

Steve Mirsky sciamsteve@aol.com, Scientific American magazine

Knight Digital Media Center: multimedia.journalism.berkeley.edu
Free tutorials in everything.

Equipment: Altogether less than \$1000.

Zoom Handy H4 recorder

Software packages:

Sony Sound Forge Audio Studio to edit and do some effects. And MAGIX Audio Cleaning Lab to dehis and dehum the audio files. PC programs, but there are similar programs for Macs. Each program runs about \$70. There are also programs like Sony ACID Music Studio, for creating little musical beds.

Musicmatch Jukebox for converting to mp3 at low compression rates, free download, any version.

Good pro mics are good, but not essential.

Most expensive piece of equipment: JK Audio Broadcast Host Digital Hybrid. \$500 Also use as a pre-amp, connect directly to computer for audio capture.

There's a bunch of different equipment I'm using, depending on whether it's a live interview, phone interview, or just me yapping. I've been using the Zoom Handy H4 for face to face interviews—you can record as a wav file or as an mp3 at compression rates up to 320kbps. (Anything higher than 128 is indistinguishable to my ear from a wav.) They're about \$230 each these days, with the price always dropping. Check out the Atul Gawande interview on the April 18, 2007, weekly podcast to hear how the H4 sounds:

<http://www.sciam.com/podcast/episode.cfm?id=01507B4D-E7F2-99DF-3C2E966C312C3599>

That interview was done with professional mics (The EV brand's RE50B), which cost an additional \$150 each and can be plugged into the H4 with XLR cables, which are about \$15 bucks each. The unit also comes with built in mics, which are also pretty good. The September 3, 2008, weekly has an interview done using the H4's built in mics:

<http://www.sciam.com/podcast/episode.cfm?id=28825D7D-D772-2192-12177C05B4B2AED7>

There are other units that basically do the same things. I know that M-Audio makes one at a comparable price.

Also need software to spiff up the sound and to edit. I use Sony Sound Forge Audio Studio to edit and do some effects. And MAGIX Audio Cleaning Lab to dehis and dehum the audio files. Those are PC programs, but there are similar programs for Macs. Each program runs about \$70. There are also programs like Sony ACID Music Studio, for creating little musical beds and intros and outs like you hear on our podcasts.

For recording phone calls, I use a device called the JK Audio Broadcast Host Digital Hybrid. That's about \$500, but is necessary if you're going to be relying on phone interviews for the program. It can record directly onto a capture device, such as the H4 or the hard drive of the computer. I usually capture directly onto the computer using the Sony Sound Forge Audio Studio software to capture the feed. It records me on one track and the person I'm calling on another. I then separate the tracks, treat them individually with the software to clean, adjust volumes, etc. Then I remix the tracks. I often then reclean the mix. Results have been pretty good—as an

example, check out the September 9, 2008, edition featuring a phone interview with Tom Friedman:

<http://www.sciam.com/podcast/episode.cfm?id=451D2588-FBF7-96B5-5767E30ECE43BA17>

NEW TIP FOR PHONE INTERVIEWS—HAVE SUBJECT RECORD ON THEIR END AND SEND YOU THEIR AUDIO FILE. EVEN AN IPHONE MEMO APP RECORDING IS BETTER THAN THE PHONE LINE.

<http://www.scientificamerican.com/podcast/episode.cfm?id=carl-zimmer-on-evolution-in-the-big-11-08-24>

Zoom Handy H4: <http://www.samsontech.com/products/productpage.cfm?prodID=1901>

One additional note: the recorder unfortunately resembles a taser(!), so don't wave it around when getting ready to go through airport security...