

Audacity

Audacity is a free software program that you can use to record sounds onto your computer. This is useful if you want to record a voice-over for a slide show, or even to copy music that you have recorded on an audio cassette onto your computer. Other than simple recording features, Audacity also includes some rather good editing features and further allows you to convert audio files to MP3. Further, given the right sound card in your computer it may also be possible to record sound that is playing on your computer, such as a streaming internet radio broadcast with Audacity.

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Setting Up Audacity

Audacity is available for Windows, Mac OS X and Linux. The latest version of Audacity can be downloaded from the following site: <http://audacity.sourceforge.net/>. This will give you a double-clickable installer package that will guide you through the installation process.

Once you have installed Audacity, you need to set it up so that it can create MP3 files. The MP3 format is a greatly compressed format that allows you to compress audio files on average about 10 fold, which is ideal for posting them on the web. You will need a plugin to allow Audacity to create these files. It can be found at the following web site: <http://audacity.sourceforge.net/help/faq?s=install&item=lame-mp3>
This site contains brief instructions on the installation of the plugin. the installation is very simple.

1. Download the file from the link above and save it somewhere safe on your computer.
2. Open preferences in Audacity by clicking File:Preferences.
3. In the **File Formats** tab (as shown below) click on the button labeled"Find Library"



4. This will bring up a window allowing you to choose a file. Browse to where you saved the file beforehand and select it, then click the "Select" button to close the window. Then click on the "Ok" button to close the preferences window.

5. You are now done, your copy of Audacity is ready to export MP3 files.

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[Setting Up Your Computer For Recording](#)

If you own a Windows PC then your life here will be a little easier. To start recording your voice you will need a microphone, which can be purchased for a nominal fee at most computer stores. This you can plug directly into the Mic input in the back of your computer. From there you should be ready to go.

For Mac users the story is a little more convoluted. If you own any Mac laptop, then your computer has a built in microphone and you don't need to worry. However, if you have a desktop, for professional audio reasons, your computer only has what is known as a "Line level" in. This is not capable of working with a microphone directly. In order to use a microphone you will need to purchase a small piece of hardware such as the [Griffin iMic](#). These are available at the Campus Computer Connection and most computer stores. Once you have one connected to your mac, then you can connect your Microphone to it, and all should work correctly.

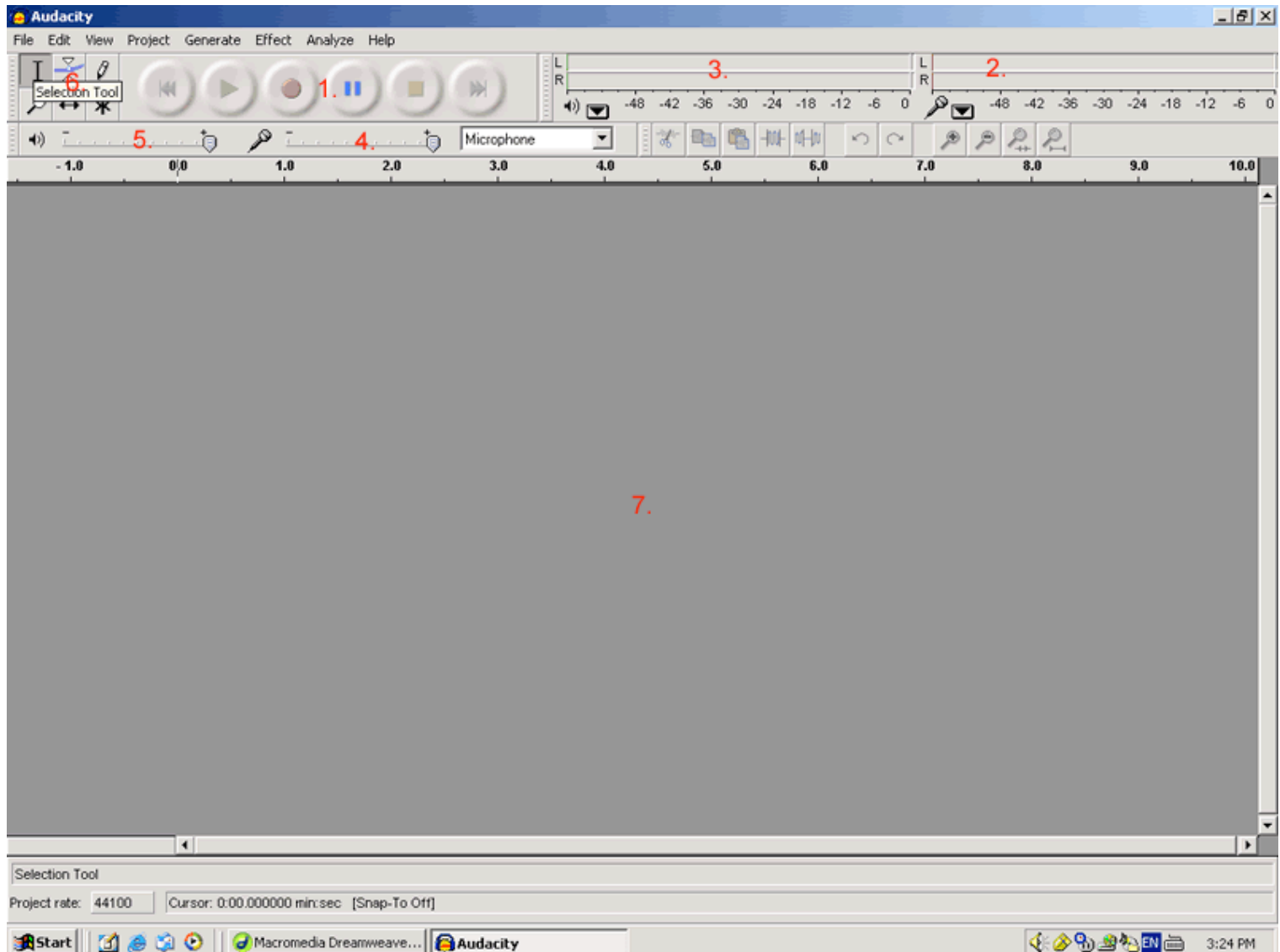
On either system, in the audio section of your system preferences (control panel) you will need to set the input device you want to record through and have connected. For example, if you want to record through the Griffin iMic set your input device to Griffin iMic.

Now open Audacity and within File:Preferences, set the preferred specs for your session. The "Audio I/O" (Input/Output) tab allows you to set up the device(s) you are recording from (the microphone) and playing to (your speakers,) and the default number of tracks that will be created when you click the record button (one for mono and 2 for stereo.) The Quality tab allows you to set the sample rate (number of times per second the sound source is sampled - higher = better) and bit depth (number of bits of data each sample is saved with - higher = better) of the project. Although normally 16-bit is a sufficient bit-depth for radio quality productions, and you will save a good deal of disc space and processing power if you use that depth, Audacity sometimes creates grungy-sounding sound files when recording at 16 bit. I'd start with 16 bit, but if you have that problem, setting up your session to record at 32-bit float might solve it.

Depending on your computer's configuration and sound card, you may be able to actually record the sound that is playing through your speakers directly without the use of a microphone. This can be very useful if you would like to record an internet radio broadcast, for example. In order to do this, in the preferences tab set your playback device as your sound-card OUTPUT and set your recording device as your sound card OUTPUT as well. In this way, the sound from your computer is sent back into the computer and recorded. However, this will only work on certain systems with certain sound cards that support the capability, but give it a try.

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[The User Interface](#)



(numbers below refer to the numbers in the above picture)

1. The transport panel. These are the playback and recording controls. Here you can play, stop, record, rewind and fast-forward your recording.
2. When you are recording you will see the level of the audio coming from your microphone or your outside audio source here. If it is approaching the maximum then your recording may distort, you should then decrease the input level using 4. On the other hand, if the sound signal is very weak, you should increase the input level using 4.
3. When playing back an audio file the volume of it will be shown here. If the volume is very high, the playback could distort and you should lower the output level (gain) using 5. On the other hand, if the output volume is weak, you should increase it using 5.
4. Here you adjust the level of the audio input. Sliding it to the right will increase the input level and to the left will

decrease it. For example, if you are using a microphone to record something that is loud, such as a rock band, the level would be set to very low to compensate.

5. Here you can adjust the playback volume. Right to increase, and left to decrease.
6. This is a palette of tools that are used during the editing process, they will be discussed later.
7. This is the area where you will see the sound file of the recording that you have just made and will edit it.

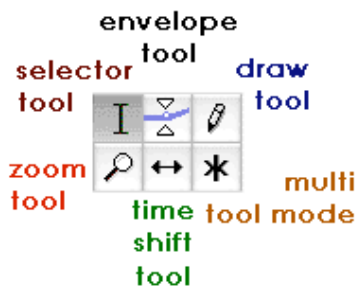
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Recording + Importing

To record a new file, you don't even need to create a new track, just hit the red record circle in the transport panel, and a new track will be created. You can adjust the record level with the slider next to the little microphone icon in the top right corner, but ideally you should leave that slider fully up and adjust the level of your input device to prevent clipping at the inputs of your sound card or interface (Clipping is when the source of the sound is too loud and your computer is forced to "clip" it to a certain volume, leading to a loss in quality.) If you have sound files already in your computer that you'd like to add to your session such as a music file you would like to have in the background of your recorded voice-over, select "import audio" from the project menu. You can import several types of audio files, including MP3s. They will automatically import to new tracks. You can name the track from the drop down menu next to the X in the top left of the track. Be careful, clicking the X deletes the track from the project.

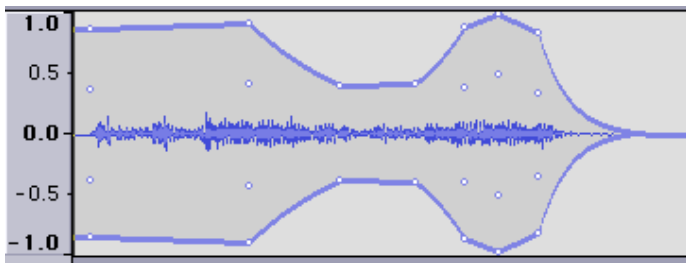
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Tools And Editing



The selector tool allows you to click and drag over a range of audio in order to select it and edit it.

The envelope tool allows you to write volume envelopes, which are places in the track where the volume should increase or decrease. Click on the envelope tool, then click on a point along the track to create a node, then click again to make another node and drag the node up or down to adjust the level. Dragging a node up and off the track will delete it. This technique can add a small amount of gain to the track as well as reducing it. Making only one node and dragging it up or down is a fast way to adjust the gain of the entire clip.



The draw tool acts like the pencil tool in most audio programs, when zoomed down to the waveform level you can re-draw waveform data to eliminate clicks or other distortions. This is very useful if you are doing a live recording and there is some random noise in the background that you want to remove.

The zoom tool is pretty obvious, click on it and then drag over a range of a track or tracks to zoom to that level. The magnifying-glass icons on the right hand side of the top of the track window can be used to zoom in or out in steps, to zoom to the selection, or to zoom out to see the entire project at once. If your mouse has a scroll wheel you can use that to zoom as well.

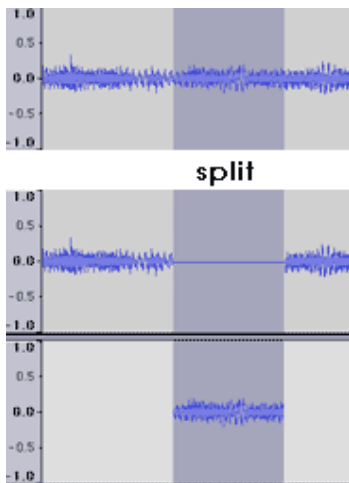
Use the Timeshift Tool to slide audio clips left and right in the timeline. This would be useful for aligning a voice over recording

to a background sound track. Clips cannot be dragged from track to track, but a clip can be cut or copied and pasted into another track by selecting the clip, clicking Edit:copy or Edit:Cut, and then clicking the cursor where you want to place it and clicking Edit:Paste. If you wish to move an entire track, use the "move track up" or "move track down" command in the drop down menu at the left of each track.

The multi-tool mode will change functions depending on where on the track the cursor is located.



The Cut, Copy and Paste functions work as expected, and follow keyboard shortcut conventions as well. The trim to selection command is very handy, highlight the audio you want to save using the select tool, click the icon with the wave inside the brackets, and you'll delete everything except the selected region. This is very much like the crop tool in Photoshop. The converse is accomplished by clicking the silence selection icon, it mutes the selected audio, but without moving any other audio regions, leaving a silent space, like hitting "mute" for that time range. All other edits will close up the gap.



If you'd like to separate a region and move it to another track, use the "split" command under the edit menu. Select the audio you'd like to move, and select "split." Audacity will make a new track with the selected audio in it.

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Some parts of this file ©Jeff Town from "Editing wants to be FREE! An audio editing solution for Mac, Windows and Linux."