

PROLIANT 6000/7000 PENTIUM II XEON TROUBLE-SHOOTING GUIDELINE

Version 1.0 – 07/23/98 – Original/first version of Document – AM

Verify that the Proliant 6000/7000 minimum system requirements have been met (see Appendix A).

Refer to the Proliant 6000/7000 Pentium II Xeon “Maintenance and Service Guide”, “Illustrated Parts Catalogue”, Section 1.1 for an exploded view of the system components and their location.

HELPFUL HINTS

Status Information: Listed below are the places to look for key information on the status of the system as it is powering up.

- **Integrated Management Display (IMD) Module** – Industry standard Liquid Crystal Display (LCD) that is located on the front of the system unit on the right hand side.
- **Power Supply Status LEDs** – The power supply status LEDs are located on the back of the unit next to the AC power cord input on the power supply itself.
- **Power-On LED** – The system Power-On LED is located just above the power switch on the front of the unit. This indicator is on when the +5v output comes up when the power supply turns on.
- **Voltage Indicator LEDs** – The Voltage Indicator LEDs are located on the I/O board (in the top compartment). The Voltage Indicator LEDs are an easy way to determine if a specific supply voltage is present. On the I/O board there are six voltage indicator LEDs (-12v – CR2, -5v – CR3, +3.3v – CR4, +5v – CR5 and +12v – CR6). These LEDs are only visible if the top panel is removed. They are located on the back right corner of the I/O board between the ISA connector and the side of the unit. The sixth voltage indicator LED is located at the front of the I/O board (between slots 4 and 5). This is the Aux 5v – CR29. The Aux 5v LED should be on all the time that the power cord is plugged in, even when the power switch is turned off. There is one voltage indicator LED on the processor board. The GLT bus terminator voltage (Vtt = 3.3v) LED (CR30) is on the processor board hidden behind the processor module cage at the top right corner. This voltage output is generated by an embedded DC/DC convertor on the processor board.
- **Interlock LEDs** – The interlock LEDs (when on – AMBER) indicate that something in the interlock chain has been broken (cable or board not properly installed). The interlock chain is simply a pulled up signal that runs through boards and cables that is grounded on one end of the chain and sensed on the other end. If any of the boards/cables in the chain are not properly installed, the chain is broken, the grounded signal can not get through and the sensed end (that is pulled up) will see the break as a high signal (instead of a ground). When an interlock signal is on, it is indicating that the boards and cables should be checked for proper installation/seating. There are two interlock LEDs in the system (both on I/O board). The overall System Interlock LED (CR46) is located on the front edge of the I/O board, between slots 8 and 9, right beside the main power connector J14. The Processor Board Interlock LED (CR20) is also located on the front edge I/O board, between slots 4 and 5, to the right of the main power connector J14. The Proc Bd Interlock LED (CR20) is an indication that one of the following is the source of the problem: Processor board power cables (2), Processor board to I/O board connection, Processors (1-4), Processor Terminator boards (0-3), Memory Expansion Boards (2) or Interlock/air sensor cable. The Sys Interlock LED (CR46) will be on if the Proc Bd Interlock LED is on and/or if there is a problem with one of the following: the Standard Peripheral Board (STP), the Power Switch Cable (connected to E4 on the I/O board). If the Proc Bd Interlock LED is also ON, correct the problems with those items first and then if the Sys Interlock LED is still on check the STP board seating and the Power Switch cable. The I/O Board Power Cable (connected to J14) is the path the Interlock signal takes back to the power supply to indicate whether the power supply should turn on or not, so if the I/O board power cable is not properly connected the system won't power up. If the Interlock LEDs are both off and the system will not power up, check this cable first.

- **Port 84 LEDs** – There are **NO** port 84 LEDs in this system. To view Port 84 status a Port 84 board must be installed. If using an ISA Port 84 card, install it in the ISA slot 1. If a PCI Port 84 card is being used, it must be installed in either slot 3 or slot 4 (the Primary/compatibility PCI bus).

CAUTION: Be aware that whenever power is applied to the system (power cord plugged in), even when the power switch is OFF, there is +5v power on inside the system. The AUX 5V power is ON anytime the power supply is plugged in and the LED on the Fan Control board should also be ON to indicate its presence. This should also provide power for the IMD, which should also be ON.

TYPICAL POWER UP SEQUENCE

Under normal conditions, the following power-up sequence should be typical (note: the power supply LEDs are located on back of the unit next to the AC power input):

- Unit is turned off and disconnected from any power source (power cord unplugged)
 - Both power supply LEDs are OFF (clear)
 - Integrated Management Display (IMD) is OFF (dark) - {this is the LCD on the front of unit}

The typical power supply power-up sequence would be:

- Good facility power applied to unit (unit still turned off)
 - Top LED OFF (clear) and Bottom LED ON (solid green)
 - IMD turns on and displays model and firmware information
- Power switch turned ON
 - Top LED begins flashing (green) and Bottom LED ON (solid green)
 - This is the indication that the power switch is on and the power supply is in a power on delay mode
 - No change in the IMD
- When power-on delay is up, unit turns on
 - Top LED ON (solid green) and bottom LED on (solid green)
 - IMD resets and then starts initialization sequence (refer to Appendix more details on the IMD initialization sequence)
 - All the fans begin spinning, (a green LED on each of the fan assemblies should turn on)
- After a few seconds, the fan controller will turn off the redundant fans (Fan 1, one closest to the front of the unit for the upper compartment, internal fans on the back of unit in the lower compartment – if the external redundant fans are installed). Note that a turned off fan may still spin due to the air being forced through it by the other fans. Typically the redundant fans being turned off is most notable by the change in sound.
 - The green LED for each of the fans should remain ON (even the fans turned off by the fan controller)
 - Only if there is a fan failure should the green LED turn OFF and the red LED turn ON
 - The IMD will continue to display the initialization sequence progress