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 contauns. 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-cor
```