

## Re: Open Question on SPARC Server 670MP

**Source:** <http://unix.derkeiler.com/Newsgroups/comp.sys.sun.hardware/2003-10/0235.html>

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**Date:** 10/19/03

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"Boris Grishneko" <[borris@nospam.lisp.com.au](mailto:borris@nospam.lisp.com.au)> writes:

*>I own a SPARC Server 670MP, which doesn't seem to be working. I placed a  
>graphics card out of my SPARC Station 20 into it, and attached a keyboard. I  
>then booted the system up, it beeps, and flashes the lights on the keyboard  
>once. However nothing comes up on the display. What could be causing this?*

If you get nothing happening beyond the keyboard initialising itself after power is turned on, try using using the diagnostic LED's to follow the sequence of power-on self tests (ie. POST) and get a handle on what's going wrong. If you can, it also helps to connect a serial terminal to serial port A to view diagnostic messages (assuming the power-on self-tests can run). With a terminal connected, you can optionally change the 'diag/norm' switch so it's set to 'diag' mode – this will cause extended self-tests to be run instead of just the normal set of tests.

The following URL in my Sun System Handbook archive is the home page to the Sun SS600MP Handbook:

<http://www.sunshack.org/data/sh/2.1/infoserver.central/data/syshbk/Systems/SS600MP/SS600MP.html>

The page with information about interpreting the POST LED codes is:

[http://www.sunshack.org/data/sh/2.1/infoserver.central/data/syshbk/Systems/SS600MP/TrCPU\\_Sun4m\\_SPARCserver](http://www.sunshack.org/data/sh/2.1/infoserver.central/data/syshbk/Systems/SS600MP/TrCPU_Sun4m_SPARCserver)

If the self-tests don't complete properly, you'll need to look at what's causing the machine to get stuck on a particular test. It might be RAM, or something else, that's being found to be defective and the tests will stop when a fault is found.

If the power-on self-tests run to completion, the system board in the machine might be configured to use the serial port as the console by default, which would permanently ignore the presence of an Sbus framebuffer card. Connect up a serial terminal, or something running a terminal emulator, to serial port A and power up the machine. Leave the 'diag/norm' switch in 'diag' mode again

If you end up at the OBP level, either with an 'ok' prompt, or the machine trying to boot from a disk or from the network, and nothing happens after that, it's a safe bet that the NVRAM is configured to force the console device onto the serial port. Use the 'printenv' command to check the settings.

The two important ones are 'output-device' and 'input-device'. If they are \*not\* set to 'screen' and 'keyboard' respectively, then the defaults have been changed. If both give settings of 'ttya' then you need to change the settings to the defaults since that will be permanently forcing the machine to use serial port A.

You can issue the 'set-defaults' command if you don't need to worry about any special configuration settings for booting, etc. and that will restore the NVRAM to 'factory' settings (which includes setting 'input-device' and 'output-device' correctly).

Hopefully this helps you work out what's wrong. If testing using OBP firmware doesn't give any results, try doing things like moving the framebuffer into a different Sbus slot, and do all the usual things for physically checking system integrity such as checking that the system board and other boards are all properly seated on the VME backplane, and that the RAM modules are all sitting in the sockets properly. Anything socketed needs checking, even EPROM's (the SS600 board has four EPROM's containing the OBP firmware). Try moving the system board around between slots, and try it with different combo's of other boards installed. If none of these things help figure out what's wrong, it could be a fault with the system board itself (at PCB level) like a dry solder joint, or even a faulty VME backplane. Hopefully you won't have to get this far though since extensive analysis can take quite a while...

Ask us if you need any more help. I'm sure there are quite a few more people in these newsgroups with SS600 fault-finding experience.

Regards,

Craig.

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