



# A noise filter for audio data

## 1 Introduction

There are several ways of getting rid of unwanted noise:

- Using a microphone that won't listen to noise from directions that will only add noise.  
The human ear can do that even after the actual recording has been done but that's magic and we don't expect our computer to be able to do that.
- Muting every frequency that doesn't provide a sensible signal.
- Silencing the signal during pauses hoping that the rest of the time the recording is loud enough to drown the noise.  
Remember that completely muting the signal might leave a uncanny silence, though.
- And if you have a constant background noise you can try to remove as much amplitude from every frequency as the background noise contains. This filter will try to do so.

```
(%i1) load("fft")$load("draw")$wxplot_size:[1800,500]$  
load("sound")$
```

```
; compiling file "/usr/local/share/maxima/branch_5_34_base_197_g87d8ffb_dirty/share/numeric/fft-core
```

Welcome to wxMaxima

Ready for user input