

Re: Microprocessor question

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gary s <gary_s@REMexcite.com> wrote in message
news:<qfetn0tohn45q767g4okh70obnol7g9a1f@4ax.com>...

> *I have a question that I hope someone on here can answer, or give me
> an insight:*

>

> *1. Is there any way to do a quick check on a microprocessor to
> determine if it's "alive"? I realize manufacturers use million-dollar
> testers for functional testing, but is there a way to "generically" do
> a quick check on the bench using standard test equipment?*

Just use a scope and look for square waves on various pins of the micro. That will tell you something is happening, maybe correct, maybe not. If you don't have a scope, use a DMM to measure the DC voltage on various pins. The DC voltage will vary from 0 to 5 volts or 0 to the power supply voltage indicating something is happening on that particular pin. But it's hard to tell exactly what is going on without knowing the program. And then it would be difficult to interpret the digital signals from the program. If you have a good micro, you can compare the waveforms of the test micros to the known good micro and usually identify the problems.

>

> *2. Ditto for speed? How can one determine if a microprocessor will run
> at its marked speed on a bench?*

You probably need to use an external clock to drive the micro at the rated speed or greater.

> *3. If there is a "generic" feature set that is common to most
> microprocessors, and what might that be?*

A generic feature would be the number of I/O lines and internal program RAM and ROM available.

>

> *4. How can one check for this – as far as hardware and software
> requirements?*

Is this a homework problem?

>

> *I guess I am looking for a "generic" test setup that can do something*
> *like a bare-bones electrical QC on different microprocessor families.*

>

You need different tests for different processors. The pin assignments will be different, so you have to look at different pins for different activity of different processors.

-Bill