

Software for Contesters Column Sept/Oct 2003

It's always a little awkward, in a new setting, knowing how much to say by way of introducing yourself. So here I am writing a new column for NCJ, and I suspect a lot of folks are wondering, "Why him?"

Well, first off, I volunteered. But I've also been kicking around in the world of ham radio computing for a long time. The first piece of software I ever wrote, in about 1983, was a dupe-checking routine for the Timex-Sinclair 1000. Remember those? They had an add-on RAM module that plugged into a port on the back, and had a nasty habit of coming loose just after you'd finished programming something, but before you saved it to an audio cassette.

That first effort was followed, in 1985 or so, by a complete contest logger on the Radio Shack TRS-80 Model 100, and a year later, by a version for the Commodore 64. Both were fairly unusual, for the time, because they sent CW as well as performing logging functions. Imagine trying to cram logging, CW, dupe checking, and useful multiplier tracking for CQWW into 32K of user memory space.

I sold maybe 100 of "The Contester III", as it was called, before I called it quits in 1991. CT had appeared on the market, and it was clear that the IBM PC platform had advantages that a C-64 could never match. I couldn't afford one of those (imagine!), and that was that.

I've stayed interested in ham applications of software ever since, writing a column for the late, lamented *Radiosporting*, as well as occasional articles for NCJ, and spending a lot of time exploring software for antenna modeling, propagation prediction, and lots of other ham applications. In this column, I hope to feature some of the free and low-cost software that is available out there, and encourage you to see how these programs can bring added convenience, information and just plain fun to your contesting experience.

Audio Recording Software

For this first column, I want to write a little about digital audio recording. Now that inexpensive sound cards abound and are installed in virtually every computer, hardware devices to automate canned CQs and other repetitive messages in contests are almost obsolete. Most logging software includes the capability of recording and playing back voice messages through a sound card. This in turn has introduced us to the annoyance of playing with level controls in the sound card mixer software, trying to get the playback levels of all the canned messages equal and as close to the live voice as possible.

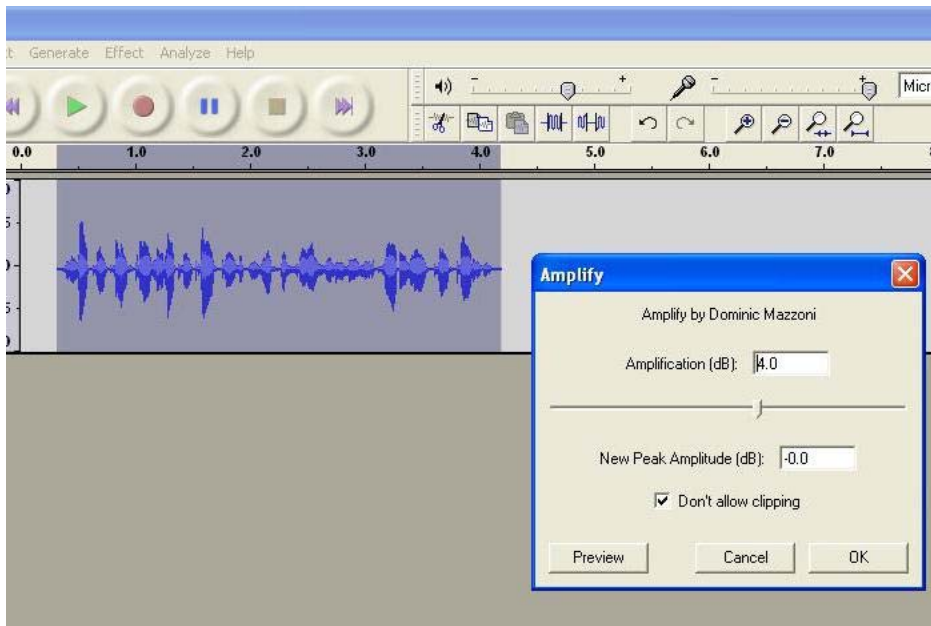
Enter *Audacity*, a freeware Windows audio editor available from <http://audacity.sourceforge.net/>. *Audacity* is a classical open-source software

project, involving a team of developers from the U.S. and Europe, coordinated over the Internet and hosted on Sourceforge, and version 1.2.1 of the software has just been released.

Audacity has a lot of nice features, but what makes it special for our purposes are a few capabilities that I haven't found (at least together) anywhere else. The first is a mixer that is fully integrated into the program; no more jumping back and forth to the cumbersome audio mixer utility that comes with so many sound cards and motherboards. Also included is an audio compressor that can provide a custom-tailored amount of compression while not clipping the audio signal.

The feature that I find the most useful is called, simply, "Amplify". Found on the Tools menu, it lets you easily and quickly modify all of your voice messages to exactly the same peak level, all without clipping. This way, you can retain the dynamic range of your recordings (not bringing up white noise or hum in quiet periods, as compression can) and yet provide exactly the same peak level of audio drive to your transceiver, whether the recording is a long CQ or a quick "5905".

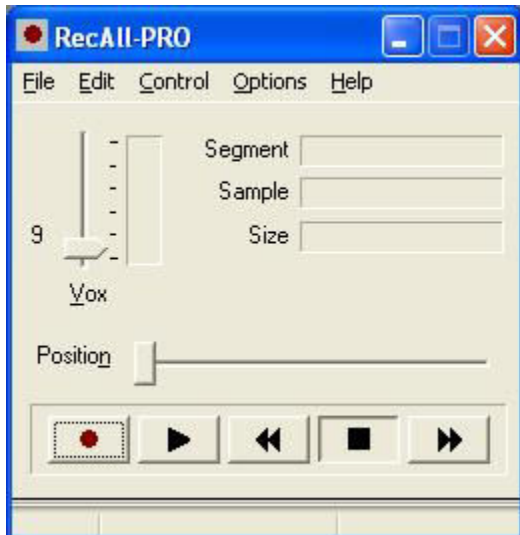
Here's an example.



I recorded a CQ, trimmed the quiet periods at front and back using a built-in tool, and then selected Amplify. Figure 1 tells the story – my recording peaks fell 4 dB short of the standard level, but that's simple to fix. Click OK, and the selected audio clip is amplified so that its highest peak exactly reaches the 0 dB reference. Export the clip as a .wav file, and it's done. You can preview each change you make, boost the bass, change the pitch without changing the speed (magic!), visualize the relative punch of different phonetics, all with infinite Undo capability. *Audacity* makes recording voice files for contests almost fun.

The second piece of audio recording software this month is *RecAll*, from Sagebrush Software (<http://www.sagebrush.com/recall.htm>). This one is not free – it costs \$14.95 – but a 30-day full-capability free trial is available. I often used *RecAll* to record contests when I was using a DOS contest program that didn't have built-in recording capability. I should add that it probably won't work well to run *RecAll* on the same computer with a DOS contest logger, even when the logger is running in a Windows DOS window, because those programs don't tend to time-share well. Test first!

There are a couple of neat things about *RecAll*. First, it has a VOX capability with an adjustable threshold, so that you can be sure that it doesn't just sit there, filling up endless megabytes of disk space with silence if you are recording something off the air and forget to turn *RecAll* off along with your radio. A screenshot of the program (Figure 2) illustrates how tiny and simple the user interface is, but there's a surprising amount of power behind that simple façade.



For example, the sound card mixer is available from the Options menu, and a wide range of recording rates and options are available so that you can tailor the size and quality of your recordings to meet your needs – for example, to record an entire 48-hour contest in a file that will fit in one CD.

On playback, another very useful feature is available. *RecAll*'s files incorporate a time-stamp. You can use the slider to find the right approximate section of the recording that you want to listen to, and then use the fast forward and rewind buttons, with and without the shift key, to move forward and backward a minute or a second, respectively. Using this facility, I found it easy to locate a given QSO in a 48-hour CQWW recording. You do have to make the mental conversion from UTC, unless your logging computer is set on UTC rather than your local time, because *RecAll* only knows about the time on the computer.

That's all for this time. What software do you find useful in your shack?