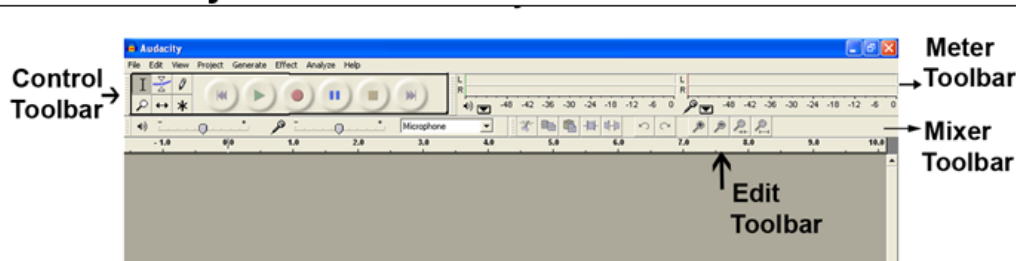
THE CONTROL TOOLBAR

Starting at the upper-left, you will notice that the SELECTION TOOL (**I**) is highlighted by default. This tool is often called an "I Beam" because it looks like a capital letter I.

Next you will notice a series of round buttons which have controls similar to a CD Player.

Editing Tools

	Selection tool - for selecting the range of audio you want to edit or listen to.
	Envelope tool - for changing the volume over time.
	Draw tool - for modifying individual samples.
	Zoom tool - for zooming in and out.
	Timeshift tool - for sliding tracks left or right.
	Multi tool - lets you access all of these tools at once depending on the location of the mouse and the keys you are holding down.

Audio Control Buttons

	Skip to Start - moves the cursor to time 0. If you press Play at this point,
	Play - starts playing audio at the cursor position. If some audio is selected, only the selection is played.
	Loop - if you hold down the Shift key, the Play button changes to a Loop button, which lets you keep playing the selection over and over again.
	Record - starts recording audio at the project sample rate (the sample rate in the lower-left corner of the window). The new track will begin at the current cursor position, so click the "Skip to Start" button first if you want the track to begin at time 0.
	Pause - temporarily stops playback or recording until you press pause again.
	Stop - stops recording or playing.
	Skip to End - moves the cursor to the end of the last track.

The Mixer Toolbar

The Mixer Toolbar has three controls, used to set the volume levels of your audio device and choose the input source. The leftmost slider controls the output volume, the other slider controls the recording volume, and the control on the right lets you choose the input source (such as "Microphone", "Line In", "Audio CD", etc.).

Changing these controls has no effect on the audio data in your project - in other words it doesn't matter what the output volume

level is when you Export or Save a project - the end result is the same.

The Edit Toolbar

All of the buttons on this toolbar perform actions - and with a couple of exceptions, they're all just shortcuts of existing menu items to save you time.

Holding the mouse over a tool will show a "tooltip" in case you forget which one is which.

The Edit Tools

Icon	Description
	Cut
	Copy
	Paste
	Trim Outside Selection
	Silence
	Undo
	Redo
	Zoom In
	Zoom Out
	Fit selection in window - zooms until the selection just fits inside the window.
	Fit project in window - zooms until all of the audio just fits inside the window.

The Meter Toolbar
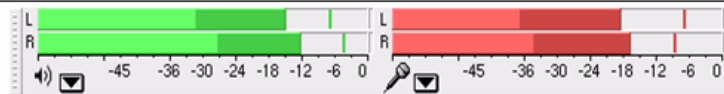
The Meter Toolbar is used for monitoring the input and output audio levels. Typically it is used to make sure that the average volume is as loud as possible (for maximum fidelity) without clipping. The output (playback) meter is the green one, on the left pictured above, and the input (recording) meter is in red, on the right.

If you float the Meter Toolbar, either by dragging it out of the toolbar or by selecting "Float Meter Toolbar" from the View menu, you can resize it and even orient it vertically.

Normally the meters are only active when you are playing or recording audio. However, you can also monitor input when you're not recording - to do this, either select "Monitor Input" from the input meter's pop-up menu, or else just click on the input meter. If you have a microphone or other input source attached, you will be able to watch the level of the audio before you start recording.

Each meter shows several characteristics of the audio level at once. For stereo, the top bar shows the left channel, and the bottom bar shows the right channel. The brightest part of the bar shows the average audio level. The darker part of the bar shows the peak audio level. The peak-hold line to the right of this shows the maximum audio level achieved in the last 3 seconds. Finally, the clipping indicators on the far right of each meter will light up if clipping is detected (meaning that the audio was too loud and will sound distorted). If clipping is detected when you are recording, you should stop, lower the volume of your input source, and start recording again from the start.
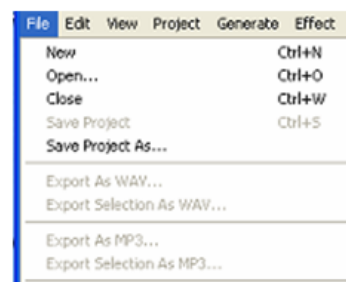
If the level of the input (recording) source is too high, you can try to lower the input level using the Mixer Toolbar, but if this doesn't work, you should try to lower the volume of the external input source (e.g., your microphone, cassette player, or record player).
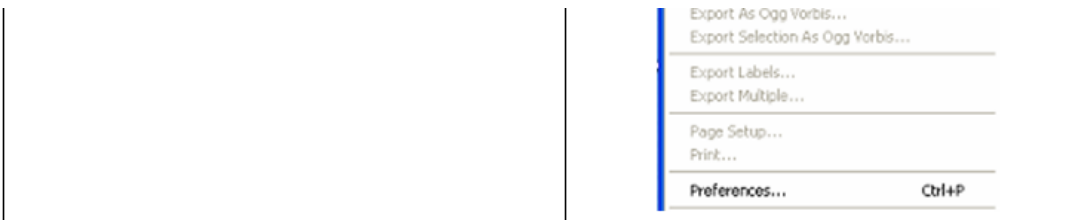
It is possible, especially if you have an older, slower computer, that the Meter Toolbar may interfere with Audacity's ability to record or play audio with the highest quality, because your computer is so busy redrawing the meters that it doesn't have time to process enough audio. In this is the case for you, you can disable the Meter Toolbar in the Interface tab of the Preferences dialog.

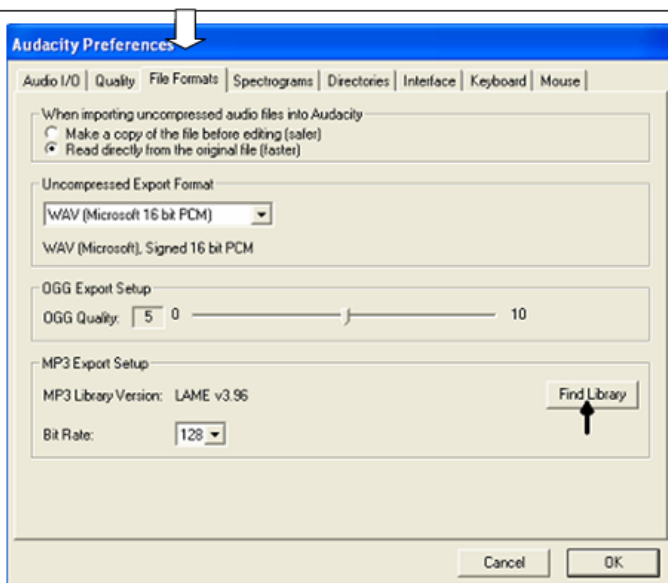## Getting Started

Setting Preferences

| Select File>Preferences | |

Export As Ogg Vorbis...
Export Selection As Ogg Vorbis...

Export Labels...
Export Multiple...

Page Setup...
Print...

Preferences...   Ctrl+P
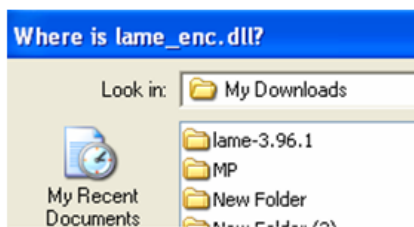
The Preference dialog box allows you to choose I/O devices, audio quality, file formats, and more. Select the File Formats tab. Locate the MP3 Export Setup and click on Find Library.
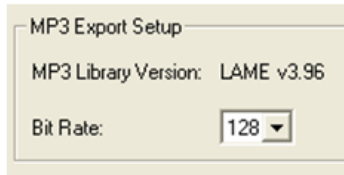

A dialog box will ask if you would like to locate the **lame_enc.dll** file. Click on the Yes button.
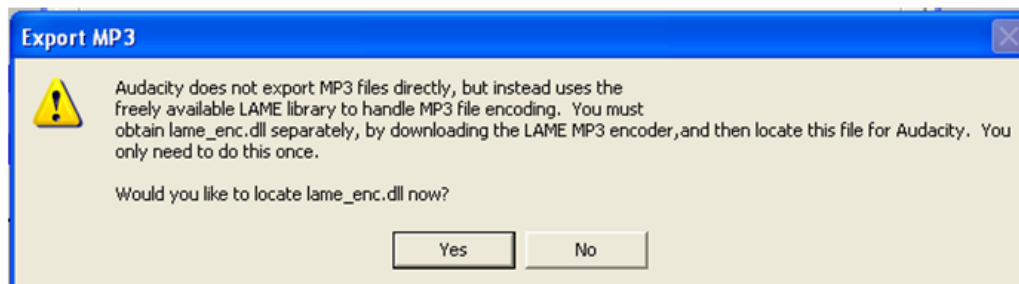
Navigate to where you have saved this download on your computer and open the **lame_enc.dll** file
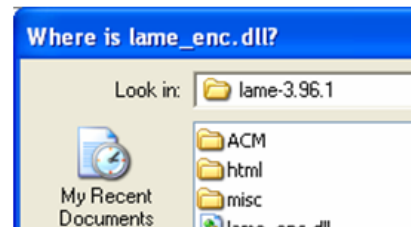
Your dialog box will now show the LAME version.	MP3 Export Setup MP3 Library Version: LAME v3.96 Bit Rate: 128
Below the Control Toolbar is the drop down menu to select the audio import type. This allows you to choose your audio source.	L R Stereo Mix Phone Line Microphone Line In CD Player Aux SPDIF Stereo Mix Mono Mix
You can choose to import an audio file or to start a new audio track.	Project Generate Eff Import Audio... Import Labels... Import MIDI... Import Raw Data... Project Generate Effect Analyze Help Import Audio... Ctrl+I Import Labels... Import MIDI... Import Raw Data... Edit ID3 Tags... Quick Mix New Audio Track