

Introduction to Audio for journalists



Using sound

by

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*“Long before I wrote stories, I listened for stories.
Listening for them is something more acute than
listening to them.*

– Eudora Welty

Why Sound?

For some of us the answer is easy - because our bosses say so.

But audio offers chances to tell stories in ways that just aren't possible with images alone. Great audio is engaging, emotional and informative.

For years, we have given our photographs context by adding words – captions, text blocks, essays, etc. – and that can be a powerful combination. Sound does the same thing, only **better**. A viewer can look and listen at the same time. They no longer need to turn away from the image to read the context.

A well-edited audio track with strong images – video or stills – is a compelling way to tell stories. And gathering sound while photographing makes us better journalists by forcing us to spend more time and thought on a story.

It is also hard work, which requires **more** time, **more** energy, and **more** skills.

Sound has become a crucial part of storytelling on the web. Adding a soundtrack to your images gives depth to your storytelling. Good sound can make a story. Bad sound will send your audience running – to someone else's website.

Audio will almost always drive the story. Imagine watching your local news tonight. Would you rather turn off the picture and listen, or try to figure out what is going on by looking at the video without sound? We have become **storytellers** not 'just' photographers.

Hardware

There has been a boom in portable, affordable recording equipment. There are increasing numbers of digital solid-state recorders that offer the potential of dependable, easy-to-use, high-quality audio.

In the past few years a number of new recorders have been released. All offer various combinations of quality, ease of use, size and price. There is, unfortunately, not one perfect recorder. You will need to decide based on which best suits your needs and pocketbook.

Based on price, recorders seem to fall into three categories:

1. Low-end – under \$100
2. mid-range – \$200 - \$600
3. high-end – \$1000 and up

Low-End

You get what you pay for, but on a limited budget there are a few choices. Sound quality will range from poor to decent, depending on the recording conditions.

Olympus makes a line of inexpensive digital recorders for dictation. These are **not** to be confused with their more expensive audio recorders.

Olympus WS-600S ~\$80 records compressed audio. Small, easy to use. Built in USB connector makes it plug and play. Decent audio in quiet environments. Not a professional tool

Zoom HNI ~ \$99 the newest and smallest recorder from Zoom. Uncompressed audio. Reviews are good for the money. Small form factor means many controls are buried in on screen menus.

Tascam DR-07 ~\$99 Was originally closer to \$175 when released. \$99 on B&H, \$145 on Amazon as of 3/11 Transom recommends higher output mics for this recorder

Mid-Range

It is the mid-range that probably is of interest to most of us – offering the best compromise of quality versus price. And luckily it is possible to get very good sound quality from these machines.

This list is not intended to be complete, just an introduction to the possibilities.

This list has gotten long. More info on the links page including Transom.org, Bradlinder.net and WingfieldAudio.com. (I have only used the Marantz 660. The other info comes from various reviews and websites.)

Marantz PMD 661 ~\$599 The latest update from Marantz. Very good sound, XLR connections. Larger than some of the others.

Marantz PMD 620 ~ \$379 Small, good sound, no XLR.

Zoom H4N ~ \$299 some complain of hiss but very popular with DSLR users for its small size. XLR connections

Fostex FR-2LE ~\$599 great sound, XLR inputs. Larger and more expensive than others in this category. Flimsy battery cover

SONY PCM -D50 ~\$499 Good sound with built-in mics, but sensitive to wind. Very good sound with external mic. No XLR

SONY PCM-M10 ~\$229 Baby brother to the D50 above, smaller, a few less features

Olympus LS-11 ~ \$299 Good sound, decent built-in mics, No XLR.

Tascam DR100 ~ \$290 XLR inputs. Well reviewed. Transom recommends higher output mics for this recorder

Microphones

Audiophiles argue about microphones the way photographers argue about lenses.

And just like the camera/lens marriage, if your funds are limited, it's probably better to spend on a good microphone and cut costs on the recorder.

Microphones come in various styles. They can be broken down into several categories:

Dynamic vs Condenser

Dynamic microphones need NO external power and tend to be pretty tough. They tend to be less sensitive than condenser mics.

Condenser microphones do require power, some use a battery some draw from the recorder. They tend to be slightly more fragile. (**Marantz** recommends condenser mics for the PMD 660, **Transom.org** recommends condenser mics for the Tascam units for example because of the higher output of condenser mics. Check the specs of your recorder before purchasing a microphone)

Pick-up patterns

This is analogous to the angle of coverage in a lens. Different patterns will be appropriate in different situations. Though there are also very good mics that can be used in a variety of situations for those of us on a limited budget.

cardioid - maximum sensitivity in front of the mic. Sounds to the sides and especially to the rear of the mic are largely rejected, or at least attenuated.

shotgun mics - these are basically extreme cardioid mics – The equivalent of a telephoto lens. Useful when the subject is far away. Keep in mind though, microphones don't magnify sound the way a telephoto lens magnifies the image. Shotguns simply reject sounds off to the side, isolating sounds from further away. The best sound quality will always happen when you are close to the source

omnidirectional - pick up sounds in all directions equally. Because off-axis sounds are picked up more accurately and naturally, the mics create a more realistic sound. Good from crowd noises, not so good when you're trying to interview someone in a noisy environment and want to reduce the distractions of the background.

Lavalier mics

Small mics that clip onto a shirt or collar. They can be inexpensive. Any small movement by the subject can create noise in the mics - so be careful with them. Videographers use them for interviews because they are unobtrusive. I prefer a good handheld for straight audio interviews.

Wireless mics

A great option for getting natural sound. Hook up your subject and let them loose. They come in all price ranges. You get what you pay for.

The **Sennheiser** - Evolution G3 100 Series ~\$600, is probably a best buy – often recommended as the best ‘inexpensive’ wireless. But there are many many options out there.

Wireless mics can be great when you want natural sound of someone doing something, or just to be cord free. **BUT** they can also fail at the worst possible times – batteries die, interference from outside sources can wreak havoc, the subject can pull off the mic accidentally – have a backup plan.

A starter list of microphones

Various mics in no particular order that have been recommended by different sources. Transom.org among others has reviewed many of the mics below as well:

1. Sony ECM-CR120 - an inexpensive lav mic that works well with the Olympus dictaphone style mics ~ \$75
2. Sennheiser ME-66 a short shotgun mic - very good quality. Part of the Sennheiser modular system. With the K-6 power supply ~ \$500. (The power supply can then be used with other mics)
3. Audio-Technica AT825 Cardioid stereo condenser mic. ~\$350
4. Audio-Technica AT897 a short shotgun condenser mic. ~\$250
5. Audio Technica 8010 inexpensive omni mic with high output. A good choice for the less expensive recorders which need higher output mics
6. Shure SM58 A dynamic cardioid mic. Known as a workhorse. ~ \$100
7. Electrovoice 635A A dynamic omnidirectional mic. ~ \$100
8. Sennheiser - Evolution G3 100 Series - **wireless**- ~\$600

Software

IF you record to a solid-state device like a compact flash recorder, getting sound on to your computer is as easy as connecting the card and dragging over the files.

Once the sound is on your machine you’ll want to edit what you’ve got.

There are several software programs available for editing sound. Commercial programs can be quite expensive, though they offer the most features. Final Cut Pro comes with its own standalone audio editor – Soundtrack Pro.

For photographers on a budget, the program that offers the most bang for the buck is probably **Audacity**. NOT because it is the greatest program, but because it is **free**.

Available for Mac, PC and Linux, Audacity allows basic and some advanced editing features. It is an open source program, so support is limited to the forums and the goodwill of volunteers. It is occasionally buggy, but does work.

AUDACITY

Download at <http://audacity.sourceforge.net/>

Audacity currently is available in two versions

1.2 – their ‘stable version

1.3 – their beta version. This version has many more features, and seems to be as stable as 1.2. It is recommended for the latest operating systems (Windows 7 and newer Mac OS). Some companies won’t allow you to install a beta version.

In addition to the program itself, you should download the free LAME plug-in for creating mp3 files from the plug-in page.

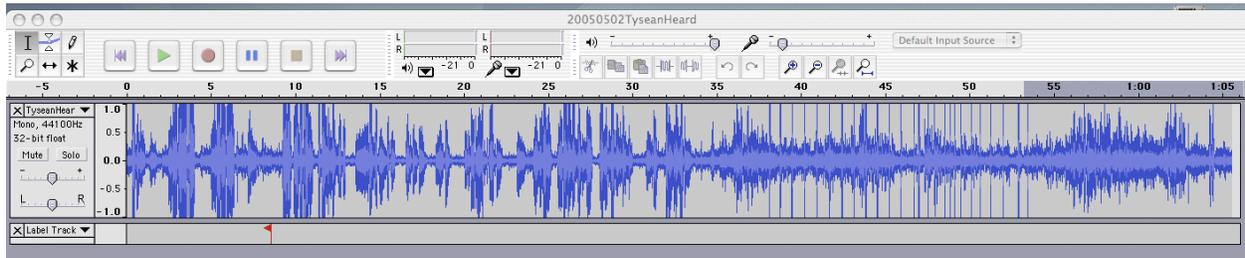
Download	Download
1.2 Series	Select your operating system to download the latest version of the free Audacity sound editor.
Windows	1.2 Series Latest versions:
Mac	 Windows 1.2.6
Linux/Unix	 Mac OS X 1.2.5 (Intel) or 1.2.6 (PPC)
Source Code	 Linux/Unix 1.2.6 (in source code)
Release Notes	
1.3 Series (Beta)	1.3 Series (Beta) Latest versions:
New Features in 1.3	 Windows 1.3.12 <i>best version for Windows 7 and Vista</i>
Windows	 Mac OS X 1.3.12 (Universal Binary) <i>best version for OS X 10.6</i>
Mac	 Linux/Unix 1.3.12 (in source code)
Linux/Unix	
Source Code	
Plug-Ins and Libraries	
Obtain a CD	

Editing sound is very similar to editing text - you cut, copy and paste pieces of the sound together to create a compelling narrative. Often you will combine natural sound with interviews and your own narration.

Audacity’s interface is pretty simple.

Open your sound file, Audacity recognizes all common file types.

A single track, mono recording will look something like this: (stereo recordings will have two waveforms)



The waveform represents your sound. Audacity's tools and controls are above.

TOOLS



1. Selection Tool - This is the main tool you use to select audio.



2. Envelope Tool - The envelope tool gives you detailed control over how tracks fade in and out, right in the main track window.



3. Draw Tool - Enables the user to draw in to the actual waveforms to try and fix pops and other noises.



4 Zoom Tool - This tool allows you to zoom in or out of a specific part of the audio.



5. Time Shift Tool - This tool allows you to change the relative positioning of tracks.



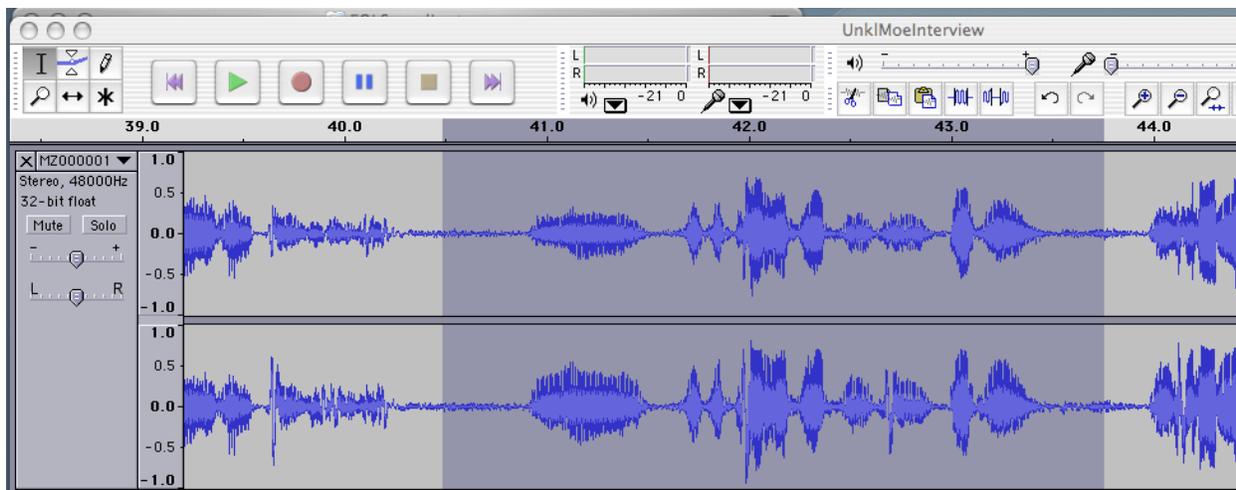
6. Multi Tool - lets you access all of these tools at once depending on the location of the mouse and the keys you are holding down.

You will use the Selection and Time Shift tools the most. 'D' on your keyboard lets you scroll between the tools.



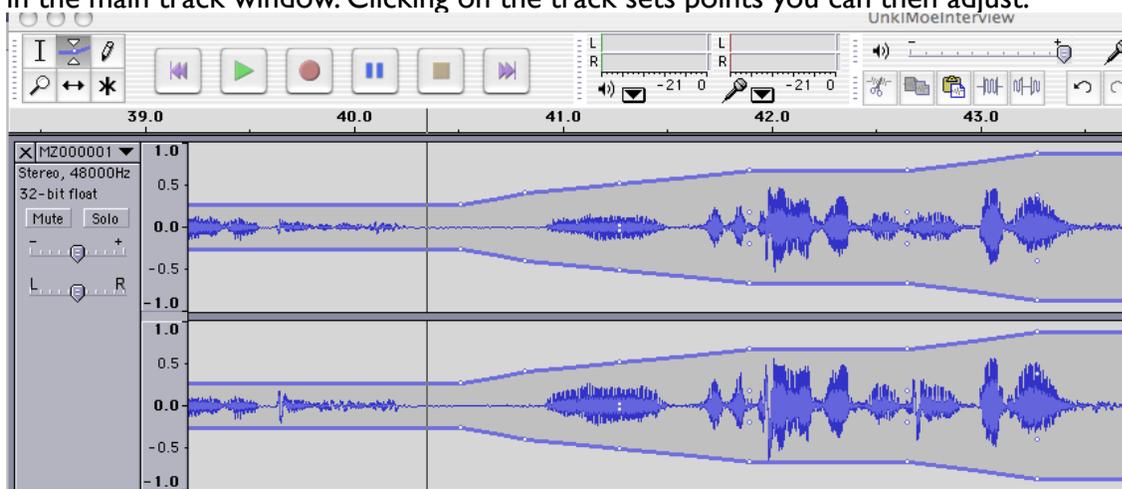
Selection Tool

Click and drag over an area of the waveform to select it. Now you can cut, copy or paste as well as apply any of the filters in Audacity to the selection.



Envelope Tool

The envelope tool gives you detailed control over how tracks fade in and out, right in the main track window. Clicking on the track sets points you can then adjust.

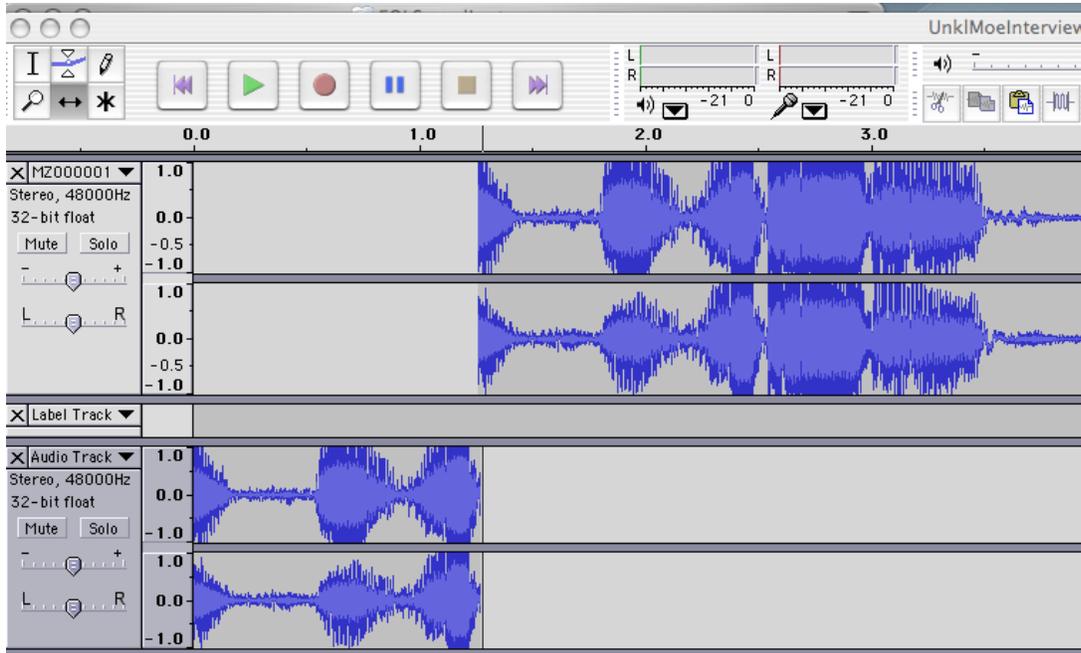


For simple fades, you can also select a small section of audio, and use the fade in or fade out effect from the drop down menu.



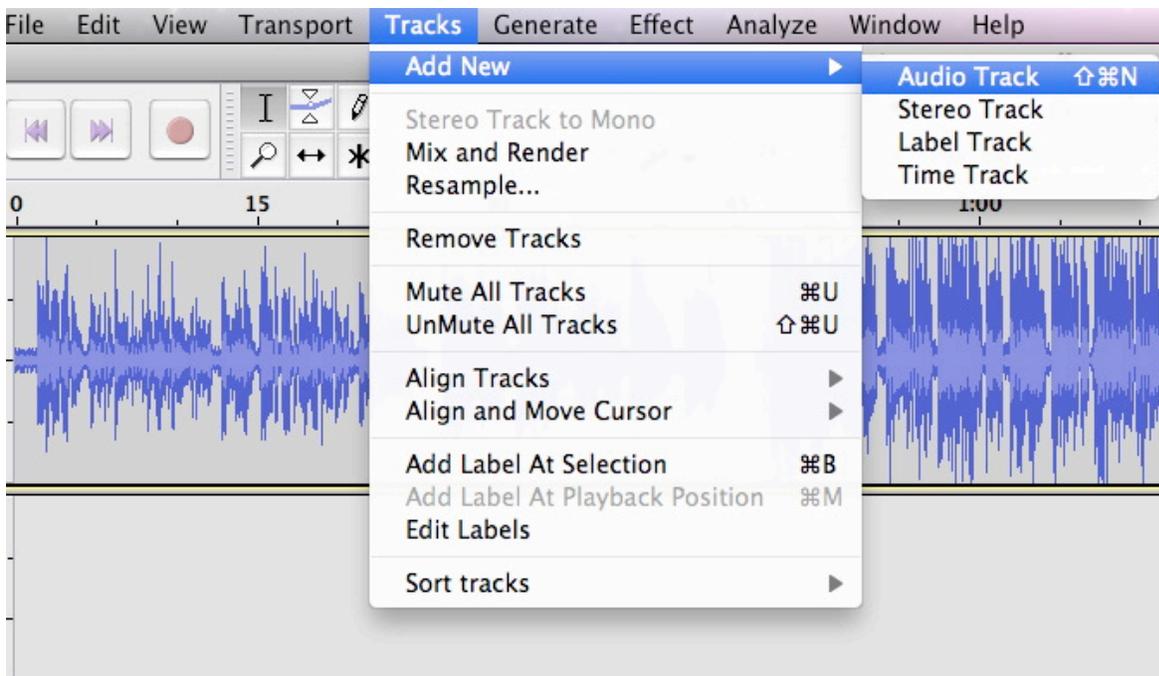
Time Shift (or move) Tool

This tool allows you to change the relative positioning of tracks. Simply click on a track to slide it along the timeline.



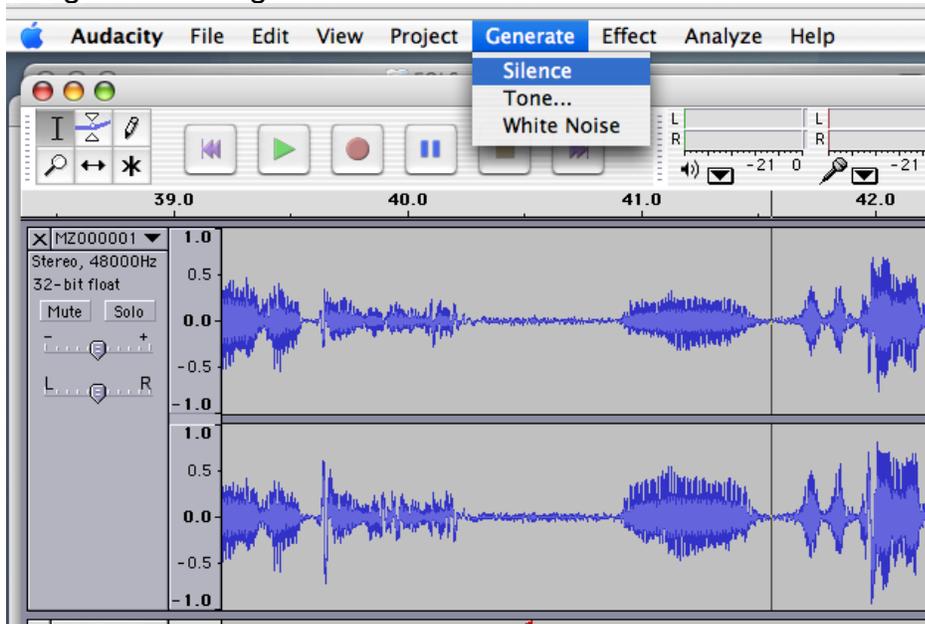
New Track

Allows you to create multiple tracks for overlapping sound and transitions. If your file is a stereo track, select New Stereo Track.



Generate > Silence

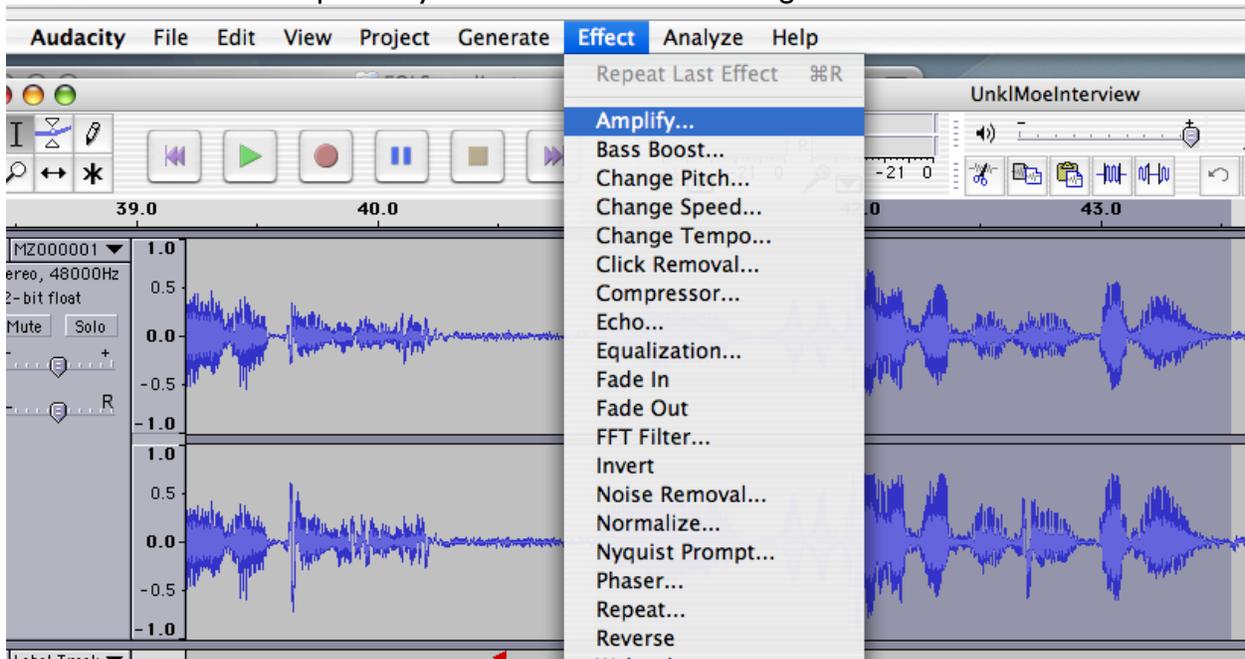
Allows you to create silence of any length - useful for transitions. Though better to use background sound gathered on location. It will sound more natural.



Effects

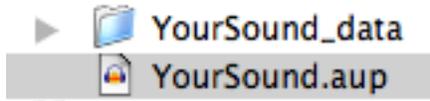
Audacity offers many filters and effects. **Amplify** allows you to raise or lower the volume.

Fade in and **Out** are quick ways to create natural sounding transitions.



Exporting your sound

Audacity creates it's own file type. Keep all these files together. Moving them or changing their names **will** create **problems** for Audacity. (and you)



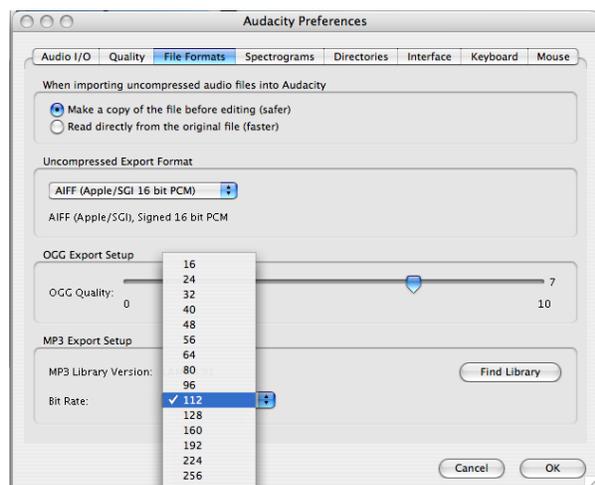
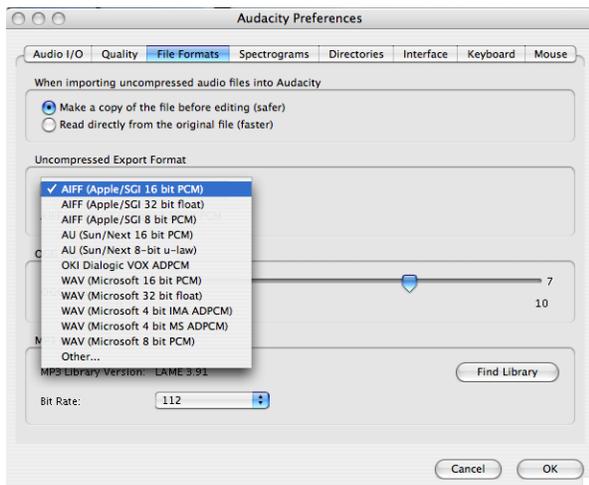
The .aup is the sound file and it is not recognized by other programs. So after finishing editing, the sound must be exported for use. If your final use allows, export in an uncompressed format:

.aiff for Macintosh and .wav for PC

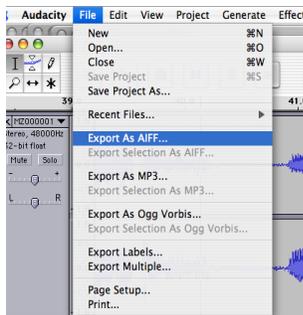
If you must export as an mp3 use Audacity preference settings to select a high quality setting. You will need to have **installed** the free **LAME** plug-in to export as an mp3.

Audacity settings for output:

Go to preferences to set your output - aiff for Mac, .wav for PC. Also select a high bit rate for mp3 export.



To Export:



this will say wav or aiff depending on preference settings

Sound Gathering

Many of the skills that make us photographers will help us gather sound. You need to pay attention, be patient, stop and listen to the world around you.

There are a lot of great resources on the web for learning how to gather sound. Check my links page for some.

A few thoughts:

Just because audio is new to us, doesn't make it interesting. Don't get too attached to your audio...be creative getting it, and then edit!

Get close – physically and emotionally. Audio is an intimate medium. Not all your subjects will trust you with their feelings right away – you have to earn that privilege.

If you're not enthused about your story, why should anyone else care about it?

"If something is boring after two minutes, try it for four. If still boring, then eight. Then sixteen. Then thirty-two. Eventually one discovers that it is not boring at all." –John Cage.

TECHNIQUE

Interview your subject in as **quiet** an environment as you can. Take a moment to listen. - hear that fan? that clock ticking? the cars outside?

Find an empty office, unplug the fan if you can, move to the quiet side of the house. A car makes a decent studio in a pinch. Carpet, couches, curtains, are all your friends – muffling the sound in the room, reducing echoes.

Get your microphone as **close** to your subject as you can – ideally about four inches (the width of your fist) from their mouth. (a little further away with a shotgun mic) Keep it in roughly the same place throughout the interview, and try to keep it as steady as possible.

If you move too much, the microphone may pick up the sounds of your motion or your hands rubbing on the mic.

Some subjects get nervous when the mic gets close. Your job is to put them at ease. You do this by looking them in the eye and showing them with your face that you are attentive. **Look at them**, not your recorder.

Get them engaged and interested and they will forget about the microphone.

- Wear headphones so you can hear what your recorder is hearing.
- Don't let your subject hold the microphone.

- **Listen carefully** as your subject talks. Having prepared questions is a good thing. But don't be rigid. Follow up on what they say, go where the interview takes you.
- Listen not only to the content of what he or she is saying, but the quality of sound and how their words may or may not work for your story.
- You CAN'T talk – unless you want your voice on tape. Nod and use body language to uphold your part of the conversation.
- Don't interrupt (unless the interview is going nowhere. But better to get something useless than step on a great thought).
- Don't say “uh, huh” or “hmmm,” don't laugh out loud. Nothing is worse than having a great quote with your voice stepping on it.
- Phrase your questions so they can be answered as a complete thought.
 - “Describe for me....”
 - “Give me a sense of....”

• **Silence** is your **friend**. Wait...watch...let people think and talk.

MOST people are **not** storytellers. They aren't so good at describing the process. But people CAN talk about their **feelings** and **emotions** and thoughts. If you find a great storyteller, bless you. You can let them tell their story. But generally you'll get the **best audio** by getting people to describe how something felt, NOT how it happened. Use captions, text blocks, a narrator to get the basic facts on the table.

Less is more

Most journalists who start to gather audio fall in love with it. And they tend to be **terrible editors** at first. Just because it is new and cool to you, doesn't mean your audience will be equally enthralled. Your competition isn't other photographers any longer – it is NPR, broadcast TV, anyone and everyone on the web with a homepage and recorder.

EDIT TIGHTLY. Keep it interesting and compelling. And have fun.