

Introduction to Scanner Recorder

Introduction

Scanner Recorder is an application for recording intermittent audio as a wave file in the computer. While it's not limited to recording the output of a scanning radio receiver, I assume that this was its intended application.

Important Consideration

Before proceeding any further, it's probably a good time to point out that *recording audio from a scanner or any other source without the owner's permission is probably breaking copyright and possibly other laws. Check your local laws before using Scanner Recorder or any other similar program!*

Downloading and Installing Scanner Recorder

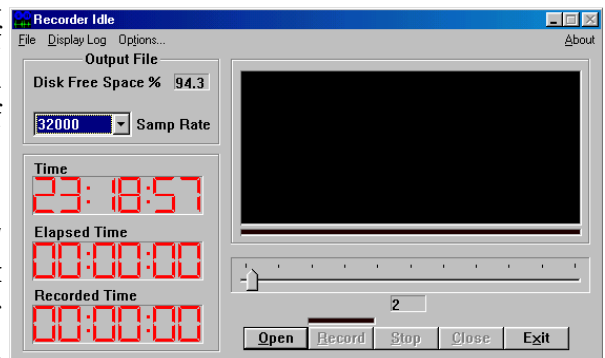
You can obtain the Scanner Recorder application from the WARSUG Software page. Go to the WARSUG site at <http://www.warsug.cjb.net/> and follow the links.

After downloading the program, run it. The file is a self-extracting Zip archive which will extract files to a temporary directory and then run the installer sequence.

Running Scanner Recorder for the First Time

When you run Scanner Recorder, you should see a screen similar to the one shown here. Take note of the available disk space. The wave recordings can get pretty big so make sure that you have heaps of hard disk space, or make smaller recordings...

The Sample Rate setting allows you to vary how quickly the incoming audio is "sampled". I find that 32000 Hz is a good setting – the recordings are clear without getting file sizes that are too outrageous and the files can be later processed and compressed with other utilities.



The three timers show the current system time, elapsed time (time the recorder has been active) and the recorded time (amount of actual audio recorded).

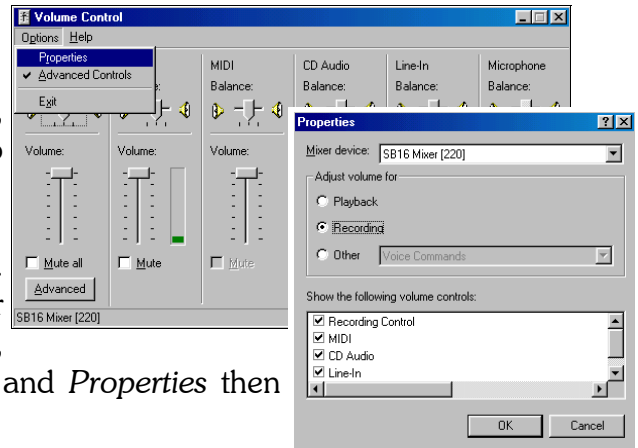
Along the bottom of the window are some control buttons. These open a new file for recording, start and stop the recorder, close the file and exit the program.

Above the buttons is a "sensitivity" slider which determines the minimum volume level before the program will start recording.

Your First Recording

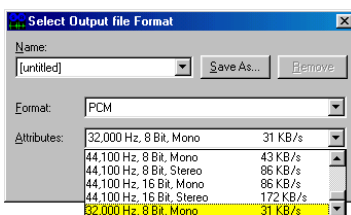
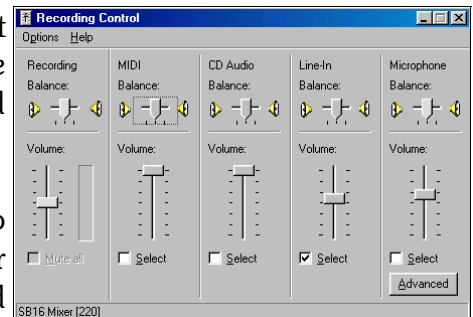
Let's make a test recording. Before we can start, connect your scanner or another audio source to your sound card's "Line In" socket.

We also need to set the recording level in Windows. Double click on the little speaker icon in your system tray and you'll get the volume control box, similar to the one shown here. Click on *Options* and *Properties* then choose the *Recording* option and click *OK*.



Make sure that "Line In" is selected for recording. For now, set the volume level at about the half-way point. Later, when we are recording audio, vary this volume slider so you get a good signal without it "clipping".

You can either close the window or minimise it. Going back to Scanner Recorder, we must now open a file ready for recording. Click on the *Open* button and you will be presented with a standard Windows file dialog. Enter a file name and click on the *Save* button.

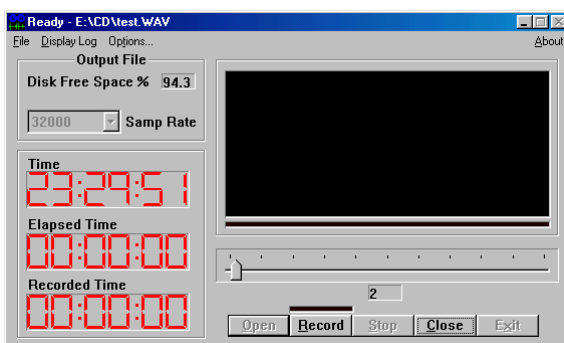
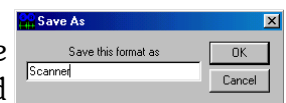


You now need to choose the format the wave file will be recorded in. The settings shown in the picture to the left are what I use.

(Note: Scanner Recorder v1.41 currently only supports 8-bit recordings. Even if you set the file format to 16-bit, the resulting file will still end up as an 8-bit file!)

Please note that there are two sample settings in Scanner Recorder – the rate that incoming audio is sampled at, and the sample size of the files that are saved to disk. We earlier set the sampling rate at 32000 Hz and we should now set the file format to the same in this dialog box.

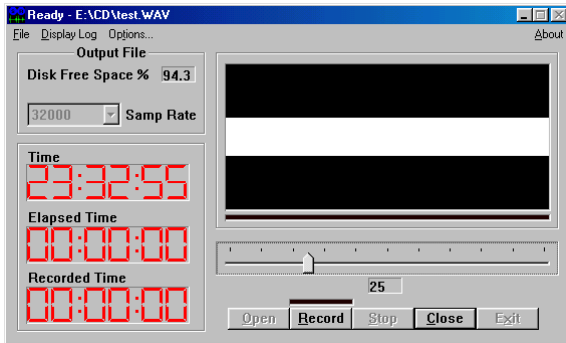
To avoid having to scroll the list and set this every time, you can now define a preset. Click on the *Save As* button, enter a name such as *Scanner* and click *OK*.



Once you have set your recording options, click *OK* to return to the main Scanner Recorder window.

The *Record* and *Close* buttons are now active in the program window.

Clicking on the *Record* button begins the recording process. The elapsed time will start counting until you click *Stop* but the Recorded Time will only count when audio is being recorded.

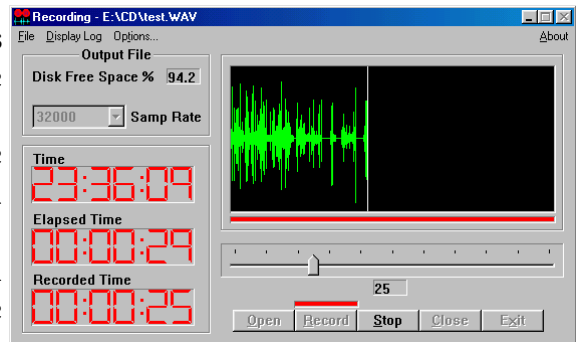


The waveform is traced in the black section of the window. You need to set the input threshold if there are any background noises or hum, otherwise the recorder will be active all the time.

You can also set the threshold that the recording begins and ends by moving the slider bar left or right. The higher the number, the louder the incoming sound must be before Scanner Recorder will begin recording.

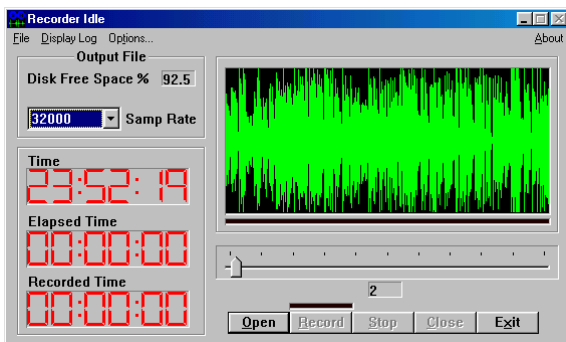
The picture shown here was captured while the slider was being adjusted. Note the white space that has appeared in the waveform window. This shows the “trigger level” in a graphical manner.

While Scanner Recorder is set in record mode, a line slowly traces the incoming audio in the waveform window. If there is no sound, the waveform will be flat. Sound that is quieter than the “trigger level” discussed above will still appear in the window, but will not be recorded. When audio is being actively recorded (i.e. is higher than the trigger level), the small line immediately below the waveform window will be red. If Scanner Recorder is not currently recording audio, the line will be black.



To pause the recording, click the *Stop* button. You may wish to pause a recording if there is some audio coming in that you do not want to be a part of the wave file you are recording, but you expect to start again. Click *Record* again to continue the recording.

To finish the recording and close the file, click the *Stop* button, then click the *Close* button.



When a file reaches approximately 10 minutes of *recorded* audio, you may wish to close the file and open a new file. This ensures that the size of your wave files doesn't get too large and unwieldy. Also, keep your eye on the *Disk Free Space %* notification just under the menu bar. If that gets too low, you will also need to close the wave and record to another drive or free up some space before you can continue.

At 32000 Hz, a 10 minute recording takes over 18 megabytes of hard disk space. This is obviously way too much to seriously consider long term storage of recorded audio. Two ways of reducing the size of the files are to trim the audio files down to include only the audio you require and then to encode the audio into a different, compressed format.

Editing the audio can be done in a number of packages and tutorials are available for *Cool Edit Pro* and *Acid WAV*. Check out the documents *Introduction to Cool Edit Pro* and *Introduction to Acid WAV* respectively.

Audio compression can be achieved in several ways, the most popular currently being the MP3 format. For more information about compressing to MP3, see the tutorial *Introduction to Audio Compression using MP3*.