

Re: Multi Channel F-V converters?

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- *From:* Joerg <notthisjoergsch@xxxxxxxxxxxxxxxxxxxxxxxx>
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padraigfitz@xxxxxxxxxxx wrote:

Hi All,

I'm looking to monitor a number (~10) of slowly varying low frequency outputs (100Hz-5KHz), I want to be able to sample & report the frequency on each channel once every 100mS. The micro processor I'm using has a number of ADC channels so I was hoping to use these to monitor the output of a Frequency to Voltage converter for each channel. The required range is 0-5V on the output of the converter.

I don't think I can use the micro to time the inputs directly because I may not have the overhead available to do this every 100mS for every channel.

Does anybody have any ideas on the easiest way to achieve this?

I had a look at the usual Semiconductor manufacturers and can't seem to find a multi channel IC to do this, does anyone know of any?

Also what is the best method for pretty precise measurement of these frequencies? If you think I'm approaching this from the worst possible way let me know this also,

Don't know any multi-channel ones, I usually do such things with the LM331 which unfortunately doesn't come in small footprints.

If the uC has lots of MIPS you might be able to squeeze in a fast interrupt scheme. Zero crossings would trip comparators where each goes to a port pin. When any of the port pins changes state an interrupt is generated. That's going to be lots of interrupts and you'd have to check states again after it comes out of the ISR to catch any that might have changed state while processing the ISR. Each time a state change is detected a time stamp versus a long timer is generated and you'd have to also handle the timer rollover. Again, this must be a powerful uC because the interrupts will come faster than they can pour Guinness in one of your pubs ;-)

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Regards, Joerg

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<http://www.analogconsultants.com>