

Re: computer stops responding and shuts down

Source:

<http://www.tech-archive.net/Archive/WinXP/microsoft.public.windowsxp.hardware/2007-09/msg00029.html>

- *From:* Paul <nospam@xxxxxxxxxxx>
 - *Date:* Sun, 02 Sep 2007 07:39:53 -0400
-

sis630/730 wrote:

My laptop often stops responding and shuts down suddenly with one of the following error message:

- error on blue screen telling me to either run memory check and check for faulty or mismatched memory (don't know how to) or try changing video adaptors. And the last message is "Beginning dump of physical memory. Physical memory dump complete"
- color squares unrecognized-able
- or stop at the posting screen

I have to hold down the button to turn it off and have to wait for more than an hour to get it restarted and worked normally until it stops again all of a sudden.

Somebody please help me to figure out what problem my laptop has.

Go here, download the ISO version of memtest86+ ("Download - Pre-Compiled Bootable ISO (.zip)")

<http://www.memtest.org/>

Burn a CD with the ISO file, using CD burner software and a burner. The ISO is tiny, so the burn should only take a couple minutes to complete. The CD will be bootable.

Install the CD and boot from the CD.

When booted, the screen will look similar to this. 640x480 mode, with a blue background.

<http://www.memtest.org/pics/i875-big.gif>

In this state, the test would run forever, or until you stop it. Quitting the program will cause the computer to reboot, and you might want to remove the CD if you don't intend to boot from the CD at that point.

The program has a pass counter, and a couple complete passes should be enough. For a decent amount of memory, it could take a couple hours for the test to run. For a laptop, you'd probably want to be plugged in while

Re: computer stops responding and shuts down

running this. It uses a fair amount of power, so the fan will probably be running.

If there are any errors, they will be printed in the lower section of the screen. You want "no errors", to consider this test to have passed. If you have a severe error problem, the screen might even begin to scroll, so you cannot see an image like the one shown above.

This test is not perfect. If you pass it, it does not mean your computer is trouble free. Memtest86+ is good at detecting "stuck" memory bits, but perhaps a bit less good at transient problems. But if your memory is really messed up, you'll find out pretty quick. If there are enough errors, it could even mess up the appearance of the screen, or memtest86+ could crash.

A second test, is to run Prime95 from mersenne.org . That is a program which searches for prime numbers (a math thing). But, the program has one nice testing feature. In the menu for the program, you can find a "Torture Test" option. The program carries out a math calculation where the answer is known, and if the answer is wrong, the program will stop and tell you there was an error. For a machine that is not stable, the "Torture Test" will stop in 30 seconds or less. If the machine is healthy, you should easily be able to run it for four hours or more. (If offered an option, the "blended" test is good.)

Prime95 has an option to "join" the search for prime numbers, but you do not have to join to use the torture test option.

Prime95 also draws a lot of power when it runs, the fan will be running probably constantly, and the laptop will get hot. Make sure it has adequate ventilation during the test, as it could overheat, depending on how clean the vents on the cooling system are.

If the video on the laptop is built-in to the chipset, the video uses "shared memory". Thus, colored squares could be caused by the system memory that the video is using, becoming corrupted. On the other hand, more expensive laptops have a separate GPU and video memory chips. That gives higher performance. If you get colored squares there, then the separate video memory chips soldered next to the GPU could be defective. In some cases, the separate GPU can be unplugged and replaced, which might be cheaper than replacing the whole motherboard. On intermediate priced laptops, there is sometimes a separate GPU, but it is soldered right to the motherboard, in which case the colored squares problem means a new motherboard.

So, try the memtest86+ program and if it passes, then try Prime95 (Windows version, if you are using Windows) and see if the computer still passes that. Changing out the memory, and trying some other sticks, is what you'd do as a potential debugging step. In some cases, the problem could be on the motherboard of the laptop, such as if the low voltage regulator powering the processor or memory is defective,

Re: computer stops responding and shuts down

Re: computer stops responding and shuts down

and making less voltage than normal. That tends to reduce the stability of whatever it powers.

Heat is always a problem with laptops, and more so when the vents get clogged.

HTH,
Paul

.