

Re: PC based measurements

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From: Bob Masta (*NoSpam_at_daqarta.com*)

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On Thu, 8 Jul 2004 19:25:28 +0200, "Indroneel Ganguly"
<kundol30@yahoo.com> wrote:

>Hello Everybody,
>I am trying to use my PC to measure resistance, capacitance and inductance
>of the
>respective components.
>I would like to use the parallel or serial port to do it.
>Do I need to have a ADC circuit to do it ?
>I would appreciate any advice on this.
>
>Thank you,
>Indroneel
>
>

Yes, you need an ADC circuit, but it doesn't need to be a "conventional" one using a commercial ADC chip. If you are handy with programming low-level real-mode DOS, you can do all sorts of tricks based upon timing of printer port interrupt requests. You would need to convert your input variables to an appropriate period or frequency.

You can make a simple 8-bit R-2R ladder DAC that the proper software can use to make a successive approximation ADC. The LPTX driver for my Daqarta software <www.daqarta.com/download> includes complete tutorial information on how to build this, which you can read on-line before you download. In many cases the whole works can be completely passive; nothing but resistors, while the PC does all the active stuff. If you use this circuit with the LPTX driver, Daqarta can read it as a waveform for a scope display, spectrum, or spectrogram in real-time.

Finally, the simplest way to do many measurement tasks is to use the joystick port on a sound card. There have been many articles written on how to

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do this. The PC essentially measures resistance based upon how long it takes to charge up a capacitance as the resistance varies. You can thus measure capacitance by the reverse approach.

Hope this helps!

Bob Masta
dqatechATdaqartaDOTcom

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www.daqarta.com