



## Sound Recording Tips for Notebook Computers

### Use Sound to Enhance Family History



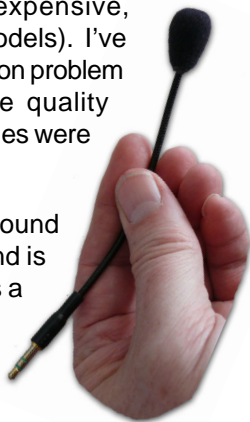
Combining sound with family history will dramatically enrich and personalize every story you share. The goal of this newsletter is to help you achieve quality sound reproduction using your computer.

Over the years I've conducted many experiments recording sound. Here's a summary of what I've learned *without listing all my intense frustrations and hours of failure experiences.*

**Desktop Computers.** Every desktop computer I've used injects static and distortion into the recorded oral narrative when using a microphone. Each computer had a different sound card but resulted in about the same level of unacceptable sound quality.

**Microphones.** I've tried numerous types of microphones (expensive, inexpensive, battery powered, and USB models). I've determined the static and distortion problem is NOT usually a microphone quality issue, however some microphones were better than others.

The best quality microphone I found was at Target and under \$30 and is not a USB microphone! It's was a detachable microphone on a GE headset. I've used this little mic for several years and still use it today.



**Notebook Computers.** The three notebook (laptop) computers I've used, one Dell and two HP computers, were almost free of static and distortion when recording with an external microphone. *The notebooks were far superior for recording with a microphone than any desktop system I've ever used. Note. I have not invested in expensive sounds cards, just the cards that come standard with a computer.*

**Running From the Battery.** I've been able to eliminate almost ALL of the static and distortion by unplugging the AC power so the notebook is forced to run from battery power. However, recording time will be limited to a couple of hours.

**Editing Sound Files.** I edit my sound files from my desktop system since it's faster and has a larger hard drive capacity.

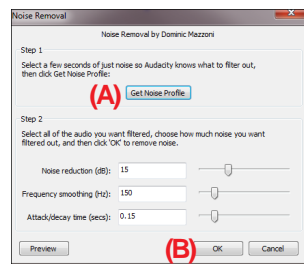
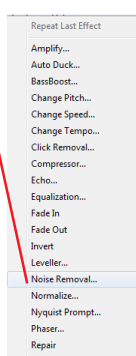
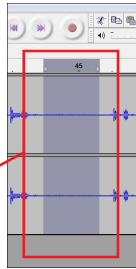
I save my original files in a 'wav' format since it's uncompressed and does not lose quality with repeated enhancement. However, I typically do all my audio enhancement at one time. I convert my edited sound files to MP3 or WMV files for use in Heritage Collector or other software programs.

**Using Audacity.** I can use my desktop computer to record sound if I use a sound editing program such as Audacity which has a noise filtering option. However, using a notebook computer still provides the 'cleanest' sound quality and does not require much enhancement.



Here's how I use Audacity to remove static and distortion:

1. Load the sound file in Audacity.
2. Drag your mouse over a section of the sound file that has distortion or static without any speech if possible.
3. Select Effect from the menu.
4. Click on Noise Removal.
5. Click the 'Get Noise Profile' button (A).
6. Double click on the sound wave part of the Audacity display to select the whole sound file.
7. Reselect the Noise Removal option in the Effects menu.
8. Click the 'OK' button (B).
9. This will run the noise reduction process on the sound file.
10. Save the sound file.



Note: This will not be a perfect fix but it will provide less distortion or static than the original sound file recorded using a desktop system. You may need to experiment with the sound settings in the Noise Removal option to get the best results.

Please Note: I've had abnormally good hearing all my life. This has been verified by many audiometric exams I received when I was in graduate school pursuing a degree in Speech and Hearing Science. I could be considered an audiophile. *"A person with an interest in high fidelity sound reproduction and its associated technology. An audiophile, from Latin audio "I hear" and Greek philo "loving," is a hobbyist who seeks high-quality audio reproduction via the use of non-mass-produced high-end audio electronics."* From Wikipedia.

Bottom line - You may not perceive the static or distortion as easily as I do – but others might. I'm also a perfectionist with all that infers and the burdens it places on one when working with less than perfect equipment and sound files while living in the 'real world' with a limited budget.

### Using a Notebook Computer – *Discovering a sneaky little problem*

Just when you thought you were home free using your notebook to record sound I go and throw a curve at you.

A sneaky little problem develops when you attempt to use your notebook computer to convert old cassette tapes or reel-to-reel tape recordings using the microphone input jack in place of the missing line-in jack.

A few years ago, notebook computers started to appear WITHOUT a line-in jack. Who cares? So what's the big deal about a missing line-in jack? Can't I plug a tape recorder or other audio device into the microphone jack to record? Answer – *Not if you want good sound quality!*



The microphone jack on a desktop or notebook computer is not designed to receive audio input from anything but a microphone. The result – you will get very distorted sound quality from other audio input devices. Your recordings will not capture the full sound range because you will have to turn the tape recorder volume all the way down or almost off. You also run the risk of damaging your sound card if you over drive (too loud) the sound level going into the microphone jack from a tape recorder.

### Two Options and a Bad Choice

Cheer up! You have two good options that are both simple and inexpensive.

1. Use your desktop line-in jack to connect and record sound from a tape player or other audio device. Unlike using a microphone with a desktop system, the line-in jack will produce high quality sound files.
2. Purchase an inexpensive external USB sound card for your notebook computer. (See recommendation below).

- Unacceptable Option – use your microphone to record the sound coming from a speaker in a tape player or other audio device. *You will not get good sound quality and you will get environmental background noise.* Don't do this! If you are going to spend the time and effort – please do it right.

### Use an External USB Sound Card

I spent a lot of time (more than I'm willing to admit) researching a solution for the missing line-in jack on my notebook computer. I found some inexpensive USB sound cards that infer you can use them for a line-in jack. I almost bought one of these and then dug a little deeper and discovered many are just another microphone input jack. Don't waste your time or try to save money on such an inexpensive and useless hardware device.

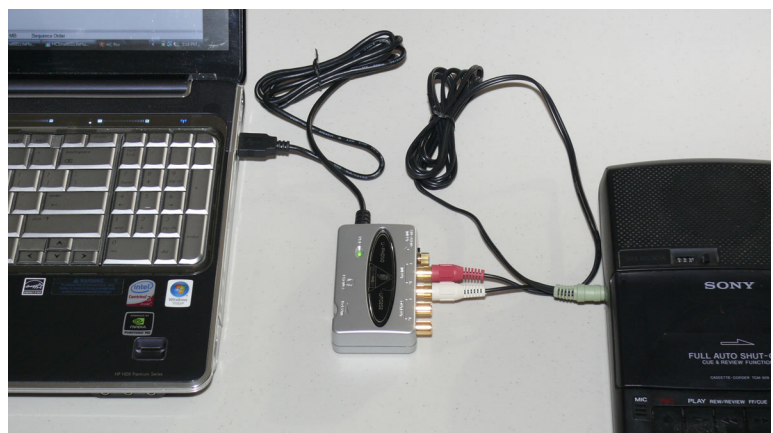


I purchased the Behringer UFO202 Audio Interface. I'm happy to report it worked perfectly with my notebook with one little snag. It came

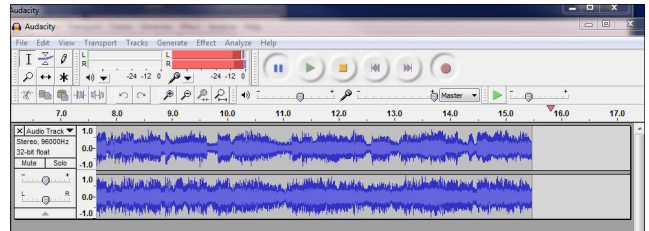
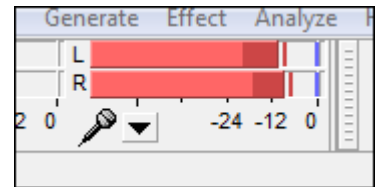
set up to record from a phonograph. Kind of dumb I thought since it took me about fifteen minutes to discover I needed to move the little switch from Phono to Line Input and then it worked great. Naturally this tip was not in the manual! From there forward I was super impressed with the results. It also works perfectly with Audacity.

What You Need to Do to Use the UF0202 – *This is easy!*

- Plug the USB cable from the Behring UF0202 into your notebook.
- Attach the cable coming from your tape player to the UF0202 line-in jacks.
- Start Audacity.
- Press play on the tape player.



- You will need to adjust the output volume level on the tape player to get the best quality. Turn up your value as high as you can while keeping the input recording bars as high as possible in Audacity. The bars need to go into the red (distortion level) occasionally to get the best and most realistic quality.



More good news. It's not expensive! Price for the UF0202 ranges from \$22 to \$30 depending where you purchase it.

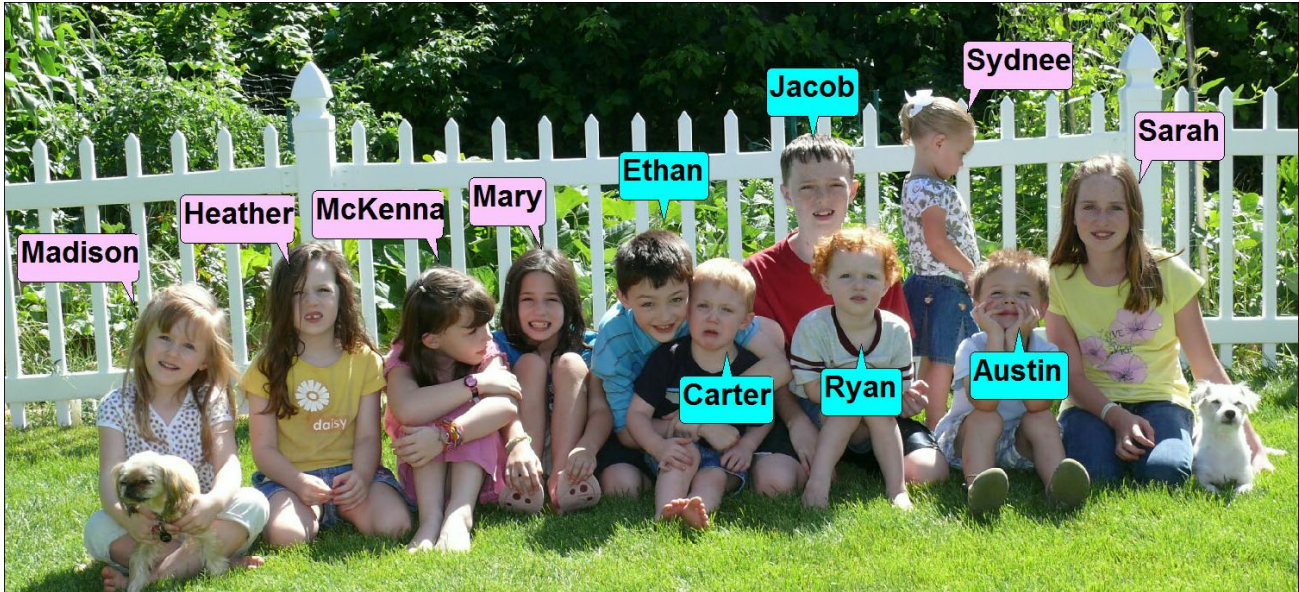
So what are you waiting for? Get the device ordered or use your desktop, find your old tapes and start converting, preserving and sharing those priceless sound treasures for others to enjoy!



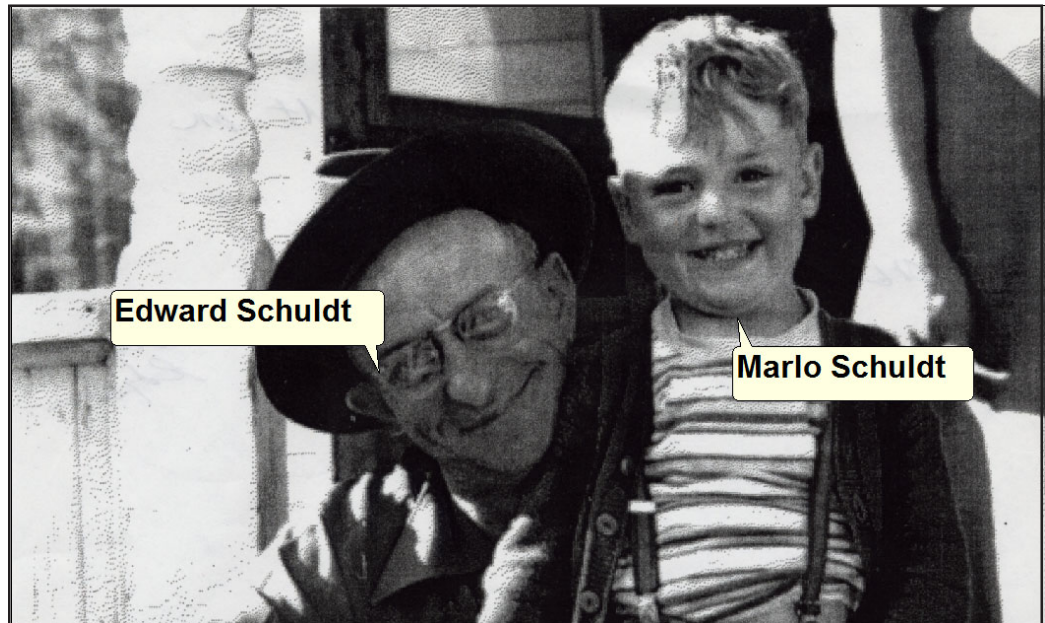
## Have Some Real 'Sound 'Fun!

Create some photo hotspots that contain sound files or add an audio file to an image in Heritage Collector.

In the following example, each one of our grandchildren tells grandma how much they love her. This was one of the highlights of our Christmas slide show. The grandkids wanted to see and hear this many times.



The adjacent photo has two 'talking hotspots.' Clicking on a hot spot allows me to introduce my dad and the German song you will hear him sing when the 'Edward Schuld' hot spot is clicked.



Audacity is an open source (freeware) program that comes with Heritage Collector. You can download it at: <http://audacity.sourceforge.net>



*"Audacity" is a trademark of Dominic Mazzoni.*