

# Re: Missing Schmitt Gates??

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*Source:* <http://sci.tech-archive.net/Archive/sci.electronics.design/2007-12/msg00546.html>

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- *From:* Jim Thompson <~~To-Email-Use-The-Envelope-Icon@xxxxxxxxxxxxxxxx~~>
  - *Date:* Tue, 04 Dec 2007 18:06:57 -0700
- 

On Tue, 04 Dec 2007 16:47:14 -0800, John Larkin  
<jjlarkin@xx> wrote:

On Tue, 04 Dec 2007 16:45:54 -0700, Jim Thompson  
<~~To-Email-Use-The-Envelope-Icon@xxxxxxxxxxxxxxxx~~> wrote:

On Tue, 04 Dec 2007 15:40:47 -0800, D from BC  
<myrealaddress@xxxxxxxx> wrote:

On Tue, 04 Dec 2007 22:17:36 GMT, Rich Grise  
<rich@xxxxxxxx> wrote:

On Mon, 03 Dec 2007 19:07:08 -0800, John  
Larkin wrote:

On Mon, 3 Dec 2007  
17:57:28 -0800, "Joel  
Koltner"

"D from  
BC"  
<myrealaddress@xxxxxxxx>  
wrote in  
message

A  
crystal  
needs  
a  
good  
linear  
amp.

Re: Missing Schmitt Gates??

Everything  
is linear if  
you look  
closely  
enough...

I am being a  
little obtuse  
here — the  
kind of  
oscillator I  
was  
thinking  
of was your  
canoncial  
microcontroller/FPGA  
clock that  
doesn't need  
to be  
particularly  
accurate —  
it's common  
to use 50 or  
even  
100ppm  
rocks in  
such  
systems;  
this is a  
completely  
different  
league of  
oscillator  
than  
those you  
build for,  
e.g., fancy  
RF  
applications  
where  
you're after  
2.5ppm or  
better.

I was never able to get the  
Schmitts to oscillate  
anywhere near the  
supposed crystal frequency.

Re: Missing Schmitt Gates??

Maybe it's a little late in the thread to bring this up, but I'd think that with the Schmitt characteristics of the input, the crystal would have to be drastically overdriven, just to get the gate to notice that there's a feedback signal.

But I wouldn't have any qualms about an HCU inverter or 3. ;-)

Cheers!  
Rich

I think Ht for Logic with Schmitt inputs is about 1V @ 5V.

A crystal..well... isn't it just tiny jiggling piece of rock?  
Ooops...I might be thinking piezo..  
Damn..forgot all my crystal theory...cuts, shapes, modes and all that jazz.  
Anyways.. I can imagine that one has to be kind to a tiny piece of crystal and not bash it with lots of drive.  
However....depends on the precision required..  
As someone posted, for clocking an uC or CPU ...who cares about some drift..

D from BC

A crystal oscillator using an inverter with hysteresis WILL NOT self-start.

...Jim Thompson

Of course it will self-start. It just won't run anywhere near the crystal frequency!

John

Well? It'll sit there and go "click-click" ;-)

...Jim Thompson

Re: Missing Schmitt Gates??

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