

## Re: 12 and 16-bit oscilloscopes

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- *From:* Mike Monett <No@xxxxxxxxxx>
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fpm@xxxxxxxxxxxxxxxxxxx (Frank Miles) wrote:

>> The two main interrupts are updating the DOS timer 18 times per  
>> second and the keyboard interface.

>> You can indeed turn interrupts off in critical sections. For  
>> example, I usually turn them off when counting the number of  
>> cycles a routine takes when optimizing code.

> [snip]

> Well, then, it would seem to be a problem getting to the "all PC"  
> 'scope (including using main CPU as trigger detector) if there are  
> going to be times when you have to "look away" from the input in  
> order to do housekeeping.

> You either have to give up the idea of super-simple hardware OR  
> being sure you won't miss important events.

> -f

I'm not sure I follow. I was talking about the software development process, where you may need to disable interrupts to measure how many cpu cycles a routine takes. Because the cpu has two simultaneous execution paths, you try to ensure they don't conflict.

This would stall the pipeline and waste cpu cycles while waiting for one path to complete. Rearranging the sequence of instructions can help solve this problem, but each cpu is different so it takes skill and knowledge to arrive at an optimum solution.

Terje is one of the best on the planet for this kind of work, and he would probably laugh himself silly reading my simplified explanation of how the process works. But the end result is to try to minimize the time required for a routine. And you can spend an exorbitant amount of time trying to shave a couple of cpu cycles in a critical spot in the code.

Once this is done to your satisfaction, you can change the compile

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options to generate the working code that is shipped to your customer. This can be completely different from the development code, so you really don't have to give up anything in either process. So, yes, you can have your cake and eat it too.

Does this make any sense, or was I just swishing around muddying the waters?

Regards,

Mike Monett

Antiviral, Antibacterial Silver Solution:

<http://silversol.freewebsite.org/index.htm>

SPICE Analysis of Crystal Oscillators:

<http://silversol.freewebsite.org/spice/xtal/clapp.htm>

Noise-Rejecting Wideband Sampler:

<http://www3.sympatico.ca/add.automation/sampler/intro.htm>

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