

## Re: dacs, microcontrollers and ground planes

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**Date:** 06/13/04

Date: Sun, 13 Jun 2004 14:18:35 -0700

On Sun, 13 Jun 2004 12:26:29 -0700, Guy Macon

<<http://www.guymacon.com>> wrote:

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>Ken Smith <[kensmith@violet.rahul.net](mailto:kensmith@violet.rahul.net)> says...

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>>Bill Sloman <[bill.sloman@ieee.org](mailto:bill.sloman@ieee.org)> wrote:

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>>>One thing that Hank could do would be to put an opto-isolator or two

>>>into the SPI link between the A/D converter and the digital hardware.

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>>Also going through a single ended to balanced and back to single ended

>>buffer set will keep the logic currents from flowing away from the ground

>>point.

>

>I had one design where the digital outputs of the uC had a lot of

>noise on them which was getting into the ADC. I put in a 74HC

>buffer running off of a filtered +5V supply and the noise stopped

>at the input to the buffer.

It usually helps the gate the buffer, so the constant flailing of the data bus isn't always present at the ADC or DAC. The bus data *is* noise, irrespective of the source of Vcc.

Most dacs – serial or parallel – have a serious amount of digital-to-analog feedthrough.

John