

Re: The mechanism behind bouncing...

Re: The mechanism behind bouncing...

Source: <http://sci.tech--archive.net/Archive/sci.electronics.basics/2007-02/msg00149.html>

- *From:* John Fields <jfields@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Sat, 03 Feb 2007 18:52:37 -0600
-

On Sat, 03 Feb 2007 08:13:46 GMT, "Jon Slaughter"
<Jon_Slaughter@xxxxxxxxxxx> wrote:

"KILOWATT" <kilowatt"nospam"@softhome.net> wrote in message
[news:45c3aa6d\\$0\\$31564\\$c3e8da3@xxxxxxxxxxxxxxxxxxxxxx](mailto:news:45c3aa6d$0$31564$c3e8da3@xxxxxxxxxxxxxxxxxxxxxx)

Hi... thanks for your attention.

I just wish to know the precise reason why for example, a digital counter may count many pulses on it's clock input when the clock is feed via a non noise-free source like a mechanical switch. It is because when the contacts makes/breaks, arcing (i've read somewhere that there can be a possibility of arcing even at low voltage) occurs, or if it's because of the very rough surface (microscopically-speaking) of the switch contacts, were the metal molecules grinds (and possibly flexes) together, during switch activation? TIA for your reply.

The atoms of the two materials are not configured in such a way that there is complete contact.

That's not true.

When the contacts come to rest after the bouncing period is over they will either be in intimate contact or they will be completely separated.

If they were then the materials would be fused.

Re: The mechanism behind bouncing...

Which, indeed, they are until the coil is de-energized and the return spring exerts force on the armature, breaking the microscopic weld(s) and allowing the contacts to open.

Since there are not fused and they slide there is friction involved and this friction causes the contacts to move farther apart and then closer together.

No. The friction you're talking about is only about the contacts rubbing against each other when they're making or breaking and is a second order phenomenon compared to bounce, which occurs when the contacts alternately make and break when the coil is energized. Bounce also occurs when the armature is de-energized, but to a lesser degree, and is caused by the moving contact skipping across the stationary contact when the coil is de-energized.