title: Spectrogram description: A spectrogram is a visual representation of the spectrum of frequencies of a signal as it varies with time. tags: - Audio - Spectrogram refs: date: 2023-07-19 draft: false

Online Tools

- **Spectrum Analyzer (https://academo.org/demos/spectrum-analyzer/)**

  Display a spectrum of signal amplitudes on different frequencies.
  Upload audio file like .wav or .mp3, .ogg.

- **Spectral Analyzer (https://www.dcode.fr/spectral-analysis)**

- **Morse Code Adaptive Audio Decoder (https://morsecode.world/international/decoder/audio-decoder-adaptive.html)**

Using Audacity

Audacity is an audio editor which also can be used for decoding signals in audio files.

1. Open an audio file in Audacity.
2. Click the name of the file at left menu (which contains the reverse triangle icon).
3. In the drop-down menu, check **Spectrogram**.
4. If you want to edit advanced settings, click **Spectrogram Settings** in the menu and edit values.
5. Click **Play** button.

Using Inspectrum

Inspectrum (https://github.com/miek/inspectrum) is a radio signal analyzer for **.cf32**, **.cf64**, etc.

Using Rtl-433

rtl-433 (https://github.com/merbanan/rtl_433) decodes radio transmissions from devices on the ISM bands.

```
# -A: Pulse analyzer.
rtl_433 -A <file>
```

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title: SSTV (Slow-scan Television) description: SSTV is a picture transmission method by amateur radio operators. We can extract pictures from audio files. tags: - Audio - Spectrogram refs: - https://oe5lxr.at/decode-sstv-with-mmsstv/ (https://oe5lxr.at/decode-sstv-with-mmsstv/) date: 2023-07-19 draft: false

Decode SSTV

There are some online tools available as below.

- **MMSSTV** (for Windows)
- **QSSTV** (for Linux)
- **sstv (https://github.com/colaclanth/sstv)** (Command-line tool)