

Re: Resample MHz signal

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 - *Date:* Sun, 19 Aug 2007 15:29:10 -0700
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On Aug 19, 2:40 pm, James Barlow <jamesbar...@xxxxxxxxxxxxxxxx> wrote:

Please excuse me for starting another thread on this topic. My apologies for not being specific enough the first time. But I did learn something.

What I am really looking for is external hardware that will allow me to upload an audio frequency WAV file, such a voice or music, from a PC and then play it back at 100 times the original sample rate.

The program I am using is CoolEdit, which has a built in tone generator with modulation and enveloping. It can produce 8, 16 or 32 bit resolution at 12 discrete sample rates between 6000 and 192,000.

The idea is to take advantage of this program's functionality and user-friendly GUI to produce complex signals above the audio range.

PC software (alone) is not a solution as the resulting bandwidth would be 2KH-2MHz, and therefore beyond the capabilities of a standard soundcard. DSP-based boxes for musicians are equally unsuitable for the same reason.

I seem to need a lab-type device, or something I can modify or build from scratch. Do I have any viable options here?

I have Googled big time and so far found nothing. Signal transposers would be a great project for an electronics magazine. Think of all the applications.

I hope my aim is clear enough to attract an expert response.

Basically what you are after is a DAC that can go up to several MHz. If the record is fairly short an "arbitrary function generator" may be good.

Signatec makes some PCI DACs IIRC

Dyneng makes some PC104 ones, I think but they aren't likely fast

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enough.

If your computer has an ISA slot doing a home made DAC wouldn't be very hard. You would want to provide a little bit of buffering FIFO and self clocking. The timing of writes on a PC is quite jittery.

The easy way to build this would be to make the PC into a "box that does this function." Basically what I am thinking here is that you do this part in DOS or Linux and basically take over the whole machine while you do the output.

On DOS machines that aren't laptops, the 18.2Hz interrupt can be taken over and can be used to transfer bursts of data at a much faster rate. Laptops and Windows machines are less likely to be able to do this. For some reason the BIOSes commonly used in laptops leave the interrupts off for longish times.

Linus may be able to do it. Windows is extremely unlikely. In both cases you need to be able to