

# intro to steganography

[obligatory joke about how it sounds like stegosaurus]

by @alex-bellon

crypto - hiding information

steganography - hiding information AND  
hiding the fact that you hid information

usually done in audio and image files

least significant bits

one common tactic (with images) is to use least significant bit (or LSB)

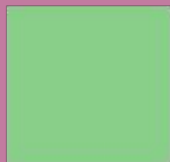
embed the message in the least  $x$  significant bits of the image

the more bits you use, the more obvious it is that you are hiding a message

red

green

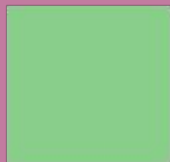
blue



10001001 11001111 10001001



10001000 11001110 10001000



10001000 11001111 10001010



original



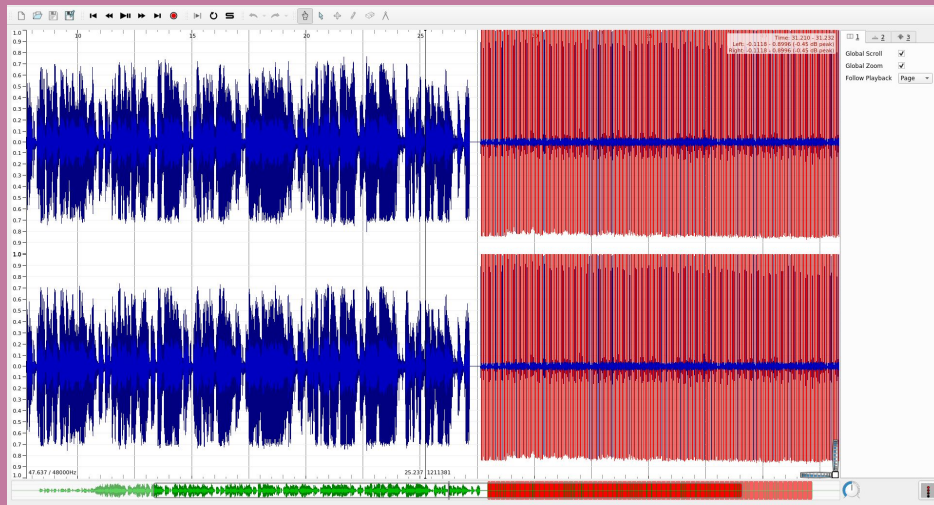
steg

spectrograms

used to hide text or images in audio files  
that can only be seen by looking at the  
spectrogram

you can use a tool like Sonic Visualizer or  
Audacity (both work on win, \*nix, mac) to  
view the spectrogram

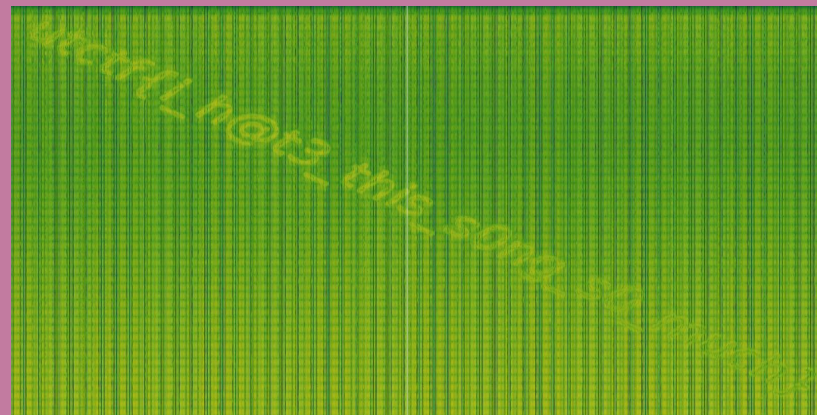




waveform (default)

pane > add spectrogram

spectrogram



other handy tools

`strings <file>` - shows all strings in that file

`xxd <file>` - shows a hexdump of that file

`binwalk <file>` - find embedded files and executable code in binaries