

# Stamped and Signed Writeup

Get given a random file with a changed file signature to look like a font file binary... there's very little two value file sigs so hopefully they'll realise they need to convert it to one of them.. eventually they'll find a format that works and realise quickly its hidden in the spectrogram but also reversed.. just to add another step.

Downloading the file and checking its file type and metadata reveals a mix of results, aimed at confusing people with what they're looking at.

```
(kali㉿kali)-[~/Desktop]
$ file file
file: SoftQuad DESC or font file binary - version 25728

(kali㉿kali)-[~/Desktop]
$ exiftool file
ExifTool Version Number      : 12.76
File Name                    : file
Directory                    : .
File Size                    : 52 kB
File Modification Date/Time   : 2025:01:16 07:09:44-05:00
File Access Date/Time        : 2025:03:05 04:53:05-05:00
File Inode Change Date/Time   : 2025:03:05 04:53:05-05:00
File Permissions              : -rwxrw-rw-
File Type                    : MP3
File Type Extension           : mp3
MIME Type                    : audio/mpeg
MPEG Audio Version           : 2
Audio Layer                   : 3
Audio Bitrate                 : 144 kbps
Sample Rate                   : 22050
Channel Mode                  : Joint Stereo
MS Stereo                     : On
Intensity Stereo              : Off
Copyright Flag                : False
Original Media                : True
Emphasis                      : None
Duration                      : 2.91 s (approx)
```

If we trust the metadata and that this is an MP3 file, we can assume that the file signature has been replaced. We can then find the MP3 file signature from a website such as [https://en.wikipedia.org/wiki/List\\_of\\_file\\_signatures](https://en.wikipedia.org/wiki/List_of_file_signatures)

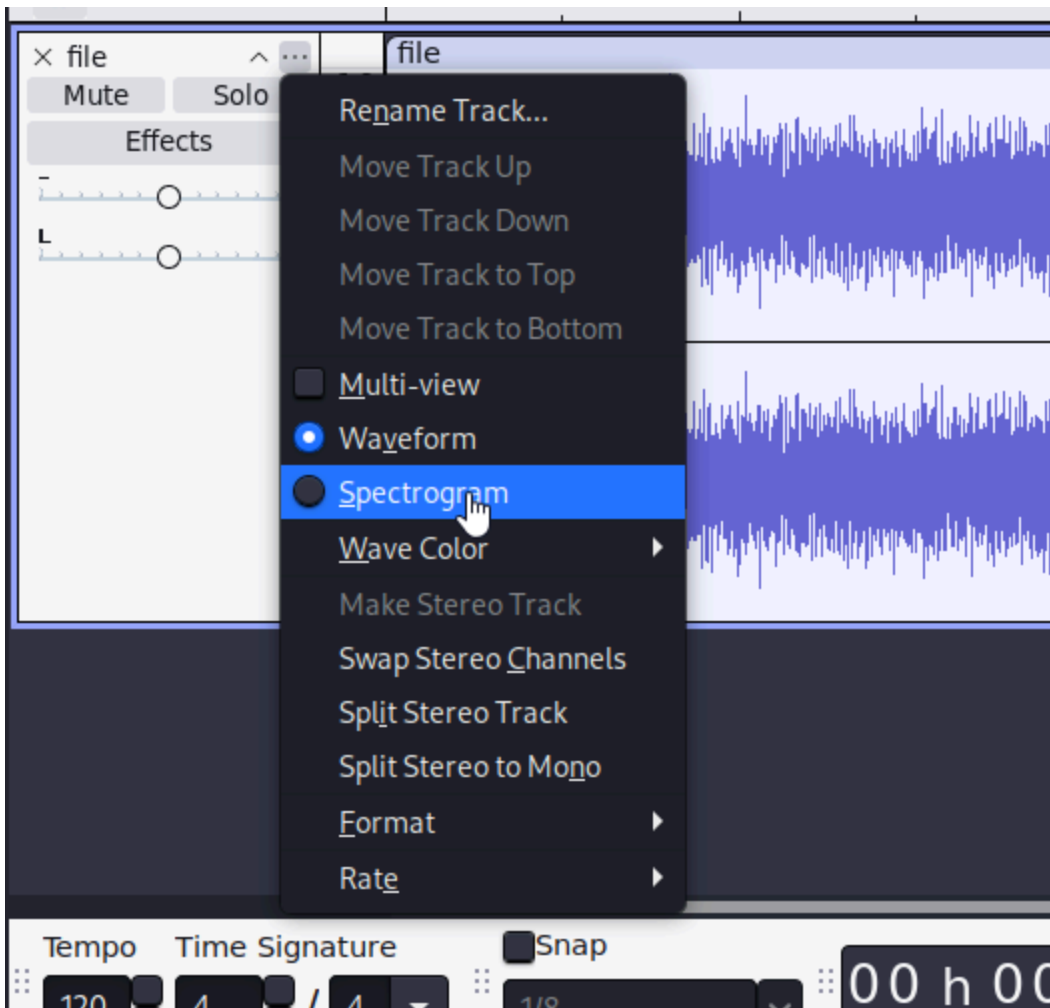
Edit our file to have that signature using a tool such as Ghex

Address	Hex
00000000	FF FB 80 64 00 00 00 00 0
00000010	00 00 00 00 00 58 69 6E 6
00000020	C2 00 00 CC 6F 00 03 04 0
00000030	15 17 1A 1C 1E 20 21 23 2
00000040	33 35 37 39 3B 3D 3F 40 4

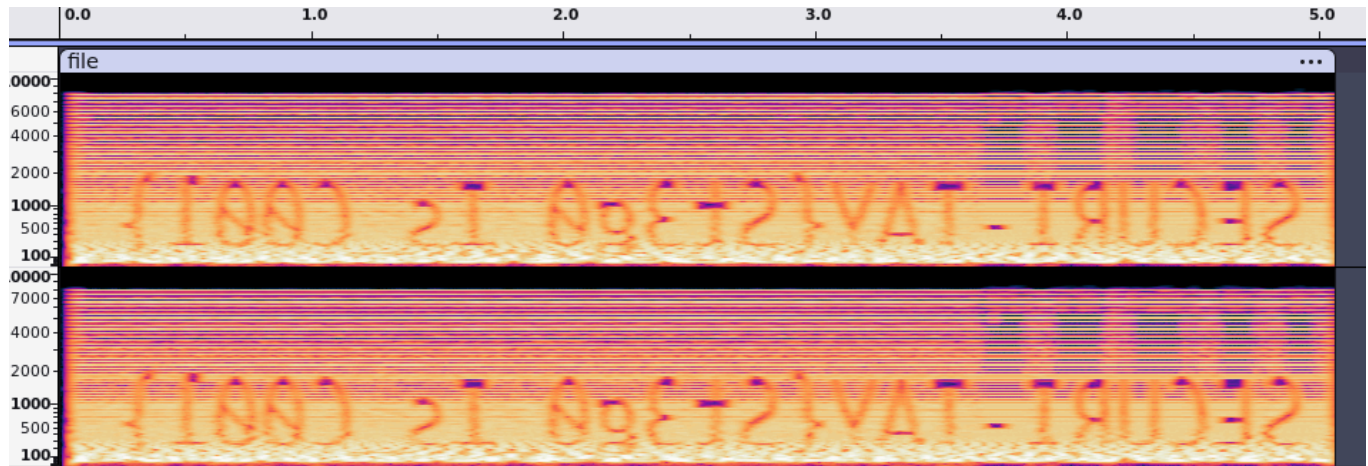
Double check our filetype to ensure we've converted it correctly

```
(kali㉿kali)-[~/Desktop]
$ file file.mp3
file.mp3: MPEG ADTS, layer III, v1, 112 kbps, 44.1 kHz, JntStereo
```

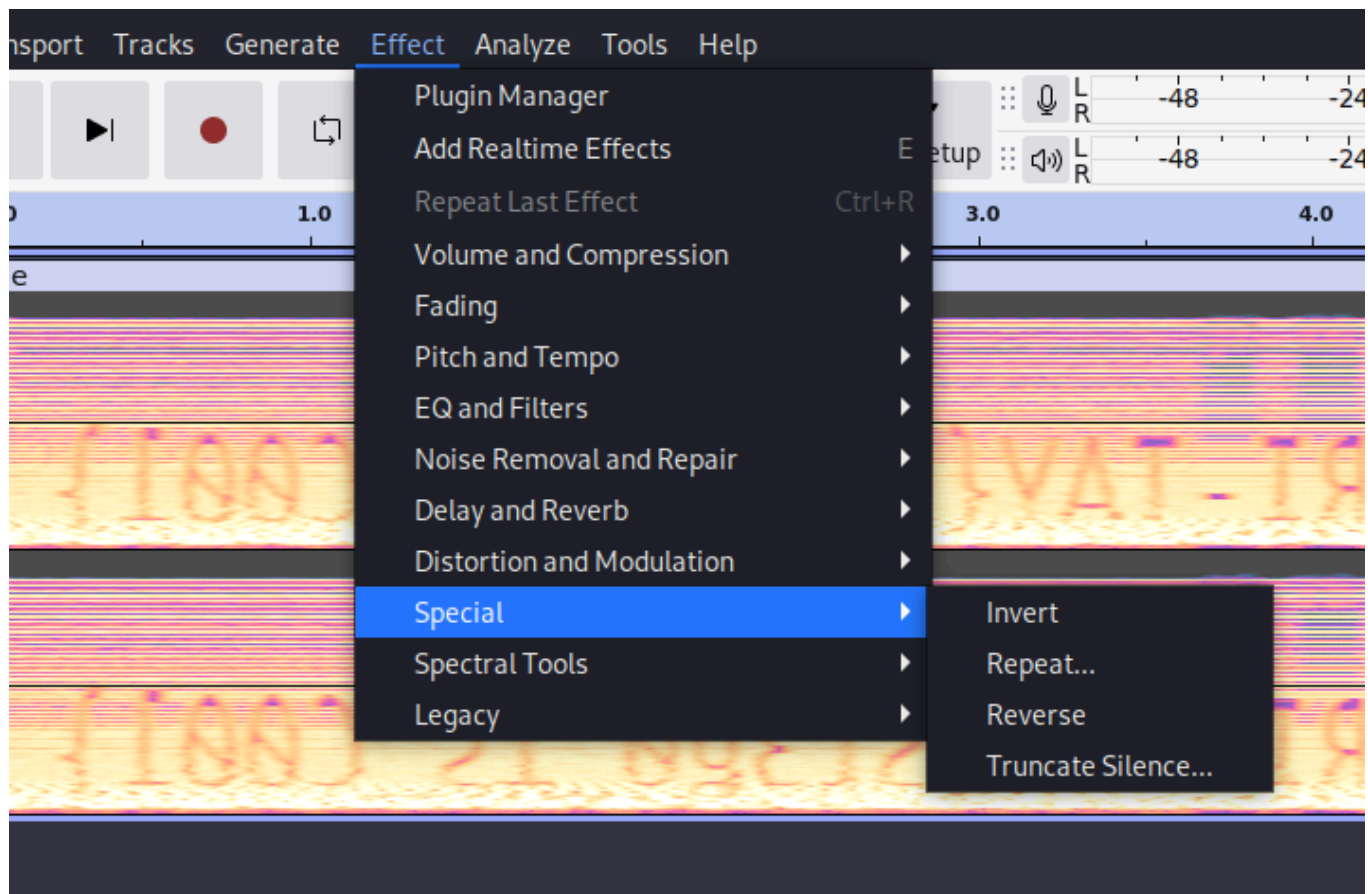
We can then begin exploring this MP3 file. Playing the audio file will come back with some random sounds, nothing of particular interest. We can then look into the Spectrogram for the file, to see if anything has been hidden there.

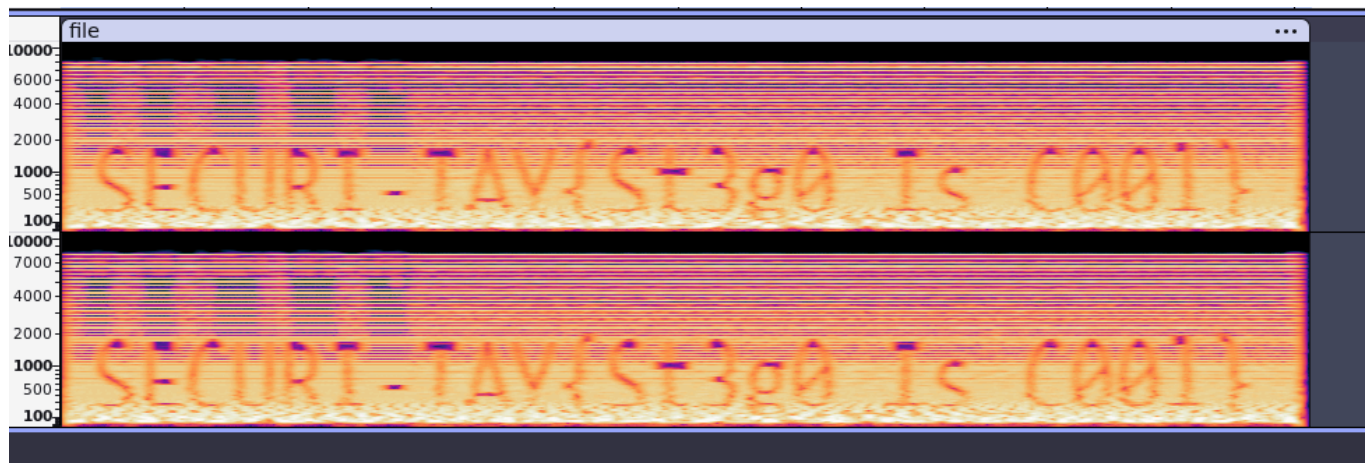


Sure enough, it has been!



We can either type it manually or use the "reverse" feature in Audacity to get our flag in the proper format.





Meaning our flag is `SECURI-TAY{St3g0 Is C00l}`