Netra CP2060/CP2080 CompactPCI Boards Product Note

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Part No. 816-4474-10
February 2002, Revision A

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This document contains important information about adjusting the Advanced System Monitoring (ASM) temperature settings.

Adjusting the ASM Warning and Shut Down Parameter Settings

The Netra CP2060 and Netra CP2080 CompactPCI boards both use the ASM detection system to monitor board temperature. The ASM system will display messages if the board temperature exceeds the set warning and shut down settings. Because the on-board sensors may report different temperature readings for different system configurations and airflows, you may want to adjust the warning and shut down temperature parameter settings.

The Netra CompactPCI board determine the board temperature by retrieving temperature data from sensors located on the boards. Refer to the *Netra CP2040/CP2060/CP2080 CompactPCI Boards Programming Guide* (816-2485-xx) for the location of these temperature sensors.

A board sensor reads the temperature of the immediate area around the sensor. Although the software may appear to report the temperature of a specific hardware component, the software is actually reporting the temperature of the area near the sensor. For example, the CPU heat sink sensor reads the temperature at the location of the sensor and not on the actual CPU heat sink. The board's OpenBoot PROM collects the temperature readings from each board sensor at regular intervals. You can display these temperature readings using the `show-sensors` OpenBoot PROM command. Refer to the programming guide for instructions on using this command.

The temperature read by the CPU heat sink sensor will trigger OpenBoot PROM warning and shut down messages. When the CPU heat sink sensor reads a temperature greater than the warning parameter setting, the OpenBoot PROM will display a warning message. Likewise, when the sensor reads a temperature greater than the shut down setting, the OpenBoot PROM will display a shut down message.

Note – These messages will be displayed only when the `env-monitor` OpenBoot NVRAM parameter is set to `enabled`. Refer to the programming guide for instructions on setting the `env-monitor` parameter.

Many factors affect the temperature readings of the sensors, including the airflow through the system, the ambient temperature of the room, and the system configuration. These factors may contribute to the sensors reporting different temperature readings than expected.

TABLE 1 shows the sensor readings of an example Netra CP2080 board operating in a Sun™ server in a room with an ambient temperature of 20˚C. The temperature readings were reported using the `show-sensors` OpenBoot PROM command. Note that the reported temperatures are higher than the ambient room temperature.

TABLE 1 Reported Temperature Readings at an Ambient Room Temperature of 20˚C

Board Sensor Location	Reported Temperatures (in Degrees Celsius)	Difference Between Reported and Ambient Room Temperature (in Degrees Celsius)
CPU heat sink	32	12
PMC	29	9
MB heat sink	33	13
MB memory	33	13
SDRAM module 1	32	12
SDRAM module 2	31	11
Power module	25	5

Since the temperature reported by the CPU heat sink sensor might be different than the actual CPU heat sink temperature, you may want to adjust the settings for both the `warning-temperature` and `shutdown-temperature` OpenBoot PROM parameters. The default values of these parameters have been conservatively set at 60˚C for the warning temperature and 65˚C for the shut down temperature. Refer to the programming guide for instructions on setting these temperature parameters.

Note – If you have developed an application that uses the ASM software to monitor the temperature sensors, you may want to adjust your application's settings accordingly. Refer to the programming guide for more information about using the ASM software to monitor the temperature sensors.
