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History

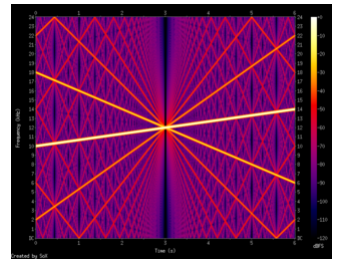
Throughout its history SoX has had many contributing authors; Guido van Rossum, best known as creator of the programming language Python, was a significant contributor in SoX's early days.

Features

- Cross-platform (Windows, Linux, Solaris, OS X, *et al.*)
- Reading and writing Au, WAV, AIFF, MP3 (via an external LAME MP3 encoder), Ogg Vorbis, FLAC and other audio file formats

Sound eXchange	
Developer(s)	Chris Bagwell, <i>et al.</i>
Initial release	July 1991
Stable release	14.4.2 / 22 February 2015
Repository	<div>sox.git</div> <div>.sourceforge</div> <div>.net/gitroot/sox</div> <div>/sox (git://sox.gi</div> <div>t.sourceforge.n</div> <div>et/gitroot/sox/s</div> <div>ox)</div> <div></div>
Written in	C
Operating system	Cross-platform: Windows, Linux, OS X
Type	Audio editing software
License	GNU General Public License v2 GNU Lesser General Public License v2
Website	<div>sox</div> <div>.sourceforge</div> <div>.net (http://sox.</div> <div>sourceforge.ne</div> <div>t/)</div>

- Recording and playing audio (on many systems); playing via URL (internet file or stream)
- Editing via concatenate, trim, pad, repeat, reverse, volume, fade, splice, normalise
- Processing via chorus, flanger, echo, phaser, compressor, delay, filter (high-pass, low-pass, shelving, etc.)
- Adjustment of speed (pitch and tempo), pitch (without tempo), tempo (without pitch), and sample rate
- Noise removal using frequency profiling, implemented since December 2004
- Silent passage removal, implemented since September 2001
- Simple audio synthesis
- Multi-file & multi-track mixing
- Multi-file merging (e.g., 2 mono to 1 stereo)
- Statistical analysis; spectrogram analysis



A SoX spectrogram

Examples

SoX being used to process some audio:

```
$ sox track1.wav track1-processed.flac remix - norm -3
  highpass 22 gain -3 rate 48k norm -3 dither

Input File      : 'track1.wav'
Channels        : 2
Sample Rate     : 44100
Precision       : 16-bit
Duration        : 00:02:54.97 = 7716324 samples = 13123 CDDA sectors
Sample Encoding : 16-bit Signed Integer PCM
Endian Type     : little

Output File     : 'track1-processed.flac'
Channels        : 1
Sample Rate     : 48000
Precision       : 16-bit
Duration        : 00:02:54.97 = 8398720 samples ~ 13123 CDDA sectors
Sample Encoding : 16-bit FLAC

sox: effects chain: input      44100Hz 2 channels 16 bits (multi)
sox: effects chain: remix     44100Hz 2 channels 16 bits (multi)
sox: effects chain: norm      44100Hz 1 channels 16 bits
sox: effects chain: highpass  44100Hz 1 channels 16 bits
sox: effects chain: gain      44100Hz 1 channels 16 bits (multi)
sox: effects chain: rate      44100Hz 1 channels 16 bits
sox: effects chain: norm      48000Hz 1 channels 16 bits
sox: effects chain: dither    48000Hz 1 channels 16 bits (multi)
sox: effects chain: output    48000Hz 1 channels 16 bits (multi)
```

Playing some audio files:

```
$ play *.ogg

01 - Summer's Cauldron.ogg:

  Encoding: Vorbis
  Channels: 2 @ 16-bit   Track: 01 of 15
  Samplerate: 44100Hz    Album: Skylarking
  Album gain: -7.8dB     Artist: XTC
  Duration: 00:03:19.99  Title: Summer's Cauldron
```

In:20.8% 00:00:41.61 [00:02:38.38] Out:1.84M [====|====] Clip:0

Vulnerabilities

SoX has had several vulnerabilities listed in the [National Vulnerability Database](#) since its last public release in 2015. These vulnerabilities include [stack](#) and [heap overflows](#) and [denial-of-service attacks](#).

See also

- [Digital audio](#)
- [Audio file format](#)
- [Audio signal processing](#)
- [Multitrack recording](#)
- [Audio mastering](#)
- [Sample rate conversion](#)
- [Free audio software](#)
- [List of Linux audio software](#)

External links

- [Official website \(http://sox.sourceforge.net/\)](http://sox.sourceforge.net/)
- [NVD entries for SoX \(https://nvd.nist.gov/vuln/search/results?form_type=Basic&results_type=overview&query=SoX&search_type=all\)](https://nvd.nist.gov/vuln/search/results?form_type=Basic&results_type=overview&query=SoX&search_type=all)

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