

Sonogram ± An Acoustic Signal Analyzer / Editor

by Hiroshi Momose

Release note for Ver. 0.90 (beta)

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Caution!! This is a beta version and might not give accurate results.

This is an acoustic signal analyzer program that let you do time±frequency analysis on sound signals. This program is based on EdSnd 1.4 by James Pritchett and Steven M. Boker, which, in turn, is based on SoundEditor by Lee Boynton.

- Features that were originally planned but were not ready in this release
 - Zero-crossing analysis option.
 - Calculation of FFT by DSP.
- Known limitations
 - Analysis can only be done on 16bit linear monaural sound. I'm somewhat sorry about

this. Therefore, I include a couple of small utilities to convert sound files to the format which Sonogram can understand. A program named convs2m can be used to convert stereo sound file to a mono. file. Another program named convh2l can be used to convert the sound format to 22kHz 16bit linear (this is based on converttest.c found in /NextDeveloper/Examples/Sound). Just type convs2m or convh2l and hit return in the shell to see how to use them.

- You can't double click on .snd file to run this program.

· Known bugs

- If you change the sampling frequency, the program will give incorrect time measurement results (it still uses info. from .snd file itself).
- If you choose a fractional frequency value as the lower frequency range limit, the frequency label on the sonogram will be incorrect. (Cursor measurement will still give a correct result)
- Cursor measurement gives a correct reading only immediately after the sonogram is drawn (and before another sound file is opened).
- If you select new sound file and paste some sound from PasteBoard, you can't save it immediately. (workaround ± select another opened sound window, select the new one again)

- If you select the very beginning / end of the sound file as a start point of selection, the beginning/end of the sonogram display will be corrupted.

· Plans for future additions

- Pre-emphasis of the signal using digital filter.
- Dragging in the sonogram view will measure mean frequency and rms values.
- Sonogram window will be scrollable, and pixel size (in time axis) will be user selectable.
- More analysis methods such as Cepstrum, LPC(max entropy method), Wavelet transform, etc. (If someone has already figured out the algorithm for Wavelet, please teach me how.)
- Saving / printing of sonograms.
- 3-D waterfall display of sound energy distribution.
- DSP (if I can figure out how to make it work fast).
- Support for some A/D devices and real-time sonogram display.

· Copyright notice

You can use this beta version for free, but please don't sell it, and don't modify or remove this document when you re-distribute the program. The author retains all the copyright to this software (some of the codes were written by other people, who retain their copyright to these specific portions of the program ± these authors' names are mentioned in the online help panel (use the menu **info / help**) and also in the file named Sonogram_Help.rtf, which is the same document as the one found in online help panel).

Please report bugs, comments and suggestions to :

Dr. Hiroshi Momose
Zoology, UC-Davis
Davis CA 95616

hmomose@ucdavis.edu