



# **Intel® Entry Server Chassis SR1350-E**

## ***Technical Product Specification***

*Intel Order Number C47821-001*



**Revision 1.1  
April 2004**

**Enterprise Platforms and Services Marketing**

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## *Revision History*

Date	Revision Number	Modifications
6/17/03	1.0	First 1.0 Release Version
4/19/2004	1.1	Corrections for chassis dimensions

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# 1. Feature Summary

The Intel Entry Server Chassis SR1350-E is a 1U server chassis designed to support Intel® Server Boards. Intel based server boards and chassis have feature sets designed to support the high-density server market.

The chassis is offered in only one color option:

- Black (GE701)

## 1.1 Chassis Views

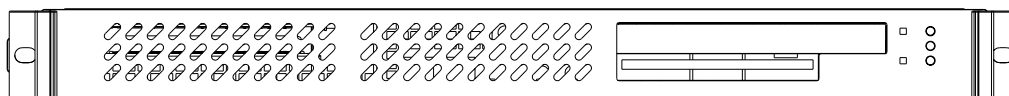


Figure 1. Front View

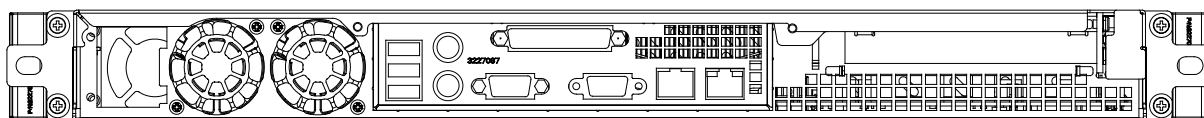


Figure 2. Rear View

## 1.2 ATX 2.03 I/O Aperture Panel

All input/output (I/O) connectors are accessible on the rear of the chassis. The chassis provides an ATX\* 2.03-compatible cutout for I/O shield installation. Boxed Intel server boards provide the required I/O shield for installation in the cutout. The I/O cutout dimensions are shown in Figure 3 below.

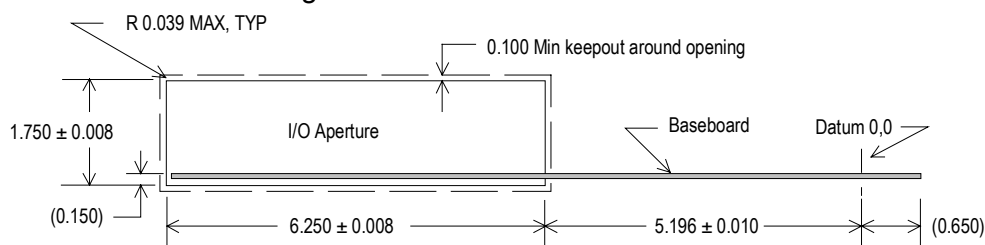


Figure 3. ATX 2.03 I/O Aperture

## 1.3 Chassis Dimensions

Table 1. Chassis Dimensions

Height	44.5 mm	1.75 Inches
Width	430 mm	16.93 Inches
Depth	609.2 mm	23.89 Inches

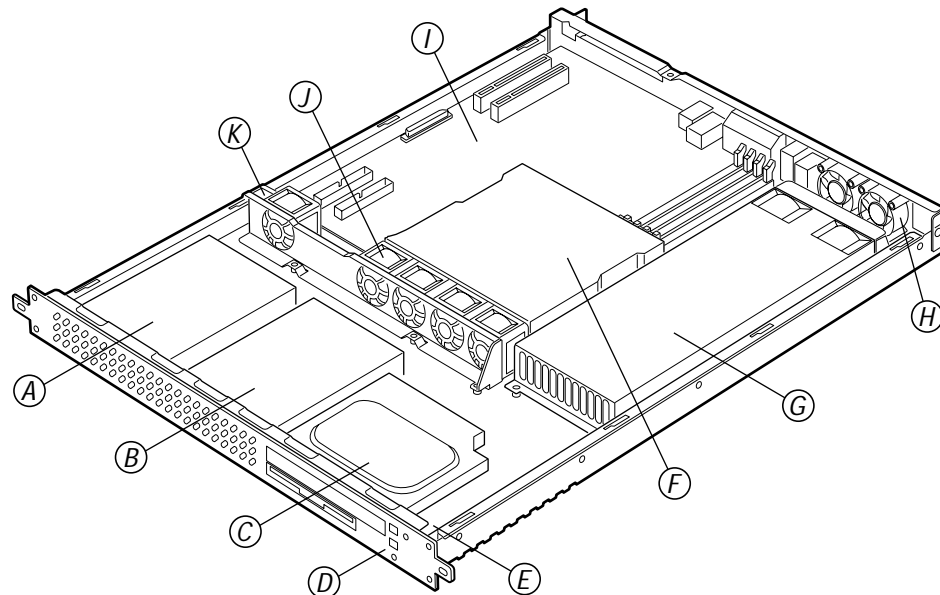
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**NOTE:**

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Customer may have difficulties integrating and fitting multiple SR1350E chassis on a 1U rack space. There is a minimum clearance between chassis. The chassis height may contact the system above or below, when placed in a rack. Multiple chassis of the same type stacked together in a rack may be difficult to slide out for servicing.

## 1.4 System Components



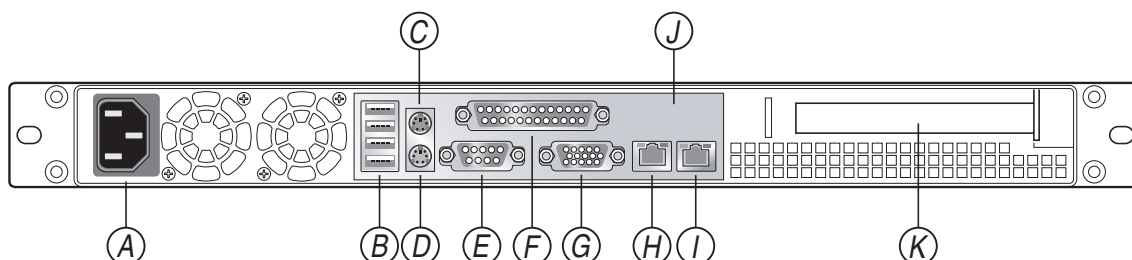
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- A. Hard disk drive
- B. Hard disk drive
- C. Floppy / CD-ROM / DVD-ROM drive cage
- D. Front panel controls and LEDs
- E. Front panel board
- F. Processor duct (processors installed underneath)
- G. Power supply
- H. Rear fans (2)
- I. System board
- J. Front fan module
- K. Chassis Intrusion switch

**Figure 4. System Components**

## 1.5 Chassis Back I/O Ports and Features

On the back of the chassis is an ATX\* 2.03-compatible cutout for all external I/O connectors found on the SE7501CW2, SE7501BR2 and SE7501HG2 server boards. The I/O connectors require the use of an I/O shield (provided with your server board) for proper chassis cooling. Figure 5 shows a SE7501CW2 server board installed in the chassis.

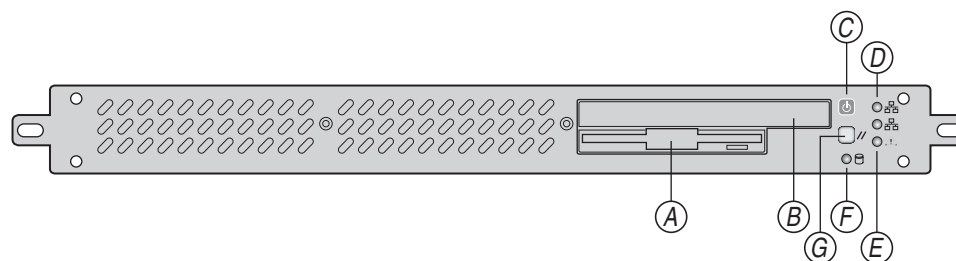


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- A. Power Supply
- B. USB
- C. PS2 Mouse
- D. Keyboard Connector
- E. RJ45 Serial Connector
- F. Parallel connector
- G. Video Display Connector
- H. Network Interface Controller  
Green Status LED  
Yellow Status LED
- I. Network Interface Controller  
Green Status LED  
Yellow Status LED
- J. Vented I/O Shield
- K. Full Height PCI Card Bracket

**Figure 5. Chassis Back**

## 1.6 Chassis Front Panel and Peripheral Bays



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- A. Floppy Drive
- B. CD-ROM / DVD-ROM Drive
- C. Power button and power LED
- D. Network activity LEDs (NIC1 top, NIC2 bottom)
- E. System Fault LED
- F. Hard drive activity LED
- G. Reset button

**Figure 6. Chassis Front**

### 1.6.1 Front Panel Controls and Indicators

The front panel controls and indicators are defined below:

**Table 2. Control Button Functions**

<b>Power/Sleep button</b>	Toggles the system power on/off. Sleep button for ACPI-compatible operating systems.
<b>Reset button</b>	Reboots and initializes the system.

**Table 3. LED Indicator Status**

<b>NIC 1 Activity LED</b>	Continuous green light indicates a link between the system and the network to which it is connected. Blinking green light indicates network activity.
<b>NIC 2 Activity LED</b>	Continuous green light indicates a link between the system and the network to which it is connected. Blinking green light indicates network activity.
<b>Power/Sleep LED</b>	Continuous green light indicates the system has power applied to it. Blinking green light (Note 1) indicates the system is sleeping. No light indicates the system does not have power applied to it (other than 5 V standby power).
<b>Hard Disk Drive Activity LED</b>	Random blinking green light indicates hard disk drive activity (SCSI or IDE). Continuous amber light (Note 2) indicates hard disk drive fault (SCSI or IDE). No light indicates no hard disk drive activity.
<b>System Fault LED</b>	LED illuminates if a system fault is detected.

Notes: The amber status takes precedence over the green status. When the amber LED is on or blinking, the green LED is off.

- 1 The power LED sleep indication is maintained on standby by the chipset. If the system is powered down without going through BIOS, the LED state in effect at the time of power off will be restored when the system is powered on until the BIOS clears it. If the system is not powered down normally, it is possible that the power LED will be blinking at the same time that the system status LED is off due to a failure or configuration change that prevents the BIOS from running.
- 2 In order for a hard disk fault indication to occur, an Intelligent Platform Management Interface (IPMI)-based satellite management controller must send a Set Fault Indication command to the Baseboard Management Controller (BMC).

## 1.7 Power Supply

The power supply is rated for 350 watts of power at the following voltages:

- 100–127 volts (V) ~ at 50/60 Hertz (Hz); 5.67 amperes (A) maximum (max)
- 200–240 V ~ at 50/60 Hz; 2.89 A maximum

The power subsystem supports implementation of remote management features including remote enable that permits power to be activated from a variety of sources.

The power supply is rated for 350 watts of power at the following voltages:

**Table 4. AC Input Rating**

PARAMETER	MIN	RATED	MAX	Max Input AC Current
Voltage (115)	90 V	100-127 V	140 V	<b>5.67 A<sup>1</sup></b>
Voltage (220)	<b>180 V</b>	200-240 V	264 V	<b>2.89 A<sup>2</sup></b>
Frequency	47 Hz	50/60	63 Hz	

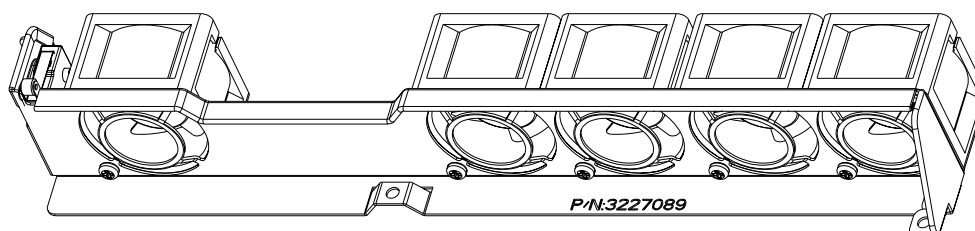
<sup>1</sup> Maximum input current at low input voltage range was measured at 90Vac, at max load.

2 Maximum input current at high input voltage range was measured at 180VAC, at max load.

## 1.8 System Cooling

The chassis includes seven fans for cooling the processor(s), hard drives, and PCI cards. Five of these fans are located in a fan module at the front of the chassis. The other two fans are located at the rear of the chassis, behind the power supply. These fans are not hot swappable. To replace the front fan module or either of the rear fans, you must first take the server out of service, turn off all peripheral devices connected to the system, turn off the system by pressing the power button, and unplug the AC power cord from the system or wall outlet.

The power supply contains an additional two built-in fans. These fans cannot be replaced without replacing the power supply.

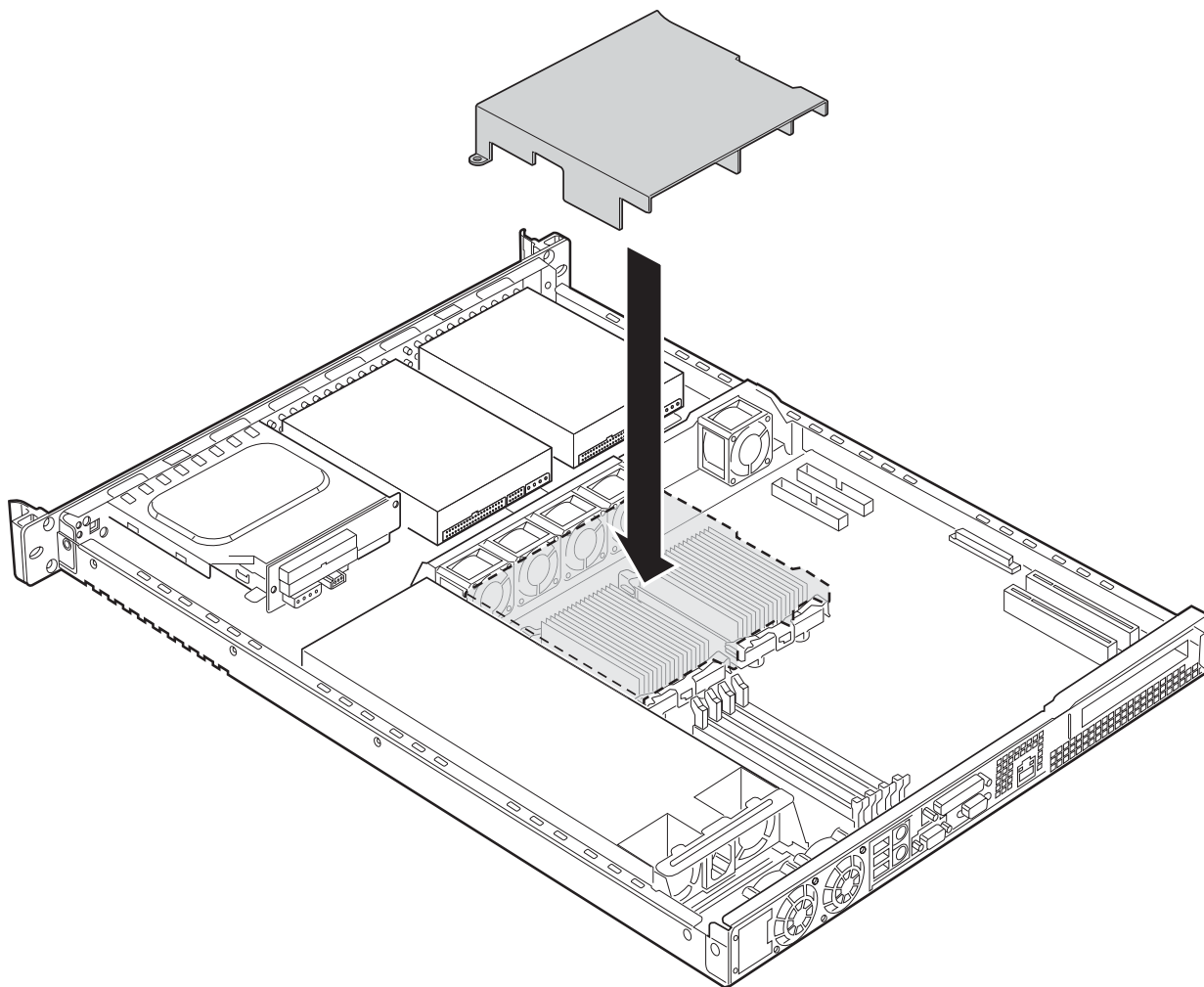


**Figure 7. Fan Module**

The chassis is designed to provide sufficient cooling for all internal components of the server including the power subsystem, server board, processors, memory, add-in PCI cards, and installed hard drives and removable media drives.

The cooling subsystem is dependent upon proper airflow. The designated cooling vents on both the front and back of the chassis must be left open and must not be blocked. All internal cables must be routed in a manner that does not impede airflow. Air flows through the system from front to back.

There is no active processor cooling solution validated with this chassis. To ensure proper cooling, only processors with passive heatsinks can be used.



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**Figure 8. Passive Heatsinks and Processor Air Duct**

### 1.8.1 Fan Monitoring

The fans provided in the SC1350-E contain a tachometer signal that can be monitored by the Server Management subsystem for the Intel Server Board SE7501BR2/SE7501HG2. See the specific baseboard Technical Product Specification for details on how this feature works.

The chassis includes a non-hot-swappable fan module with the fans for cooling the processor(s), hard drives, and PCI cards. The fan pack is located in the middle of the chassis, to pull cooling air through the chassis. The power supply contains two built-in fans for cooling.

## 1.9 Chassis Security

The chassis includes a preinstalled intrusion switch that can be monitored by server management software. When the cover is opened, the switch, located on the left side of the chassis transmits a signal to the Baseboard Management Controller (BMC) on the server board. Through server management software, the system can be programmed to respond to an intrusion by powering down or by locking the keyboard.

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**NOTE:**

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Make sure the front panel cable is properly seated in the board connector. The cable is keyed to fit the connector in only one direction. When installed correctly, the connector should be parallel to the board, not cocked to one side. If in doubt, remove it, reinsert it, and then recheck it.

## 1.10 Rack and Cabinet Mounting Options

The chassis was designed to support 19" wide X up to 30" deep server cabinets. The chassis comes equipped with a relay rack or cabinet mount kit that can be configured to support front-mount or mid-mount 2-post racks and 4-post cabinets. Intel also provides an optional sliding rail kit that is used to mount the chassis into a standard (19" x up to 30" deep) EIA-310D compatible server cabinet.

For mounting in a regular server cabinet, the front mount brackets are attached to the front of the chassis, and a set of rear support brackets are attached to the back end of the cabinet. This allows the weight of the server to be distributed evenly to prevent the mounting rails on the cabinet from bending. Caution should be taken when selecting the 2-post, front-mount only option. Even though the rail mount kit hardware was designed to support the weight of the system, some 2-post relay racks may not support the weight, causing the racks to fail. Only use relay racks that were specifically designed to support the weight and stresses of a 2-post, front-mount-only chassis.

## 2. Power Sub-System

### 2.1 Power Supply

The 350 W power supply supports Power Factor Correction (PFC) and accepts AC input directly from the power source. The power sub-system includes a remote enable feature, which permits the power to be activated from a variety of sources, and allows the implementation of other remote management features.

### 2.2 Power Supply Cable Connectors

#### 2.2.1 Server Board Power Connector

The following table provides the pin-out for the server board power cable connector.

**Table 5. P1 Server Board Power Connector**

Pin	Signal	18 AWG Color	Pin	Signal	18 AWG Color
1	+3.3 VDC	Orange	13	+3.3 VDC	Orange
2	+3.3 VDC	Orange	14	-12 VDC	Blue
3	Reserved	N.C.	15	COM	Black
4	+5 VDC	Red	16	PS_ON	Green
5	COM	Black	17	COM	Black
6	+5 VDC	Red	18	COM	Black
7	COM	Black	19	COM	Black
8	PWR OK	Gray	20	Reserved	N.C.
9	5 VSB	Purple	21	+5 VDC	Red
10	+12 V2	Yellow	22	Reserved	N.C.
11	Reserved	N.C.	23	Reserved	N.C.
12	+3.3 VDC	Orange	24	Reserved	N.C.

#### 2.2.2 Peripheral Power Connector

A soldered 4-wire cable, with a Molex 39-01-2065 male housing connector attached, is used to provide power to each individual HDD device.

**Table 6. P5, P6 Peripheral Power Connectors**

Pin	Signal	18 AWG Color
1	+12V2	Yellow
2	COM	Black
3	COM	Black
4	+5 VDC	Red

**Table 7. P3 Floppy/CD Power Connector**

Pin	Signal	18 AWG Color
1	+12V2	Yellow
2	COM	Black



3	COM	Black
4	+5VDC	Red

**Table 8. Peripheral Power Connector Pinout**

Pin	Signal
1	COMMON
2	COMMON
3	+5V
4	+12V
5	+12V
6	+3.3V

### 2.2.3 Power Management Signal Cable

A soldered 5-wire cable, with a Molex 50-57-9405 female housing connector, is used to direct power management signals to the Intel server board. The following table shows the cable pin-out.

**Table 9. Power Management Signal Cable Pinout**

Pin	Signal	24 AWG Color	Description
1	SMBus Clock	Green	Serial Clock.
2	SMBus Data	Yellow	Serial Data. Information from the power supply.
3	Reserved	N.C.	N.C
4	ReturnS	Black	Return remote sense.
5	3.3RS	Orange	.3V sense.

### 2.2.4 Processor Power Connector (P2)

**Table 10. P2 Processor Power Connector**

Pin	Signal	18 AWG color	Pin	Signal	18 AWG Color
1	COM	Black	5	+12 V1	White
2	COM	Black	6	+12 V1	White
3	Reserved	N.C.	7	Reserved	N.C.
4	Reserved	N.C.	8	Reserved	N.C.

## 2.3 Output Power/Currents

The following tables define two power and current ratings for this 350W power supply. Only 3.3V output has a 3.3V remote sense. The combined output power of all outputs must not exceed the rated output power. Below are load ranges for each of the two power supply power levels.

**Table 11. Load Range 1 (Max system loading)**

Voltage	Minimum Continuous Load	Maximum Continuous Load	Peak Load	Max Continuous Wattage
+3.3V	1.5 A	16 A		52.8 W
+5V	1.0 A	12 A		60.0 W

+12V1	<b>1.5 A</b>	<b>16 A</b> (see note 3)	18.0 A pk (note 2,4&5)	12V x 28A =336.0 W (See note 3)
+12V2	<b>0.5 A</b>	<b>16 A</b> (see note 3)	18.0 A pk (note2, 4&5)	
-12V	<b>0 A</b>	<b>0.5 A</b>		6.0 W
+5VSB	<b>0.1 A</b>	<b>2.0 A</b>	2.5A	10.0 W
Total =				350 W = <b>see note 1</b>

**Table 12. Load Range 2 (Light system loading)**

Voltage	Minimum Continuous Load	Maximum Continuous Load	Peak Load	Max Continuous Wattage
+3.3V	0.2 A	5.0 A		16.5 W
+5V	<b>0.2 A</b>	<b>5.0 A</b>		25.0 W
+12V1	<b>0.2 A</b>	<b>8.0 A</b>		96.0 W
+12V2	<b>0.2 A</b>	<b>2.0 A</b>	5.0 A pk (note 5)	24.0 W
-12V	<b>0 A</b>	<b>0.5 A</b>		6.0 W
+5VSB	<b>0.1 A</b>	<b>2.0 A</b>		10.0 W
Total =				<b>177.5 W</b>

1 Maximum continuous total DC output power should not exceed **350 Watts** (5v@1A, 3.3V@2.58A, 12v1@16A, 12v2@12A, -12v@0A, 5vsb@0.1A)

2 Peak load on the combined 12V output must not exceed **32A pk**.

3 Maximum continuous load on the combined 12V output must not exceed **28A**.

4 Peak total DC output power should not exceed **400-Watts pk**.

5 Peak power and peak current loading is supported for a minimum of **12 seconds**.

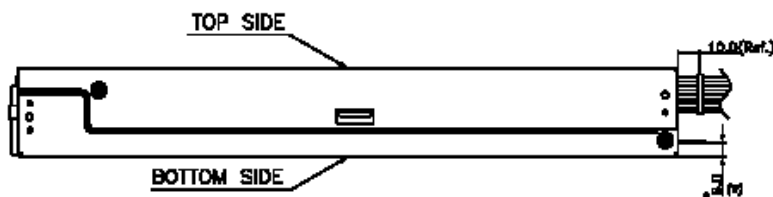
### 2.3.1 Power Supply Mechanical Specifications

The approximate power supply dimensions are as follows:

- 40.0mm high X 106mm wide X 300.0mm deep

The mechanical outline and dimensions are shown in the figure below.

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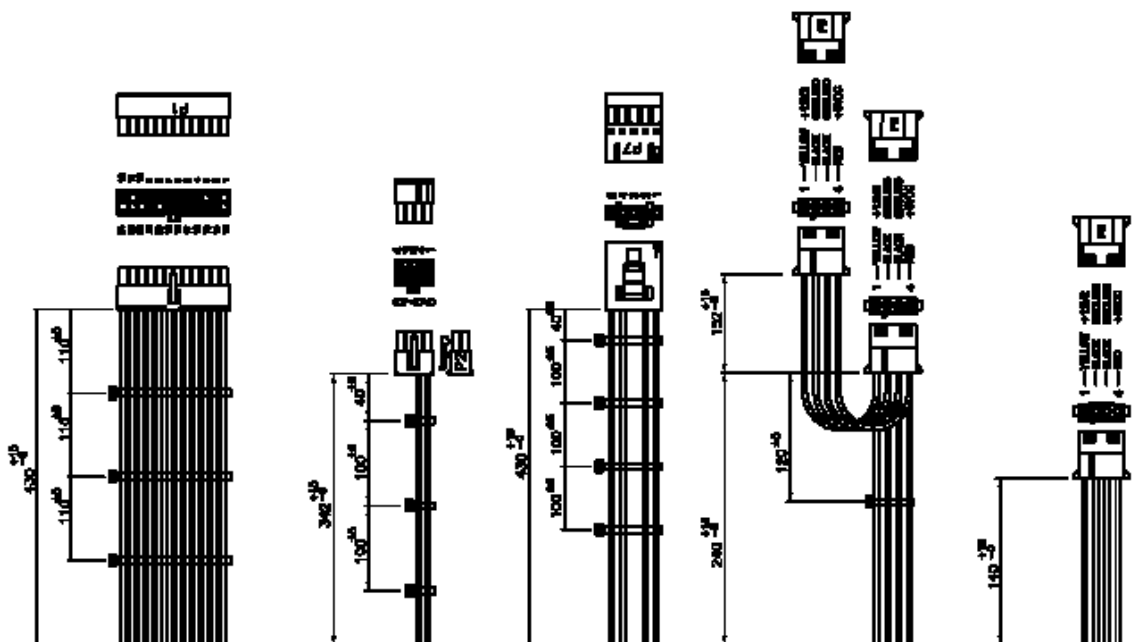
Notes:

1 All dimensions are in mm.

2 The tolerance of the 40mm height dimension pertains to the metal case only.

**Figure 9. Outline Drawing Power System Enclosure 70-Pin**

The power supply has a power cable harness to distribute power to the system. The following table provides the pinout for the cable connector.



### Table 13. Output Connector Harness

### 2.3.2 Over Temperature Protection

The power supply is protected against over-temperature conditions caused by loss of fan cooling or excessive ambient temperature. In an Over Temperature Protection (OTP) condition, the Power Supply Unit will shutdown. When the power supply temperature drops to within specified limits, the power supply restores power automatically. The OTP circuit has built-in hysteresis so the power supply will not oscillate on and off due to a temperature recovering condition. The OTP trip level has a minimum of 4°C of ambient temperature hysteresis. The power supply will alert the system of the OTP condition by turning off the green LED.

### 2.3.3 Over Voltage Protection

The power supply Over Voltage Protection (OVP) is locally sensed. The power supply will shutdown and latch off after an over-voltage condition occurs. This latch is cleared by toggling the PSON<sup>#</sup> signal or by an AC power interruption. The following table contains the over-voltage limits. The values are measured at the output of the power supply's connectors.

### Table 14. Over Voltage (OVP) Limits

Output Voltage	MIN (V)	MAX (V)
+3.3 V	3.9	4.5
+5 V	5.7	6.5
+12 V1,2	13.3	14.5
-12V	-14.5	-13.3
+5VSB	5.7	6.5

### 2.3.4 Power Supply LED Indicator

There is a single bi-color LED to indicate power supply status. See the table below for the LEDs state and driving conditions.

**Table 15. LED Indicator Modes**

Power Supply Condition	Power Supply LED
No AC power to PSU or PSU failure	Off
AC present / Only Standby Output On	Blink Green
Power supply DC outputs ON and OK	Green

## 3. Chassis Cooling

### 3.1 Processor Cooling

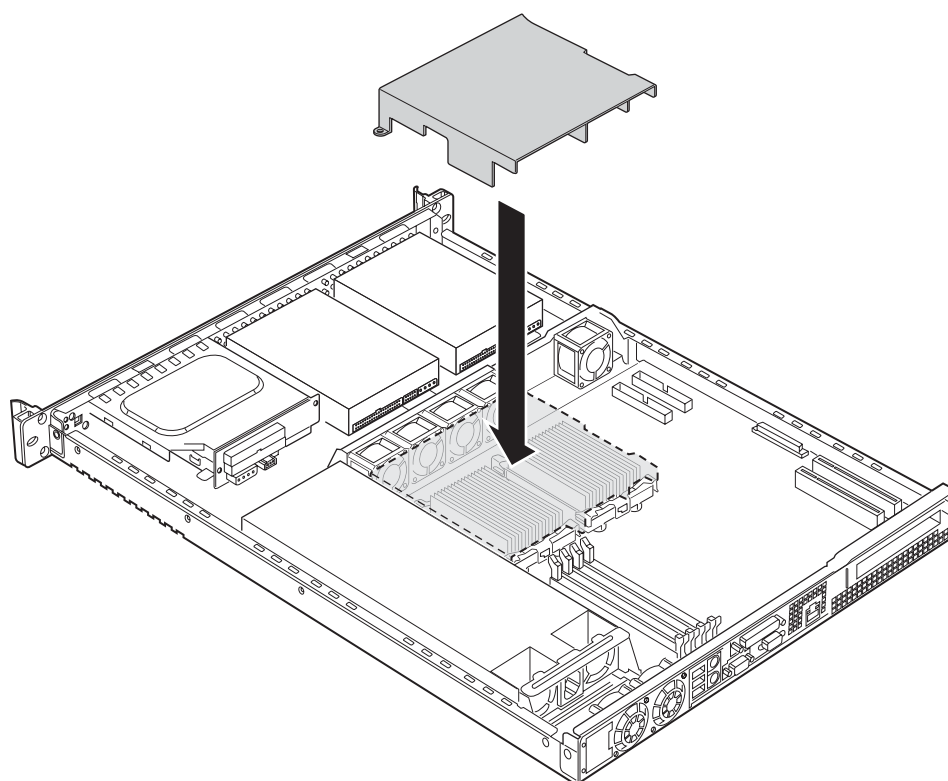
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**NOTE:**

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When purchasing the boxed Intel® Pentium® 4 Xeon processor, compatible with the Intel based Server boards, it will come with a foam pad for the processor heat sink. This foam pad cannot be used and is not necessary in the SR1350-E server chassis.

In order to maintain the necessary airflow within the system, the air duct must be installed around the processors the processor units and the fan module and a passive heatsink must be used.



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**Figure 10. Processor Air Duct Installation**

#### 3.1.1 Installing the Processor Retention Mechanisms

One set of retention mechanisms is included with your server chassis. Because retention mechanisms are also included with each boxed processor, you will have an extra set of retention mechanisms if you install two processors.

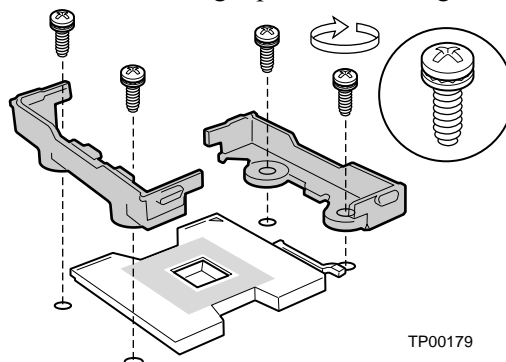
Attach a set of retention mechanisms around each processor socket as shown. Fasten the screws to the server board with screws from the bag that came with the retention mechanisms.

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**NOTE:**

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Install both retention mechanisms for single processor configurations.



**Figure 11. Attaching Retention Mechanisms**

### 3.1.2 Installing the Processor Air Dam (if required)

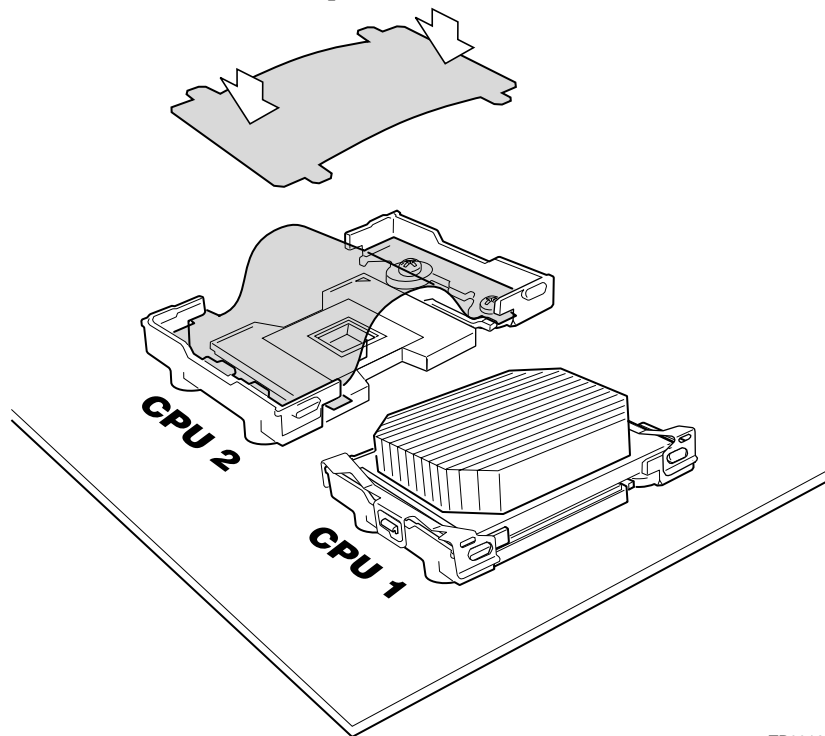
If you only install one processor, you must install the processor air dam in the location for processor 2.

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**NOTE:**

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To install the air dam, insert the tabs on the air dam under the sides of the retention mechanism as shown. When correctly inserted, the air dam bends upward at the center. Figure 12 shows the installation of the air dam and the air dam installed next to an installed processor.



**Figure 12. Installing the Processor Air Dam**

## 3.2 Five-Fan Module

A module consisting of five 40mm, fixed speed fans provides the primary airflow for the system. These fans are always running at full speed. There is a utility that must be run for SE7501CW2 that sets the value for fans to run at full speed to support processors speeds at 2.8GHz.

A 3-wire cable/connector provides each fan with power and tach lines, allowing the fan to be monitored independently by server management software. The power cable is connected to a 3-pin header located on the server board.

To properly cool the chassis, Fan Speed control must be turned off for the Intel® Server Board SE7501CW2.

For Intel® Server Chassis SC1350-E configurations you must first run CW533\_1U.EXE utility, before updating to BIOS 1.03.

(<http://support.intel.com/support/motherboards/server/se7501cw2/index.htm>)

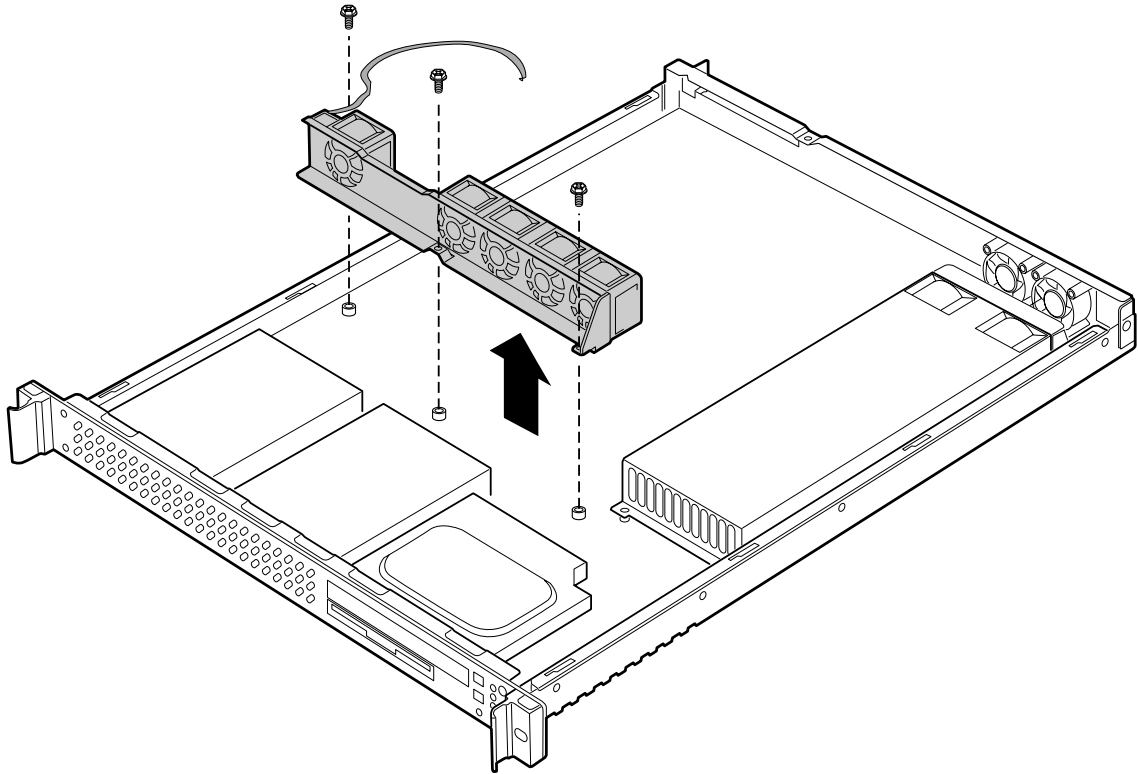
- Copy CW533\_1U.EXE to a bootable floppy
- Execute command CW533\_1U.EXE /WCT
- Choose option (1) to run system fans at full speed
- CW533\_1U.EXE /RCT allows you to read system fan policy.
- Please reboot system for changes to take place.
- Changes are persistent for subsequent BIOS upgrade.

**Table 16. Fan Module Numbering**

Pin	Signal Name	Description
1	Fan Tach1	CPU 1 Fan Header
2	Fan Tach2	System Fan Header
3	Fan Tach3	CPU 2 Fan Header
4	Fan Tach4	System Fan Header
5	Fan Tach5	System Fan Header

For SE7501BR2 and SE7501HG2 each fan is running at full speed. If the internal ambient temperature of the system exceeds the value programmed into the thermal sensor data record (SDR), the BMC firmware will not incrementally increase the rotational speed for each fan within the fan module. If any fan within the module should fail, the BMC will report failure with the fan.

The fan module is not hot swappable. Should a fan fail, each individual fan can be replaced. The server must be turned off before the fan module can be replaced.



TP00153

**Figure 13. Fan Module Extraction Picture**



## 4. Chassis Peripheral Bays

The SR1350-E server chassis provides two internal drive bays and one Slimline floppy/CD bay at the front of the chassis.

Your server chassis does not come with the backplane board and cable required to install a floppy drive, CD-ROM drive, or DVD-ROM drive. The AKACDFLOPPY kit must be ordered separately. The kit includes a Floppy cable, CD-ROM/DVD cable, mounting screws, and an interface board.

If you want to install one of these drives, you need to purchase the following items separately:

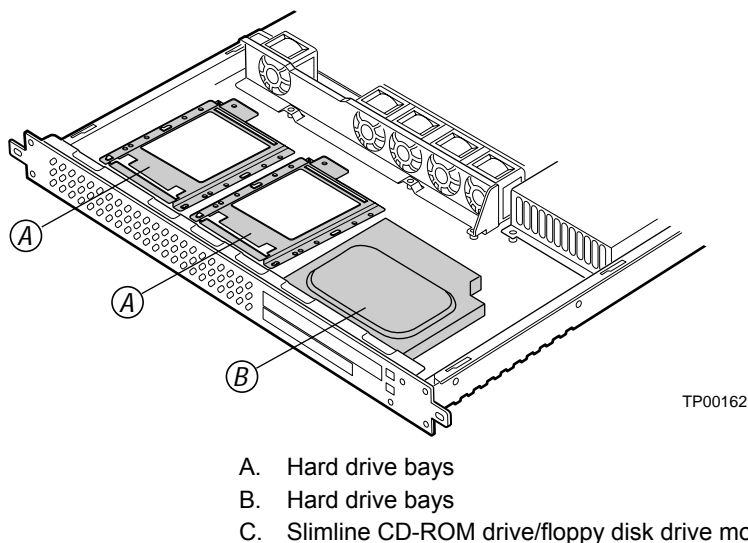
- Floppy / CD-ROM / DVD-ROM Drive Kit
- Floppy, CD-ROM or DVD-ROM drive

You can install one of the following drive combinations:

- Floppy drive alone
- CD-ROM drive alone
- DVD-ROM drive alone
- Floppy drive and CD-ROM drive
- Floppy drive and DVD-ROM drive

Follow the installation instructions that are included with the drive kit to install these drives. The instruction document is titled "Intel® Server Chassis SR1350-E: Backplane Kit Installation Guide for Floppy Drive / CD-ROM Drive or DVD-ROM Drive" and can also be found at

<http://support.intel.com/support/motherboards/server/chassis/sr1350-e/>



**Figure 14. SR1350-E Peripheral Bay Configuration Options**

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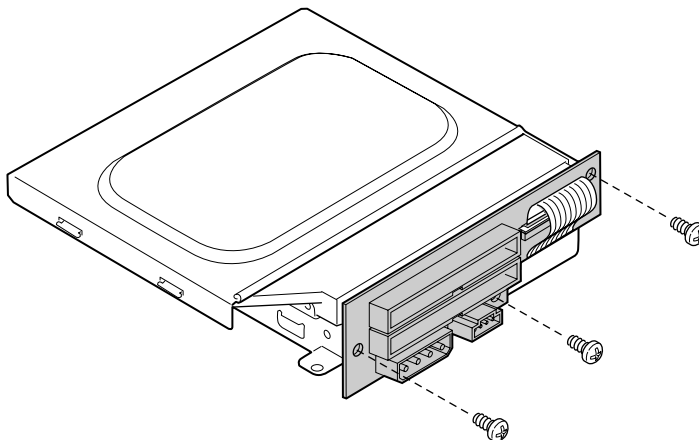
**NOTE:**

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Drives can consume up to 17 watts of power each. Drives must be specified to run at a maximum ambient temperature of 50°C.

## 4.1 External Bay Options

The floppy/CDROM module is a 3.5" floppy drive and a 0.5" (12.7mm) slim line CD-ROM drive mounted as a single unit in the flex bay. This module cannot be hot swapped. The system must be powered down before the module can be inserted or removed.



TP00148A

**Figure 15. Optional Floppy/CDROM Drive Module on SC1350-E**



### CAUTION

The Intel Server Chassis SR1350-E does not support all slimline vendors for floppy and CD/DVD drives. To see a list of validated manufacturers and hard drive types, go to:

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

## 4.2 Slimline Interposed Cards

The SR1350-E server chassis can support an interposer cards for a CD-ROM Drive / Floppy Drive Backplane Board. This interface allows you to install a slimline CD-ROM drive and / or a slimline floppy drive into your Intel® Server Chassis SR1350-E. This accessory kit is required to connect the drive(s) to the chassis and server board. With this kit, you can install one floppy drive, one CD-ROM drive, or both a floppy drive and a CD-ROM drive. Slim line Interposed card Layout

With the AKACDFLOPPY kit, you have the following installation options:

A single floppy drive

A single CD-ROM drive

A single DVD-ROM drive

One floppy drive and either a CD-ROM or DVD-ROM drive



### NOTE

You cannot install both a CD-ROM drive and a DVD-ROM drive.

### 4.2.1 Kit Contents

Backplane board

Flat Flex Cable (FFC), preinstalled on backplane board  
CD-ROM / DVD-ROM Drive Cable  
Floppy Drive Cable  
Screws

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**NOTE**

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Floppy drives, CD-ROM drives and / or DVD-ROM drives are not included with this kit. For a list of supported drives, see <http://support.intel.com/support/motherboards/server/chassis/SR1350-E>. Refer to the documentation that comes with your drive for additional information and requirements.

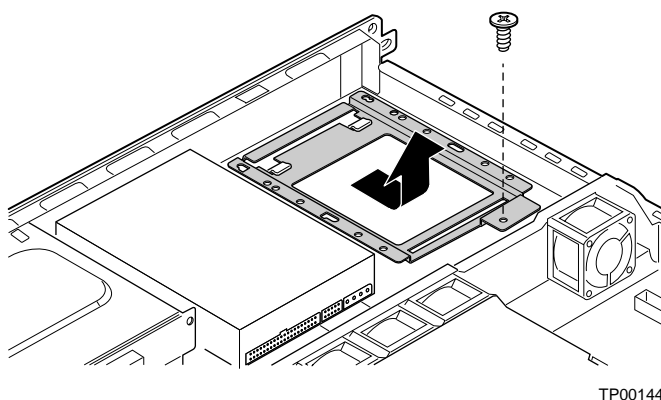
### 4.3 Hard Disk Drive Bays

The SR1350-E server chassis can support two internal hard disk drives. For SCSI support a separate cable kit must be ordered. The AKASCSICABLE includes: a SCSI cable that supports up to two drives and a terminator for your SCSI devices.

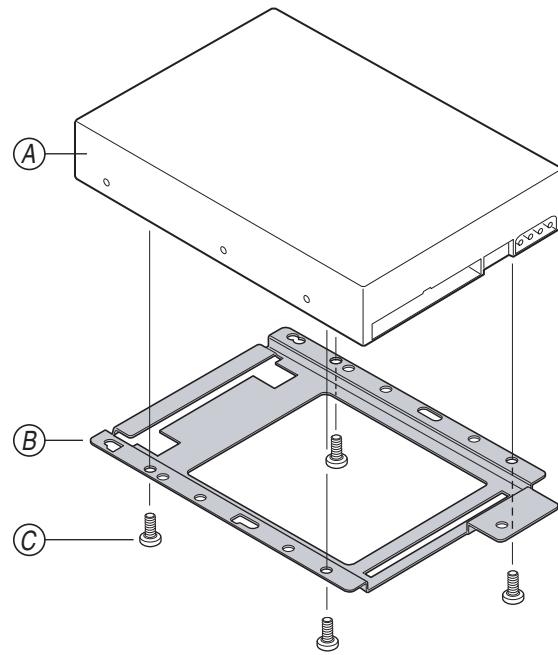
For all drive configurations, the chassis will support up to two 3.5" x 1", hard disk drives. The third drive bay is used for an optional floppy/CDROM module kit that must be ordered separately. **Hard drives cannot be hot swapped.** Attempting to hot swap any of the drives may cause damage to the hard drive and/or cause loss of data.

#### 4.3.1 Fixed Drive Trays

Each hard drive used in the system must be mounted to a fixed drive tray. Each fixed hard drive tray makes this configuration permanent and not hot swap is supported on an SC1350-E



**Figure 16. Drive Tray Assembly Removal from Chassis**



TP00142

**Figure 17. Drive Tray Assembly**

## 5. Front Panel Assembly

### 5.1 Front Panel Buttons

The SR1350-E front panel assembly houses several system control buttons. Each of their functions is listed in the following table.

**Table 17. Control Button and Intrusion Switch Functions**

Feature	Function
<b>SW1 Power/Sleep Button</b>	Toggles the system power on/off. This button is also used as a sleep button for operating systems that follow the ACPI specification.
<b>SW2 Reset button</b>	Reboots and initializes the system.

### 5.2 Front Panel Assembly Connectors

The front panel assembly has a front panel cable that connects to the boards. The front panel cable is both ATX and SSI compliant.

In addition, the front panel assembly interface board has two internal connectors:

- A 24-pin header provides control and status information from the baseboard to the front panel board.

### 5.3 Front Panel System Status LED Indicators

The front panel houses five LEDs, which are viewable to display the system's operating state. The LEDs provide a status for the following system states:

- Power/Sleep
- NIC1 Activity
- NIC2 Activity
- System Fault
- Disk Activity

**Table 18. Front Panel LED Functions**

LED	Color	State	Description
NIC1 / NIC2 Activity	Green	Random Blink	Provides an indicator for NIC activity
System Fault (on standby power)	Amber	On	Critical or Non-Recoverable Condition.
		Blink <sup>1,2</sup>	Non-Critical condition.
	Off	Off	POST/System Stop.
Disk Activity 1	Green	Random Blink	Provides an indicator for disk activity.
	Off	Off <sup>3</sup>	No hard disk activity

<sup>1</sup> Blink rate is ~1 Hz with at 50% duty cycle.

<sup>2</sup> Also off when the system is powered off (S4/S5) or in a sleep state (S1).

<sup>3</sup> The Power LED sleep indication is maintained on standby by the chipset. If the system is powered down without going through BIOS, the LED state, in effect at the time of power off, will be restored when the system is powered on until the BIOS clears it. If the system is not powered down normally, it is possible that the Power LED will be blinking at the same time that the System Status LED is off, due to a failure or configuration change that prevents the BIOS from running.

### 5.3.1 Power / Sleep LED

The BIOS controls the front panel Power LED as described in following table.

**Table 19. SSI Power LED Operation**

State	Power Mode	LED	Description
Power Off	Non-ACPI	OFF	System power is off, and the BIOS has not initialized the chipset.
Power On	Non-ACPI	ON	System power is on, but the BIOS has not yet initialized the chipset.
S5	ACPI	OFF	Mechanical Off, and the OS has not saved any context to the hard disk.
S4	ACPI	OFF	Mechanical Off. The OS has saved context to the hard disk.
S3-S1	ACPI	Slow Blink	DC Power is still on. The OS has saved context and gone into some level of low-power state.
S0	ACPI	Steady On	System and the OS are up and running.

<sup>1</sup> Blink rate is ~1 Hz with at 50% duty cycle.

### 5.3.2 System Fault LED for SE7501BR2 and SE7501HG2

**Note:** The System Fault LED does not function with the SE7501CW2.

#### 5.3.2.1 Critical Condition

Any critical or non-recoverable threshold crossing associated with the following events:

- Temperature, voltage, or fan critical threshold crossing.
- Power subsystem failure. The BMC asserts this failure whenever it detects a power control fault (e.g., the BMC detects that the system power is remaining on even though the BMC has deasserted the signal to turn off power to the system). A hot-swap backplane would use the *Set Fault Indication* command to indicate when one or more of the drive fault status LEDs are asserted on the hot-swap backplane.
- The system is unable to power up due to incorrectly installed processor(s), or processor incompatibility.
- Satellite controller sends a critical or non-recoverable state, via the *Set Fault Indication* command to the BMC.
- “Critical Event Logging” errors, including: System Memory Uncorrectable ECC error and Fatal/Uncorrectable Bus errors, such as PCI SERR and PERR.

#### 5.3.2.2 Non-Critical Condition

- Temperature, voltage, or fan non-critical threshold crossing.
- Chassis intrusion.
- Satellite controller sends a non-critical state, via the *Set Fault Indication* command, to the BMC.
- *Set Fault Indication* command from system BIOS. The BIOS may use the *Set Fault Indication* command to indicate additional, non-critical status such as system memory or CPU configuration changes. Refer to the *Intel Server Board BIOS External Product Specification Revision 1.0* for further details.

**5.3.2.3 Degraded Condition**

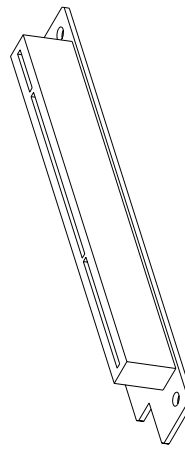
- One or more processors are disabled by Fault Resilient Boot (FRB) or BIOS.
- BIOS has disabled or mapped out some of the system memory.

## 6. PCI Riser Cards

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The SR1350-E 1U server chassis supports the use of one single-slot PCI riser card. The riser card is capable of supporting a 3.3 V, 64-bit, 100MHz PCI add-in card. Only low profile add-in cards are supported.

To use the riser card with an Intel server board, please verify that the BIOS is the current version available for the server board at <http://support.intel.com/support/motherboards/server/>. Please follow the directions bundled with the download to update the BIOS. The PCI slot on the riser card will not run faster than 100MHz.



**Figure 18. 1U PCI Riser Card Mechanical Drawing**



## 7. System Interconnection

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### 7.1 Signal Definitions

The connector pinouts referred to in this section are defined in the respective server board Technical Product Specification (TPS).

### 7.2 Chassis Internal Cables

The following cables are provided as part of the chassis kit:

#### 7.2.1 Front Panel cable

A 24-conductor ribbon cable with 24-pin IDC\* connectors links the front panel and SSI EEB Revision 3.0-compliant server board (e.g., SE7501CW2).

#### 7.2.2 Fan Connectors

The installed system fans provide 3-pin connectors designed to mate with SSI (ATX\*)-compatible fan headers.

### 7.3 Server Board Internal Cables

Depending on the specific server board support of these features, some or all of the following cables may not be included as part of the boxed board kit:

- IDE Cable: One or two 40-pin, 80-conductor DMA33/66/100 IDE cable.
- SCSI Cable: One 68-pin, 68-conductor twisted-pair wide SCSI cable with terminator. Cable supports connection of up to two SCSI drives to the server board (AKASCSIKIT Accessory).
- Floppy Cable: One 34-conductor cable featuring two 34-pin IDC connectors (2x17) floppy cable board (AKACDFLOPPY Accessory).

### 7.4 Accessory Cables

#### 7.4.1 ICMB Interface Card Cable

One 5-pin ICMB cable connects the server board to the ICMB interface card mounted on the chassis rear panel or add-in card slot (Included in the ICMB Interface Card Kit AXX2ICMBKIT)

### 7.5 I/O Panel Connectors

The SC1350-E chassis provides an ATX 2.03 and SSI E-bay 3.0 -compliant I/O aperture for the backside I/O. The specific panel used is provided in the boxed server board kit. The following are typical panel connections:

- PS/2 keyboard connector
- PS/2 mouse connector
- 9-pin serial port(s)
- 25-pin parallel port
- USB port(s)
- 15-pin video port

## 8. Supported Intel® Server Boards

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The Intel Server Chassis SR1350-E supports three Intel® server boards:

- Intel Server Board SE7501CW2
- Intel Server Board SE7501BR2
- Intel Server Board SE7501HG2

The features of these boards are provided in the sections below. Future server boards (TBD) may also be targeted for the SC1350-E chassis family.

### 8.1 SE7501CW2

The server board SE7501CW2 is a monolithic printed circuit board with features that were designed to support the general-purpose server market. The architecture is based on the Intel® E7501 chipset and is capable of supporting one or two Intel® Xeon™ processors with 512 KB L2 cache and up to 8GB of memory.

The SE7501CW2 server boards support the following feature set:

- Dual Intel Xeon processors using the 603-pin INT mPGA package and 604-pin FCPGA package.
- 533 MHz front side bus
- Intel E7501 server chipset
  - MCH memory controller
  - P64H2 64-bit I/O hub
  - ICH3-S I/O controller
  - FWH firmware hub
- Support for up to four DDR200 or DDR266 compliant ECC DDR DIMMs, providing up to 8GB of memory support.
- Three separate and independent PCI buses:
  - Segment A: 32-bit, 33 MHz, 5 V (P32-A) with four embedded devices:
    - 2D/3D graphics controller: ATI Rage\* XL with 8 MB of SDRAM
    - One Intel® 82550PM 10/100 Fast Ethernet controller
    - One Intel® 82540EM gigabit Ethernet controller.
    - Two PCI slots capable of supporting full-length PCI add-in cards
  - Segment B: PCI-X 64-bit, 66MHz, 3.3 V, (P64-B) with the following configuration:
    - Two PCI slots capable of supporting full-length PCI add-in cards
  - Segment C: PCI-X 64-bit, 133 MHz, 3.3 V (P64-C) with the following device:
    - One PCI slot capable of supporting full-length PCI add-in cards
- LPC (Low Pin Count) bus segment with two embedded devices:
  - Super I/O controller chip providing all PC-compatible I/O (floppy, serial, keyboard, mouse) as well as integrated hardware monitoring.
  - Flash ROM device for system BIOS: Intel® N82802AC 8 megabit Flash ROM.
- Three external Universal Serial Bus (USB) ports with an additional internal header providing up to two optional USB ports for front panel support. Two USB ports are supported on the SC5250-E chassis.

- Two IDE connectors, supporting up to four ATA-100 compatible devices
- Support for up to five system fans and two processor fans.
- SSI-compliant connectors for SSI interface support: front panel and power connectors.

## 8.2 Intel® Server Board SE7501BR2 Feature Set

The SE7501BR2 server board supports the following feature set:

- Dual Intel® Xeon™ processors with 512KB L2 Cache in a FC-mPGA2P or INT3-mPGA package
- 533 MHz Front Side Bus backwards compatible to 400MHz
- 64-bit, 100-MHz, 3.3V PCI-X segment with two expansion connector
- Four Universal Serial Bus (USB) ports
- Two IDE connectors, supporting two ATA\* 33/66/100-compatible devices
- Intel® chipset:
  - Intel® E7501 memory controller hub (MCH)
  - Intel® 82870P2 PCI/PCI-X 64-bit Hub2 (P64H2) PCI/PCI-X controller hub
  - Intel® 82801CA I/O Controller Hub3 ICH3-S I/O controller hub
- Support for four DDR266 compliant registered ECC DDR DIMMs providing up to 8 GB of memory.
- Three separate and independent PCI buses:
  - Segment A: 32-bit, 33 MHz, 5 V, Full-length PCI (P32-A) with three embedded devices:
    - Two slots: 32-bit/33MHz PCI Slots (PCI Slot 5 and Slot 6)
    - 2D/3D graphics controller: ATI Rage\* XL Video Controller with 8 MB of SDRAM
    - Intel® 82540EM 10/100/1000 Gigabit Ethernet Controller (NIC2)
    - Intel® 82550PM 10/100 Fast Ethernet Controller (NIC1<sup>1</sup>)
  - Segment B: 64-bit, 133 MHz, 3.3 V, full-length PCI (P64-B) supporting the following configuration:
    - Two slots: 64-bit, 100MHz PCI-X Slots (PCI-X Slot 3 and Slot 4)
    - Single-channel Adaptec\* AIC-7901 wide Ultra-320 SCSI Controller<sup>2</sup>
    - Zero Channel RAID (ZCR) support. Also known as modular M-ROMB (Slot4)
  - Segment C: 64-bit, 133 MHz, 3.3 V, Full-length PCI (P64-C) supporting the following configuration:
    - Two slots: 64-bit, 100MHz PCI-X<sup>3</sup> Slots (PCI-X Slot 1<sup>4</sup> and Slot 2)
- LPC (Low Pin Count) bus segment with two embedded devices:

<sup>1</sup> NIC1 is the designated Server Management NIC.

<sup>2</sup> Single Ended Mode not supported.

<sup>3</sup> The BIOS is responsible for setting the mode (PCI or PCI-X) and bus speed for the two segments provided by the P64H2. The actual bus mode/speed will be determined by the least capable card installed on that bus. The BIOS will program the bus at 133MHz with one slot populated, and 100MHz when two slots are populated.

<sup>4</sup> PCI slot 1 is designed to support a 2-slot PCI riser card, Segment C will run at a maximum of 100 MHz if a riser card is used.

- Baseboard Management Controller (BMC) providing monitoring, alerting, and logging of critical system information obtained from embedded sensors on server board
- Super I/O controller chip providing all PC-compatible I/O (floppy, serial, parallel, keyboard, mouse) X-Bus segment with one embedded device:
  - Flash ROM device for system BIOS: Intel® 32 megabit 28F320C3 Flash ROM
- Three external Universal Serial Bus (USB) ports on the rear of the board with an additional internal header that provides two optional USB ports for front panel support.
- Two serial ports: One external serial port (Serial A) on the back edge of the board and one internal header providing an optional Serial B<sup>5</sup> port.
- Two IDE connectors, supporting up to four ATA-100 compatible devices
- Six (two for redundancy) multi-speed system fans and two single speed CPU fans
- Multiple server management headers providing on-board interconnects to the board's server management features
- SSI-EEB3.0 compliant board form factor, the board size is 12 inch by 13 inch

### 8.3 SE7501HG2 Feature Set

The server board SE7501HG2 is a monolithic printed circuit board with features that were designed to support the general-purpose volume server market. The architecture is based on Intel® E7501 chipset and is capable of supporting one or two Intel® Xeon® processors and up to twelve gigabytes of memory.

The SE7501HG2 server board supports the following feature set:

- Dual Intel® Xeon™ processors in FC-PGA2P package using Socket 604
- 533 MHz Front Side Bus
- Intel® E7501 chipset
  - E7501 Memory Controller Hub
  - P64H2 PCI/PCI-X 64-bit PCI/PCI-X Controller Hub2
  - ICH3-S I/O Controller Hub
- Support for six DDR266 compliant registered ECC DDR DIMMs providing up to 12 GB of memory.
- Three separate and independent PCI buses:
  - Segment A: 32-bit, 33 MHz, 5 V, Full-length PCI (P32-A) with one embedded devices:
    - Three slots: 32-bit/33MHz PCI Slot (PCI Slot 4, Slot 5 and Slot 6)
    - 2D/3D graphics controller: ATI RAGE\* XL Video Controller with 8 MB of SDRAM
  - Segment B: 64-bit, 100 MHz, 3.3 V, Full-length PCI (P64-B) supporting the following configuration:
    - Two slots: 64-bit/100MHz PCI-X Slots (PCI-X Slot 2 and Slot 3)
    - Dual-channel Adaptec\* AIC-7902 wide Ultra-320 SCSI Controller
    - Zero Channel RAID (ZCR) support. Also known as modular M-ROMB

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<sup>5</sup> Serial B is the designated Server Management serial port.

(Slot2)

- Segment C: 64-bit, 133 MHz, 3.3 V, Full-length PCI (P64-C) supporting the following configuration:
  - One slot: 64-bit/133MHz PCI-X<sup>6</sup> Slots (PCI-X Slot 1)
  - Dual –channel Intel 82546EB Gigabit Ethernet Controller
- LPC (Low Pin Count) bus segment with two embedded devices:
  - Baseboard Management Controller (BMC) providing monitoring, alerting, and logging of critical system information obtained from embedded sensors on server board
- Super I/O controller chip providing all PC-compatible I/O (floppy, serial, parallel, keyboard, mouse) X-Bus segment with one embedded device:
  - Flash ROM device for system BIOS: Intel® 32 megabit 28F320C3 Flash ROM
- Three external Universal Serial Bus (USB) ports on the rear of the board with an additional internal header that provides one optional USB port for front panel.
- Two serial ports: One serial port on the rear of the board and one internal header is also available providing an optional Serial B port.
- Two IDE connectors, supporting up to four ATA-100 compatible devices
- Six hot swappable multi-speed system fans and two single speed CPU fans
- Multiple server management headers providing on-board interconnects to the board's server management features
- SSI-EEB3.0 compliant board form factor, the board size is 12 inch by 13 inch
- SSI-compliant connectors for SSI interface support the 34-pin front panel, floppy, ATA-100 and power connectors

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<sup>6</sup> The BIOS is responsible for setting the mode (PCI or PCI-X) and bus speed for the two segments provided by the P64H2. The actual bus mode/speed will be determined by the least capable card installed on that bus

## 9. Regulatory Information

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### Caution

Integration of this subassembly is a regulated activity; you must adhere to the assembly instructions in this guide to ensure and maintain compliance with existing product regulations. Use only the described, regulated components specified in this guide. Use of other products / components will void the UL listing of the product, will most likely void other compliance markings provided, and may result in noncompliance with product regulations in the region(s) in which the product is sold.

### 9.1 Regulatory Compliance

This subassembly, when correctly integrated, complies with the following safety and electromagnetic compatibility (EMC) regulations.

#### 9.1.1 Safety Standards

- UL 1950 - CSA 950-95, Third Edition, July 28, 1995 - The Standard for Safety of Information Technology Equipment including Electrical Business Equipment (USA and Canada). This product has been evaluated and complies with UL 1950 – CSA 950-95 Third Edition. However, if a UL 1950 Second Edition modem telecommunications add-in card is used, the system will be deemed to comply with UL 1950 Second Edition/CSA950-93.
- EN 60 950, Second Edition, 1992 (with Amendments 1, 2, and 3) - The Standard for Safety of Information Technology Equipment including Electrical Business Equipment. (European Union).
- IEC 950, Second Edition, 1991 (with Amendments 1, 2, 3 and 4) - The Standard for Safety of Information Technology Equipment including Electrical Business Equipment. (International).
- EMKO-TSE (74-SEC) 207/94 - Summary of Nordic deviations to EN 60 950. (Norway, Sweden, Denmark, and Finland).

#### 9.1.2 EMC Regulations

- FCC Class B - Title 47 of the Code of Federal Regulations, Parts 2 and 15, Subpart B, pertaining to unintentional radiators. (USA)
- CISPR 22, Second Edition, 1993, Amendment 1, 1995 - Limits and methods of measurement of Radio Interference Characteristics of Information Technology Equipment. (International)
- EN 55 022, 1995 - Limits and methods of measurement of Radio Interference Characteristics of Information Technology Equipment. (Europe)
- EN 50 082-1, 1992 - Generic Immunity Standard. Currently, compliance is determined via testing to IEC 801-2, -3 and -4. (Europe)
- VCCI Class B (ITE) - Implementation Regulations for Voluntary Control of Radio Interference by Data Processing Equipment and Electronic Office Machines. (Japan)
- ICES-003, Issue 2 - Interference Causing Equipment Standard, Digital Apparatus. (Canada)
- Australian Communication Authority (ACA) - Australian C-tick mark, limits and methods of measurement radio interference characteristics of information

technology equipment to ASNZS 3548 (Australian requirements based on CISPR 22 requirements).

- New Zealand Ministry of Commerce - Australian C-tick mark, limits and methods of measurement radio interference characteristics of information technology equipment to ASNZS 3548 (New Zealand requirements based on CISPR 22 requirements). New Zealand authorities accept ACA C-Tick Compliance Mark.

### 9.1.3 Regulatory Compliance Markings

This SR2100 chassis subassembly is provided with the following Product Certification Markings.

- UL and cUL Listing Marks.
- CE Mark.
- The CE marking on this product indicates that it is in compliance with the European community's EMC (89/336/EEC) and low voltage directives (73/23/EEC).
- NEMKO Mark.
- FCC, Class A Markings (Declaration of Conformity).
- ICES-003 (Canada Compliance Marking).

## 9.2 Electromagnetic Compatibility Notice (USA)

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment. The customer is responsible for ensuring compliance of the modified product.

Only peripherals (computer input/output devices, terminals, printers, etc.) that comply with FCC Class B limits may be attached to this computer product. Operation with noncompliant peripherals is likely to result in interference to radio and TV reception.

All cables used to connect to peripherals must be shielded and grounded. Operation with cables, connected to peripherals that are not shielded and grounded, may result in interference to radio and TV reception.

**Note:** If a Class A device is installed within this system, the system is to be considered a Class A system. In this configuration, operation of this equipment in a residential area is likely to cause harmful interference.

### 9.2.1 FCC Declaration of Conformity

Product Type: ASTNIT, ASTLAN

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: 1) This device may not cause harmful interference; and 2) this device must accept any interference received, including interference that may cause undesired operation. For questions related to the EMC performance of this product, contact:

Intel Corporation  
5200 N.E. Elam Young Parkway  
Hillsboro, OR 97124-6497  
Phone: 1-800-628-8686

*Cet appareil numérique respecte les limites bruits radioélectriques applicables aux appareils numériques de Classe A prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", NMB-003 édictée par le Ministre Canadien des Communications.*

**(English translation of the notice above)** This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the interference causing equipment standard entitled "Digital Apparatus," ICES-003 of the Canadian Department of Communications.

### 9.2.2 Electromagnetic Compatibility Notices (International)

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。  
取扱説明書に従って正しい取り扱いをして下さい。

**(English translation of the notice above)** This is a Class A product based on the standard of the Voluntary Control Council for Interference (VCCI) from Information Technology Equipment. If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual. When used near a radio or TV receiver, it may become the cause of radio interference. Read the instructions for correct handling. This equipment has been tested for radio frequency emissions and has been verified to meet CISPR 22 Class A.



## 10. Environmental Limits

### 10.1 System Office Environment

**Table 20. System Office Environment Summary**

Parameter	Limits
Operating Temperature	+5°C to +35°C with the maximum rate of change not to exceed 10°C per hour.
Non-Operating Temperature	-40°C to +70°C
Non-Operating Humidity	95%, non-condensing @ 30°C
Acoustic noise 1)	59 dBA (Rackmount) in an idle state at typical office ambient temperature. (23 +/- degrees C)
Operating Shock	No errors with a half sine wave shock of 2G (with 11 millisecond duration)
Package Shock	Operational after a 30 inch free fall, although cosmetic damage may be present (chassis weight 30 lbs)
ESD	+/-15 kV per Intel® Environmental test specification
System Cooling Requirement in BTU/Hr	1676 BTU/hour

### 10.2 System Environmental Testing

The system has been tested per the *Environmental Standards Handbook*, Intel Doc.#662394-03. These tests include:

- Temperature Operating and Non-Operating
- Humidity Non-Operating
- Packaged and Unpackaged Shock
- Packaged and Unpackaged Vibration
- AC Voltage, Frequency and Source Interrupt
- AC Surge
- Acoustics
- ESD
- EMC Radiated Investigation

### 10.3 Regulatory Requirements

The following table summarizes environmental limits, both operating and non-operating.

**Table 21. Operating and Non-Operating Environmental Limits**

Temperature	Specification
Non-operating	-40°C to 70°C
Operating Temperature	5°C to 50°C
Thermal Map	Must not exceed maximum IC junction temperature as specified in the component data sheets (CPDs).
Thermal Shock	Specification

Non-operating	-40°C to 70°C
<b>Humidity</b>	<b>Specification</b>
Non-operating	92% RH at +50°C
<b>Vibration</b>	<b>Specification</b>
Non-Operating:	Random input, 0.01 g <sup>2</sup> /Hz at 5Hz, sloping to 0.02 g <sup>2</sup> /Hz at 20Hz, and maintaining 0.02 g <sup>2</sup> /Hz from 20 Hz to 500 Hz.
<b>Shock</b>	<b>Specification</b>
Non-operating	50g, 11 msec
<b>ESD</b>	<b>Specification</b>
Operating	Indirect (radiated) only. Test to 15 KV with limited errors and to 20K with no damage.
<b>EMI</b>	<b>Specification</b>
Operating	Required to meet EMI emission requirements, tested as part of system.

## 11. Serviceability and Availability

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The system is designed to be serviced by qualified technical personnel only.

The desired Mean Time To Repair (MTTR) of the system is 30 minutes, including diagnosis of the system problem. To meet this goal, the system enclosure and hardware have been designed to minimize the MTTR.

Below are the maximum times that a trained field service technician should take to perform the listed system maintenance procedures, after diagnosis of the system, and with the system powered down and unplugged.

Remove top cover	1 Minute
Remove and replace hard disk drive	3 Minutes
Remove and replace power supply	3 Minutes
Remove and replace fan pack	8 Minutes
Remove and replace add-in cards	3 Minutes
Remove and replace front panel board	10 Minutes
Remove and replace baseboard	15 Minutes

## 12. Calculated MTBF

The Mean Time Between Failures (MTBF) for the SR1350-E server chassis, integrated with an SE7501CW2 server board, is calculated at 30,000 hours operating at 35 Degrees C. The following table shows the MTBF numbers for individual components within the chassis.

**Table 22. SR1350-E Component MTBF Numbers**

<b>Subassembly</b>		
(Server in 35oC ambient air)	<b>MTBF</b>	<b>FIT</b>
	(hours)	(flrs/10 <sup>9</sup> hrs)
350 W Power Supply	100,000	10,000
Cooling Fans (No redundancy)	80,000	12,500
CD and Floppy interposer Card	2,500,000	400
PCI riser card	4,000,000	250
Front Panel board and Intrusion Switch	3,000,000	333
Totals =	42,600	23,483

## *Appendix A: Chassis Spares and Accessories*

### Upgrade and Accessory Parts

Product Code	MM #	UPC	Qty.	Description
SR1350ENA	854461	7 35858 16150 3	1	KDK, (1 U PCI) riser card, (2) I/O Shields, (1) 350W Power supply
SR1350E	853585	7 35858 16073 5	1	KDK, (1 U PCI) riser card, (2) I/O Shields, (1) 350W Power supply
AKACDFLOPPY	853921	7 35858 16107 7	1	Floppy cable, CD cable, mounting screws, interface board
AKASCSICABLE	853922	7 35858 16108 4	1	SCSI cable and Terminator
<a href="#">AXXSCD</a>	<a href="#">856519</a>	<a href="#">7 35858 16426 9</a>	<a href="#">1</a>	<a href="#">Slimline CD ROM drive accessory</a>
<a href="#">AXXSFLOPPY</a>	<a href="#">856444</a>	<a href="#">7 35858 16427 6</a>	<a href="#">1</a>	<a href="#">Slimline Floppy Drive accessory</a>

## Replacement and Spare Parts for SC1350-E

Product Code	MM #	UPC	Qty.	Description
FKAPMKIT	853920	7 35858 16105 3	1	Chassis Fans (2), front Panel board, Front Panel cable, air duct, PCI riser card, i/o shield & gaskets (2), ATA cable.
FXXCBL350K	853919	7 35858 16106 0	1	350 Watt Power Supply

## ***Appendix B: SR1350-E Errata***

The following is a list of known errata for the SR1350-E server chassis. Errata listed in this section are classified as issues that cause the chassis to deviate from the published specifications and that will not be addressed. For a complete list of errata for the SR1350-E server chassis, including those that are planned to be addressed, please reference the SR1350-E Monthly Specification Update posted to Intel's support web site.

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

## ***Glossary***

<b>Word / Acronym</b>	<b>Definition</b>
ACA	Australian Communication Authority
ANSI	American National Standards Institute
BMC	Baseboard Management Controller
CMOS	Complementary Metal Oxide Silicon
D2D	DC-to-DC
EMP	Emergency Management Port
FP	Front Panel
FRB	Fault Resilient Boot
FRU	Field Replaceable Unit
LPC	Low-Pin Count
MTBF	Mean Time Between Failure
MTTR	Mean Time to Repair
OTP	Over-Temperature Protection
OVP	Over-Voltage Protection
PFC	Power Factor Correction
PMC	Platform Management Controller
PSU	Power Supply Unit
RI	Ring Indicate
SCA	Single Connector Attachment
SDR	Sensor Data Record
SE	Single-Ended
UART	Universal Asynchronous Receiver Transmitter
USB	Universal Serial Bus
VCCI	Voluntary Control Council for Interference

## *Reference Documents*

Refer to the following documents for additional information:

- *SC7501CW2 Server Board External Product Specification*, Rev. 1.0
- *SE7501BR2/SE7501HG2 Server Board External Product Specification*, Rev. 1.0
- *SE7501BR2/SE7501HG2 Baseboard Management Controller External Product Specification*, Rev. 1.0
- *SE7501BR2/SE7501HG2 External Architecture Specification*, Rev 1.0
- *Barbera2 Server Chassis Technical Product Specification*, Rev 0.91
- *TPS 250W Power Supply Specification*, Rev. 1.4
- *Entry-Level Electronics-Bay Specification*, Rev. 1.0
- *ATX Specification Version 2.03*
- *SCSI Accessed Fault-Tolerant Enclosures Interface Specification*, copyright Conner Peripherals and Intel Corporation, Revision 1.00, October 17, 1995
- *SCSI Parallel Interface-3*, draft proposal revision 14.
- *PCI Local Bus Specification*, Rev. 2.2, December 18, 1998
- *Single Connector Attachment for Small SCSI Disk Drives*. Small Form Factor Committee, revision 3.2
- *AIC-3860 Single-Ended-to-Low Voltage Differential SCSI Transceiver Data Sheet*, Rev. A, December, 1997.
- *The I<sup>2</sup>C Bus and How to Use It*, January 1992, copyright 1992, Philips Semiconductors