

Re: Buffer circuits?

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- *From:* "Charles Schuler" <charleschuler@xxxxxxxxxxx>
 - *Date:* Mon, 19 Dec 2005 16:07:48 -0500
-

"Ron J" <bigschlong@xxxxxxxx> wrote in message
news:1135017657.158177.274780@xx

> All,
>
> Merry Christmas and a Happy New Year!
>
> I was looking through some sensors on Digikey. Some of the ratings are
> given at a certain load. For instance, 50 mV at 1 k-ohm. If I wanted to
> bump this voltage a bit higher, can I use the following op amp buffer
> ckt?
>
> The sensor output is connected to 1 k-ohm resistor with one resistor
> terminal connected to the non-inverting op amp input and the other
> terminal is grounded. The opamp output is looped back to the inverting
> input using a low loss piece of wire. The opamp output is then
> connected to my measurement device.
>
> Will this type of circuit work accurately with little deviation from
> the original voltage input at the opamp?
>
> I was thinking of all the losses that is encountered from the input of
> the opamp to its output. My main concern is that since the output
> deviation of the sensor only goes up to 50 mV at 1k-ohm, then noise
> might affect it significantly compared to a higher output voltage,
> right?

Well, you said you wanted some gain, so why not use a 10 k ohm feedback resistor instead of a piece of wire? That would give you a voltage gain of 10. The non-inverting op-amp input is often grounded through a resistance equal to the parallel equivalent of the input and feedback resistors (to minimize offset error).

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- *Follow-Ups:*

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◆ **Re: Buffer circuits?**

◇ *From:* Charles Schuler

• **References:**

◆ **Buffer circuits?**

◇ *From:* Ron J

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