

Re: Audio circuit to drive solenoid

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- *From:* JosephKK <quiettechblue@xxxxxxxx>
 - *Date:* Wed, 09 Jul 2008 20:12:14 -0700
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On Sat, 5 Jul 2008 23:24:23 -0700 (PDT), "Doug B." <c.difficile@xxxxxxxx> wrote:

On Jul 5, 10:35 pm, "Tim Williams" <tmoran...@xxxxxxxxxxxx> wrote:

So you're looking for a circuit which produces a one-shot pulse, of specific (and presumably adjustable) amplitude(s) and timing(s)?

Yes, I think that sums it up. I know of the classic 555 for one-shot pulses. Is there an alternative?

If he's truly PWMing the solenoid, it could be getting hot from the AC. Solenoids are often big hunks of steel, and big hunks of steel get hot when you put AC into them.

Since this is a musical instrument, I'm going to bet it would be much more convenient to implement a MIDI interface. Not something I've done, but you can probably find a chip to do the hard part.

Tim

I have thought of a MIDI interface. Problem is, my friend is really not interested in using anything new than his standard analog interface so...not this time.

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Deep Friar: a very philosophical monk.
Website: <http://webpages.charter.net/dawill/tmoranwms>

"Doug B." <c.diffic...@xxxxxxxx> wrote in message

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up a scope, but I suspect that only the first 10–20 milliseconds of the audio pulses are going to actually activate the solenoid; the rest of the energy is going to heat his apartment. 2) Each solenoid takes up a precious channel of an amp that is rated to 50 watts while actual power needs are probably only a watt or two.

So what I'd like to do is design a circuit that would take the line-level audio output from his synth or soundcard (1 V rms on the Macbook he uses) and use it to trigger a pulse that is just long enough to drive the solenoid. I don't have the specs on the solenoid, but I believe it needs about 10 milliseconds for activation, then another 60 – 100 ms to run its course to 45 degrees. The solenoid is rated at 12 volts, but I'm not sure whether that is the 100% duty cycle rating or something less. In any case, my friend uses 13.8 V regulated power supplies for his setups, so I'd like to use that to power the circuit.

My first idea for this was to half-wave rectify the audio signal and use it to drive a power transistor, but I don't see how to limit the resulting pulse length, then shut off, regardless of how long the audio note plays. RC circuit maybe?

I welcome all ideas, great and small. Thanks!

doug beeson
montreal,canada

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Crikey. Point out your friend that the sound card already has a duplex midi interface.

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