

Re: PWM and dither

Source: <http://sci.tech--archive.net/Archive/sci.electronics.design/2008-03/msg01659.html>

- *From:* John O'Flaherty <quiasmox@xxxxxxxxxx>
 - *Date:* Sun, 09 Mar 2008 20:19:13 -0600
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On 10 Mar 2008 02:14:17 GMT, Pasquale <desmomito@xxxxxxxxxxxxxx> wrote:

On Sun, 09 Mar 2008 22:10:51 -0500, Robert Adsett wrote:

In article <[vr0Bj.4811\\$e52.3303@trndny01](mailto:vr0Bj.4811$e52.3303@trndny01)>, Martin Riddle says...

"Pasquale" <desmomito@xxxxxxxxxxxxxx> wrote in message [news:47d48b6a\\$0\\$16039\\$5fc30a8@xxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:47d48b6a$0$16039$5fc30a8@xxxxxxxxxxxxxxxxxxxxxxxx)

Hi,
I need to control a solenoid valve using PWM but I have also some specifications about "the dither" in order to reduce friction etc.. I now what the dither is able to do in theory. I now how to built an electronic circuit concerning PWM (I'd do that using a micro plus a MOSFET etc.) but I don't have any idea about "the dither". Should I sum another PWM with lower frequency to the higher frequency PWM which control the valve position ? Do you have any example or links in order to clarify this aspect ?

Thank you in advance,
Pasquale

A 'dither' technique typically increases the PWM resolution by one or two bits depending upon your tolerance for dither ripple.

I think he's suggesting an actual dithering of the valve position Yes,.

Re: PWM and dither

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the valve actually vibrates around its setpoint. Possibly to overcome stiction?

Robert

Yes, that's correct. I need a PWM to control the valve current plus another signal called "dither" to overcome the stiction. I should implement it but actually I don't know how to consider the dither.

You have some error signal controlling the PWM output. You can add a dither signal of the appropriate amplitude and frequency to that error signal, such that the valve is kept in constant motion.

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John

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