

Re: Lowest power tune detector.

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 - *Date:* Mon, 24 Apr 2006 16:20:48 +0100
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"Ian Stirling" <root@xxxxxxxxxxxxxxxxxxxx> wrote in message
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I'd like a keyring that responds to a whistled tune, rather than a simple tone, for better noise rejection.

One way is to attach my laptop to my keyring, run a FFT over the output of the mic, and then look for spikes in the correlation of the tune with the historical output of the FFT. Needless to say this uses too much power, and is a bit bulky.

Another would be to go analog, have several tuned filters outputting to comparators/ADCs, but this has a high component count.

This is to go into another device, which has a 3.3V supply.

I'd like it to draw under 150uA or so.

Are there micros that can do this?

ADC at ~8Khz, clocking at a few tens of Khz, and do the MAC thing for maybe 8 tones?

Your're pretty much looking at a multi tone telemetry system. The 60's sounding rockets needed racks full of equipment to do similar. Even now you'll need some -heavy- signal massaging using quite a powerful DSP/Micro. Small PICs won't touch it. FFTs' are way over the top. Need to be using something like the Goertzel algorithm.

john