



Intel® SR2000 2U Server Chassis Specification Update

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The SR2000 2U Server Chassis may contain design defects or errors known as errata that may cause the product to deviate from published specifications. Current characterized errata are documented in this Specification Update.

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REVISION HISTORY

Date of Revision	Description
JUNE 2000	This document is the first Specification Update for the SR2000 2U Server Chassis
JULY 2000	Updated Front Panel Fault LED errata
AUGUST 2000	No changes from July 2000 document
SEPTEMBER 2000	No changes from Aug 2000
OCTOBER 2000	No changes from Sept 2000
NOVEMBER 2000	No changes from Oct 2000
DECEMBER 2000	No changes or additions
JANUARY 2001	No changes or additions
FEBRUARY 2001	No changes or additions
MARCH 2001	No changes or additions
APRIL 2001	No changes or additions
MAY 2001	No changes or additions

PREFACE

This document is an update to the specifications contained in the SR2000 2U server Chassis *Technical Product Specification* (Order Number 248736). It is intended for hardware system manufacturers and software developers of applications, operating systems, or tools. It will contain Specification Changes, Specification Clarifications, Errata, and Document Changes associated with the SR2000 2U chassis only.

Refer to the *L440GX+ Technical Product Specification Update* for updates concerning the L440GX+ server board.

Refer to the *Pentium^a III Processor Specification Update* for updates concerning the Pentium III processor.

Refer to the *Intel 82440GX PCIset Specification Update* for updates concerning the Intel 82440GX AGPset.

Nomenclature

Specification Changes are modifications to the current published specifications for the SR2000 2U Server Chassis. These changes will be incorporated in the next release of the specifications.

Specification Clarifications describe a specification in greater detail, or further highlight a specification's impact to a complex design situation. These clarifications will be incorporated in the next release of the specifications.

Documentation Changes include typos, errors, or omissions from the current published specifications. These changes will be incorporated in the next release of the specifications.

Erratum are design defects or errors. Errata may cause the SR2000 2U Server Chassis's behavior to deviate from published specifications. Hardware and software designed to be used with any given processor stepping must assume that all errata documented for that processor stepping are present on all devices.

**Specification Update for
the Intel SR2000 2U Server Chassis**

GENERAL INFORMATION*Identification Information*

Below are the specific chassis, boards, components, and firmware covered by this Specification Update.

Chassis TA#	HSC Firmware Rev.	Hot Swap SCSI Backplane PBA#	Passive PCI Riser Card PBA#	Power Supply Revision
A06998-004	0.04	A11247-402	A08349-503	Lite-on* - rev 0D

Summary Table of Changes

The following tables indicate the Errata and the Document Changes that apply to the SR2000 2U Server Chassis. Intel intends to fix many of the errata listed in this document and to account for the other outstanding issues through documentation or specification changes as noted. These tables use the following notations:

CODES USED IN SUMMARY TABLE

Add: This item will be added to the specified document(s) in a future revision.

Fix: This item will be fixed in a future release.

Fixed: This item has been addressed.

NoFix: There are no plans to fix this item.

Shaded: This item is either new or modified from the previous version of the document.

#	Plan	ERRATA
1	No fix	Intel® IRMC-2 remote management card will not function in the SR2000 / L440GX+ based system
2	Fixed	Front panel Fault LED does not function as expected
3	No fix	No support for 66MHz PCI add-in cards

#	Plan	Document	DOCUMENT CHANGES
1	Add	Product Guide	Using a single PCI add-in card requires using the lower PCI slot on the riser card
2	Fix	Product Guide	The Adaptec* 7896 does not provide support for Ultra160 SCSI drives
3	Fix	Product Guide	GRM's do not have latches to lock the processor
4	Add	Tech Prod Spec (TPS)	A functional description the Power and Fault LEDs for the Front Panel

ERRATA**1. *Intel® IRMC-2 remote management card will not function in the SR2000 / L440GX+ based system***

PROBLEM: The IRMC-2 Management card requires that it operate on the same PCI bus as the BMC controller. On the L440GX+ server board, the BMC controller is attached to the primary PCI bus. In the SR2000 server chassis, the primary bus of the server board cannot be used for PCI add-in cards since the PCI riser is plugged into PCI slot 5 of the server board, which is located on the secondary or PCI peer bus.

IMPLICATION: The IRMC-2 management card is not able to communicate with the server boards BMC controller.

WORKAROUND: None

STATUS: No Fix

2. *The front panel Fault LED does not function as expected*

PROBLEM: The “Fault” LED on the SR2000 chassis has no functionality.

IMPLICATION: If the BMC asserts **PS-ON** and **PWR_GD_PS** does not become asserted, the BMC is supposed to assert the Fault LED signal on the front panel connector. This is not happening. Instead, there is no front panel indicator showing this power state.

WORKAROUND: None – The Fault LED on the front panel, used on the SR2000 Chassis with TA# A06998-004, is incorrectly tied to +5volts on the L440GX+ server board. This is preventing the BMC logic from correctly driving the Fault LED to a HIGH state when a Power supply fault is detected.

STATUS: Fixed – This errata has been addressed in an updated Front Panel board (iPN Y99092-101).

The new front panel allows the L440GX+ server board BMC firmware to illuminate the “Fault” LED if a power supply fault is detected or a system fan failure is detected.

3. *No support for 66MHz PCI add-in cards*

PROBLEM: The design of the current 2-slot PCI riser card will not support 66MHz PCI add-in cards.

IMPLICATIONS: If a 66MHz PCI add-in card is installed in either of the two PCI slots on the riser card, the add-in card will only operate at 33MHz. Even though the PCI slot used on the L440GX+ baseboard has support for 66MHz PCI cards, the riser card does not.

WORKAROUND: None

STATUS: No Fix

DOCUMENTATION CHANGES**1. *Using a single PCI add-in card requires using the lower PCI slot on the PCI riser card***

Doc Add: When installing a single PCI add-in card into a L440GX+ based SR2000 server, the add-in card must be installed in the lower PCI slot (labeled PCI slot 5) of the PCI riser card. If a single PCI add-in card is installed into the upper PCI slot (labeled slot 6), the system will not recognize the card and the card will not function. The upper PCI slot can only be used when installing two PCI add-in cards.

STATUS: Add – this will be added to a future revision of the SR2000 Sub-Assembly Product guide and Product Quick Start Guide.

2. *The Adaptec* 7896 does not provide support for Ultra160 SCSI drives*

Doc Change: The A11521-001 version of the SR2000 Product Guide states that the L440GX+ on board SCSI controller, the Adaptec 7896, will support Ultra160 SCSI drives. This was an incorrect statement. The Adaptec 7896, as installed on the L440GX+ server board, has SCSI channels to support Ultra2 SCSI and Ultra Wide SCSI only. Although the SCSI controller of the server board does not provide Ultra160 SCSI support, the Hot Swap SCSI backplane of the SR2000 2U Server Chassis does. Therefore, if you install an add-in SCSI or RAID controller that has support for Ultra160 SCSI, the chassis will support it.

Status: Fix – This will be changed in a future release of the SR2000 Product Guide

3. *GRM's do not have latches to lock the processor*

Doc Change: The A11521-001 version of the SR2000 Product Guide states that the latches of the processor GRMs (Grounded Retention Mechanisms) must be locked in order to secure the processor. GRMs do not have latches to lock the processor. Once the processor is fully inserted into the GRMs, they are automatically locked into place.

Status: Fix – This will be changed in a future release of the SR2000 Product Guide.

4. Functional description of the Power and Fault LEDs used on the Front Panel

DOC ADD: The front panel of the SR2000 2U Server Chassis has two LEDs that are controlled by the baseboard management controller (BMC). These LEDs are the Power LED and the Fault LED.

Power LED

The Power LED is capable of showing three power related states; Solid on, Blinking 1Hz, Blinking 3 Hz. The BMC interprets the state of 5V Standby, 5V, the Power State, and the PS-ON signal and drives the Power LED according to the following table:

Power Light States

Power State	5V Standby	PWR_GD	PS-ON	Power LED	Condition
ON	ON	ON	High	ON	Power ON and OK
ON	ON	OFF	High	FAST BLINK ~3.3 Hz	Supply failed
ON	OFF	ON	High	OFF	5V Standby failure
ON	OFF	OFF	High	OFF	AC Power has failed
OFF	OFF	ON	Low	OFF	5V Standby failure
OFF	ON	OFF	Low	OFF	Normal Power OFF
OFF	OFF	OFF	n/a	OFF	Normal OFF & Unplugged
SLEEP	ON	ON	High	SLOW BLINK ~1 Hz	Machine is in S1 - S3 sleep state

Fault LED

The Fault LED is NOT designed to detect all system faults. The purpose of the Fault LED is to alert the System Administrator that a Power Fault has occurred. The BMC monitors whether the power supply is ON and operational using the **PWR_GD_PS** signal from the power supply. The controller uses the **PWR_GD_PS** signal to confirm whether the actual system power state matches the intended system on/off power state that was commanded using PS-ON.

This signal generates an interrupt to the BMC, which it uses to detect loss of AC power. If AC power suddenly is lost, the BMC attempts to assert a system reset before the power is completely off.

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If the BMC asserts **PS-ON** and **PWR_GD_PS** does not become asserted, the BMC asserts the Power Fault LED signal on the front panel connector. It then continues to wait for the power supply to assert **PWR_GD_PS**; if the supply does eventually drive the signal, the BMC clears the power fault state and then proceeds to take the system out of reset.