

## Re: Crystal problems/questions

**Source:** <http://sci.tech-archive.net/Archive/sci.electronics.design/2004-08/1159.html>

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**From:** Active8 ([reply2group\\_at\\_ndbbm.net](mailto:reply2group_at_ndbbm.net))

**Date:** 08/07/04

Date: Sat, 7 Aug 2004 09:21:01 -0400

On Sat, 07 Aug 2004 07:41:52 GMT, analog wrote:

> *Brett wrote:*

>

>> *I'm working on building a small prototype for a PCB we would like  
>> to have built. It is based on an ST7262 uP, and my first step has  
>> been to put this processor on a breadboard, hook up some of the  
>> basics like Vdd, reset, etc, and then attach the crystal. As far  
>> as I can tell on my first attempt, the crystal is not resonating,  
>> at least when I use an oscilloscope to probe it. I have a few  
>> ideas about what could be wrong, but nothing I'm really sure about.  
>> I would appreciate it if anyone could check over what I'm doing and  
>> let me know if it makes sense. My circuit looks like this:*

>>

>> -----OSCIN

>> | |

>> --- |

>> 33pf-----

>> | xtal

>> GND -----

>> | |

>> --- |

>> 33pf--- |

>> | |

>> -----OSCOUT

>

> *Brett, just a quick shot in the dark, but you might try adding a  
> biasing resistor across the crystal. Depending on the micro's  
> internal circuitry, this might be necessary to enable the dc error  
> to drive the oscillator to within its linear range. Don't make it  
> too small or it will kill the oscillator's Q. Something in the  
> megaohm range should do the trick (try 4M7 or 10M). -- analog*

I haven't had to do that, but also haven't used that uP, either. Some probes will load it down and it'll stop. You also might need to set a config fuse for the oscillator type. If you can set it for internal clock and get an LED to flash, you have a clue. A known good external oscillator is another option. Then you'll know what

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you're dealing with.

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Best Regards,  
Mike