



STL2 Server Board Specification Update

Release Date: February, 2001

Order Number: A44369-003

Information in this document is provided in connection with Intel products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice.

The STL2 server board may contain design defects or errors known as errata that may cause the product to deviate from the published specifications. Current characterized errata are documented in this Specification Update.

Copyright © Intel Corporation 2001.

*Third-party marks and brands are the property of their respective owners.

CONTENTS

CONTENTS	iii
REVISION HISTORY.....	iv
PREFACE.....	v
Nomenclature.....	v
GENERAL INFORMATION	7
Identification Information	7
Summary Table of Changes	8
Codes Used in Summary Table	8
Errata	9
1. SC5000/SR2050/SR2100 chassis fault LED is always lit when the STL2 server board is installed.....	9
2. DOS load fails with Fujitsu IDE hard drive model MPE3084AE	9
3. SSI power connector lacks extended latch to accommodate ATX power cable	9
4. 1GHz heatsink clip is difficult to install on secondary processor socket from Molex.....	10
5. Primary and secondary processor VRM circuit support for 1.133GHz processors	10
6. Processor Errors during POST following quick power cycling.....	10
7. SC5000 fault LED does not turn off after fan failure return to normal state ...	11
8. Description of fan failure event in system event log (SEL)	11
9. 3-Mode Floppy drives not supported	11

REVISION HISTORY

Date of Revision	Description
November, 2000	This document is the first Specification Update for the STL2 Server board.
December, 2000	Updated errata 10, 15, and 18, and changed the status of each erratum from Fix to Fixed. Added errata 21 & 22.
January, 2001	Updated errata 3, 11, 16, and 21. Changed the status of errata 11, 16, and 21 from Fix to Fixed. Added errata 23 and 24.
February, 2001	Moved errata 1, 2, 4, 5, 6, 7, 10, 11, 12, 13, 14, 15, 16, 18, 20, 22, 23, and 24 from the December 2000 STL2 Specification Update into the STL2 TPS Rev. 1.1. Renumbered remaining errata. Updated erratum 1 to add reference to SR2100 chassis. Added errata 7, 8, and 9.



STL2 SERVER BOARD SPECIFICATION UPDATE

PREFACE

This document is an update to the specifications contained in the *STL2 Server Board Technical Product Specification* (Order Number A44368-001). 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.

Refer to the *Pentium^a III Processor Specification Update* (Order Number 244453-021) for specification updates concerning the Pentium III processor. Items contained in the Pentium III Processor Specification Update that either do not apply to the STL2 server board or have been worked around are noted in this document. Otherwise, it should be assumed that any processor errata for a given stepping are applicable to the Printed Board Assembly (PBA) revisions(s) associated with that stepping.

Nomenclature

Specification Changes are modifications to the current published specifications for the STL2 server boards. 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.

Errata are design defects or errors. Errata may cause the STL2 server board'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.



STL2 SERVER BOARD SPECIFICATION UPDATE

Specification Update for the STL2 Server Board



STL2 SERVER BOARD SPECIFICATION UPDATE

GENERAL INFORMATION

Identification Information

Below are the specific boards, BIOS and components covered by this update.

Baseboard Fab #	Baseboard PBA #	BIOS	SSU	Processor Stepping	Chipset Stepping (ServerWorks* ServerSet* III LE CNB30LE & ROSB4)
3	A28808-301	Release 1.1	Release 1R1	Pentium® III processor: cA2, cB0, cC0	RCC-NB6635- P02(2.2) RCC-IB6566- P03(A4.0)
3	A28808-302	Release 1.3	Release 1R1	Pentium® III processor: cA2, cB0, cC0	RCC-NB6635- P03(2.3) RCC-IB6566- P04(B1.0)



STL2 SERVER BOARD SPECIFICATION UPDATE

Summary Table of Changes

The following tables indicate the Errata and the Document Changes that apply to the STL2 Server Board. Intel intends to fix some of the errata in a future stepping of the component, 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

Doc: Intel intends to update the appropriate documentation in a future revision.

Fix: This erratum is intended to be fixed in a future stepping of the component.

Fixed: This erratum has been previously fixed.

NoFix: There are no plans to fix this erratum.

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

NO.	Plans	ERRATA
1	Fix	SC5000/SR2050/SR2100 chassis fault LED is always lit when the STL2 server board is installed
2	Fix	DOS load fails with Fujitsu* IDE hard drive model MPE3084AE
3	Fix	SSI power connector lacks extended latch to accommodate ATX power cable
4	Fix	1GHz heatsink clip is difficult to install on secondary processor socket from Molex
5	Fix	Primary and secondary processor VRM circuit support for 1.133GHz processors
6	Fix	Processor Errors during POST following quick system power cycling
7	Fix	SC5000 fault LED does not turn off after fan failure return to normal state
8	Fix	Description of fan failure event in system event log (SEL)
9	Fix	3-Mode Floppy drives not supported

NO.	Plans	DOCUMENT CHANGES

Errata

1. *SC5000/SR2050/SR2100 chassis fault LED is always lit when the STL2 server board is installed*

PROBLEM: The SC5000, SR2050, and SR2100 chassis front panel boards combine the power LED signal with the fan fault LED signal into a single system fault LED. The STL2 server board implements the power fault LED signal (pin 8 of the front panel connector) as a High True signal. The fan fault LED signal (Pin 6 of the front panel connector) is implemented as a Low True signal. The mixing of the High True power fault LED signal and the Low True fan fault LED signal results in the system fault LED being illuminated whenever power is applied to the system. Customers with third party chassis designs utilizing front panels that combine the power fault and fan fault LED signals into a single system fault LED may also experience this issue. Customers with third party chassis designs utilizing front panels that implement separate discrete power and fan fault LEDs should not experience this issue.

IMPLICATION: The system fault LED will be illuminated whenever power is applied to the system when the STL2 board is installed in the SC5000, SR2050, or SR2100 server chassis.

WORKAROUND: The STL2 Server boxed board (STL2) includes an alternate front panel cable (Intel part number A37010-001) for use with the SC5000, SR2050, or SR2100 server chassis, or any third party chassis designs utilizing front panels that combine the power fault and fan fault LED signals into a single system fault LED. A front panel cable spare kit (FTLFPCBL, MM# 832781) will be available for customers taking the BTLBB SKU that need to use this cable. The alternate front panel cable effectively removes the physical fan fault LED signal from the system fault LED circuit by disconnecting front panel pins 4 and 6, and also re-routes the power fault LED signal from pin 8 to pin 4. The alternate cable needs to be used in combination with a modified STL2 BMC firmware, version 11.1X, that routes both the power and fan fault LED signals to pin 8 on the STL2 server board, thus forming a single system fault LED. STL2 BMC firmware version 11.1X is included on the STL2 boxed board country kit CDROM and is also available for download from the web at

<http://support.intel.com/support/motherboards/server/stl2/>.

STATUS: FIX. This erratum will be fixed in a future FAB of the STL2 server board.

2. *DOS load fails with Fujitsu* IDE hard drive model MPE3084AE*

PROBLEM: DOS cannot be loaded to Fujitsu IDE hard drive model MPE3084AE. The system hangs during the installation.

IMPLICATION: The Fujitsu IDE hard drive model MPE3084AE cannot be utilized with the STL2 server board.

WORKAROUND: No workaround exists for this issue.

STATUS: FIX. Intel is working with Fujitsu to root cause and correct this issue.

3. *SSI power connector lacks extended latch to accommodate ATX power cable*

PROBLEM: The STL2 24-pin SSI power connector does not have an extended latch to help secure ATX power cables. The 24-pin SSI power connector used on other Intel boards has an extended latch feature that secures 20-pin ATX power cables to the 24-pin SSI baseboard power connector.

IMPLICATION: Without the extended latch to secure the cable, the 20-pin ATX power supply cable may disconnect during shipping. This issue does not effect the STL2 server board when used in the SC5000 or SR2050 chassis. This issue will affect customers using third party chassis with 20-pin ATX power supply cables.

WORKAROUND: Customers should be aware of this issue and should secure long power supply cables to reduce the risk of 20-pin power supply cables disconnecting during shipping.

STATUS: Fix. This erratum will be fixed in a future FAB of the STL2 server board.

4. *1GHz heatsink clip is difficult to install on secondary processor socket from Molex*

PROBLEM: It is difficult to install the heat sink clip included with 1GHz boxed Intel® Pentium® III processors for the PGA370 socket on STL2 server boards built with a secondary CPU socket from the manufacturer Molex, due to the very close proximity of the capacitor at location 9D8. This issue is not present on STL2 server boards built with a secondary CPU socket from the manufacturers AMP or Foxconn, because the tab to which the heat sink clip attaches is slightly smaller than the tab on the Molex connectors.

IMPLICATION: It is difficult to install the heat sink clip included with 1GHz boxed Intel® Pentium® III processors for the PGA370 socket on STL2 server boards built with a secondary CPU socket from the manufacturer Molex.

WORKAROUND: It is possible to install the heat sink clip included with 1GHz boxed Intel® Pentium® III processors for the PGA370 socket on STL2 server boards built with a secondary CPU socket from the manufacturer Molex. To make the installation as easy as possible, it is recommended that the processors and heat sinks be installed before the STL2 server board is installed into the chassis. When installing the processors and heat sinks, the STL2 server board should be placed on a flat, firm, ESD protected surface. Follow the installation procedures included with the 1GHz boxed Intel® Pentium® III processors for the PGA370 socket when installing the heat sink clip. It is necessary to apply force to the heat sink clip tab until the clip is latches into place.

STATUS: Fix. This erratum will be fixed in a future FAB of the STL2 server board. The capacitors near the secondary processor socket are being moved slightly to allow for easier heat sink clip installation.

5. *Primary and secondary processor VRM circuit support for 1.133GHz processors*

PROBLEM: The STL2 FAB 3 server board primary and secondary voltage regulator module (VRM) circuits do not support 1.133Ghz Pentium® III processors.

IMPLICATION: 1.133Ghz Pentium® III processors cannot be used with the STL2 FAB 3 server board.

WORKAROUND: No workaround exists for this issue.

STATUS: Fix. This erratum will be fixed in a future FAB of the STL2 server board.

6. *Processor Errors during POST following quick power cycling*

PROBLEM: PROCESSOR errors may appear during POST following quick system power cycling. If the STL2 server board is powered on and then powered off before the FRB3 timer completes (about 10 seconds), the STL2 BIOS does not stop the FRB3 timer. Additionally, the BMC firmware also does not stop the FRB3 timer automatically, so a FRB3 timeout occurs, disabling the boot strap processor (BSP). This causes a processor error to appear during POST the next time that the system is powered on.

IMPLICATION: PROCESSOR errors may appear during POST following quick system power cycling.

WORKAROUND: The processor errors may be cleared by entering BIOS F2 Setup and select Main → Processor → Clear Processor Errors, and press F10 and Enter to Save Changes and Exit. The processor errors should not appear on the next boot.

STATUS: Fixed. This erratum has been fixed in BMC firmware versions 1.17 and 11.17 and later versions.

7. *SC5000 fault LED does not turn off after fan failure return to normal state*

PROBLEM: When the STL2 server board is installed in the SC5000 chassis, a fan failure on either of the system fans connected to locations P27 or P29 on the STL2 server board will cause the SC5000 chassis front panel fault LED to blink. If the fan return to normal state, the SC5000 front panel fault LED does not stop blinking. It is necessary to power down the system in order for the front panel fault LED to return to the normal unlit state.

IMPLICATION: The SC5000 chassis front panel fault LED will continue to blink after the fan state returns to normal until the system is powered down and rebooted.

WORKAROUND: Powering down and rebooting the STL2/SC5000 server system will de-asserted the front panel fault LED if the fan failure has returned to normal state.

STATUS: Fix. Intel is currently investigating a fix for this issue.

8. *Description of fan failure event in system event log (SEL)*

PROBLEM: The STL2 server board logs fan failure messages in the system event log (SEL) with the following notation:

Fan #XX Upper Non-critical – going high. Trigger Reading = 0xFF. Trigger Threshold = 0x45. Asserted Event.

The message text “Upper Non-critical – going high” is referring to the system temperature going high and not the fan speed going high.

IMPLICATION: The message text “Upper Non-critical – going high” should be interpreted by the user as referring to the system temperature going high and not the fan speed going high.

WORKAROUND: No workaround exists for this issue.

STATUS: Fix. Intel is currently investigating a fix for this issue.

9. *3-Mode Floppy drives not supported*

PROBLEM: 3-mode floppy drives are not supported the STL2 server board BIOS.

IMPLICATION: 3-mode floppy drives can only access 1.44MB floppy diskettes.

WORKAROUND: No workaround exists for this issue.

STATUS: Fix. Intel is currently investigating a fix for this issue.