



AT310 F1 Series  
User Guide

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Acer AT310 F1 Series  
User Guide

Acer AT310 F1

Model Number: \_\_\_\_\_

Serial Number: \_\_\_\_\_

Purchase Date: \_\_\_\_\_

Place of Purchase: \_\_\_\_\_

# Information for your safety and comfort

## Safety instructions

Read these instructions carefully. Keep this document for future reference. Follow all warnings and instructions marked on the product.

### Turning the product off before cleaning

Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

### CAUTION for power cord

Observe the following guidelines when connecting and disconnecting power to the power supply unit:

- Install the power supply unit before connecting the power cord to the AC power outlet.
- Unplug the power cord before removing the power supply unit from the computer.
- If the system has multiple sources of power, disconnect power from the system by unplugging all power cords from the power supplies.

### CAUTION for accessibility

Be sure that the power outlet you plug the power cord into is easily accessible and located as close to the equipment operator as possible. When you need to disconnect power to the equipment, be sure to unplug the power cord from the electrical outlet.

## Warnings

- Place this product in the upright position and not on its side.
- Do not use this product near water.
- Do not place this product on an unstable cart, stand or table. If the product falls, it could be seriously damaged.
- Slots and openings are provided for ventilation to ensure reliable operation of the product and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.

- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind onto or into the product.
- To avoid damage of internal components and to prevent battery leakage, do not place the product on a vibrating surface.
- Never use it under sporting, exercising, or any vibrating environment which will probably cause unexpected short current or damage rotor devices, HDD, Optical drive, and even exposure risk from lithium battery pack.

### Using electrical power

- This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- Do not allow anything to rest on the power cord. Do not locate this product where people will walk on the cord.
- If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.
- Do not overload a power outlet, strip or receptacle by plugging in too many devices. The overall system load must not exceed 80% of the branch circuit rating. If power strips are used, the load should not exceed 80% of the power strip's input rating.
- This product's power supply is equipped with a three-wire grounded plug. The plug only fits in a grounded power outlet. Make sure the power outlet is properly grounded before inserting the power supply plug. Do not insert the plug into a non-grounded power outlet. Contact your electrician for details.



.....  
**Warning!** The grounding pin is a safety feature. Using a power outlet that is not properly grounded may result in electric shock and/or injury.



.....  
**Note:** The grounding pin also provides good protection from unexpected noise produced by other nearby electrical devices that may interfere with the performance of this product.

- Use the product only with the supplied power supply cord set. If you need to replace the power cord set, make sure that the new power cord meets the following requirements: detachable type, UL listed/CSA certified, VDE approved or its equivalent, 4.6 meters (15 feet) maximum length.

## Product servicing

Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.

Unplug this product from the wall outlet and refer servicing to qualified service personnel when:

- The power cord or plug is damaged, cut or frayed.
- Liquid was spilled into the product.
- The product was exposed to rain or water.
- The product has been dropped or the case has been damaged.
- The product exhibits a distinct change in performance, indicating a need for service.
- The product does not operate normally after following the operating instructions.



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**Note:** Adjust only those controls that are covered by the operating instructions, since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.

**CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

## Additional safety information

Your device and its enhancements may contain small parts. Keep them out of the reach of small children.

## Disposal instructions

Do not throw this electronic device into the trash when discarding. To minimize pollution and ensure utmost protection of the global environment, please recycle. For more information on the Waste from Electrical and Electronics Equipment (WEEE) regulations, visit [www.acer-group.com/public/Sustainability/sustainability01.htm](http://www.acer-group.com/public/Sustainability/sustainability01.htm).



## Mercury advisory

For projectors or electronic products containing an LCD/CRT monitor or display: Lamp(s) inside this product contain mercury and must be recycled or disposed of according to local, state or federal laws. For more information, contact the Electronic Industries Alliance at [www.eiae.org](http://www.eiae.org). For lamp-specific disposal information, check [www.lamprecycle.org](http://www.lamprecycle.org).



## Tips and information for comfortable use

Computer users may complain of eyestrain and headaches after prolonged use. Users are also at risk of physical injury after long hours of working in front of a computer. Long work periods, bad posture, poor work habits, stress, inadequate working conditions, personal health and other factors greatly increase the risk of physical injury.

Incorrect computer usage may lead to carpal tunnel syndrome, tendonitis, tenosynovitis or other musculoskeletal disorders. The following symptoms may appear in the hands, wrists, arms, shoulders, neck or back:

- numbness, or a burning or tingling sensation
- aching, soreness or tenderness
- pain, swelling or throbbing
- stiffness or tightness
- coldness or weakness

If you have these symptoms, or any other recurring or persistent discomfort and/or pain related to computer use, consult a physician immediately and inform your company's health and safety department.

The following section provides tips for more comfortable computer use.

## Finding your comfort zone

Find your comfort zone by adjusting the viewing angle of the monitor, using a footrest, or raising your sitting height to achieve maximum comfort. Observe the following tips:

- Refrain from staying too long in one fixed posture.
- Avoid slouching forward and/or leaning backward.
- Stand up and walk around regularly to remove the strain on your leg muscles.
- Take short rests to relax your neck and shoulders.
- Avoid tensing your muscles or shrugging your shoulders.
- Install the external display, keyboard and mouse properly and within comfortable reach.
- If you view your monitor more than your documents, place the display at the center of your desk to minimize neck strain.

## Taking care of your vision

Long viewing hours, wearing incorrect glasses or contact lenses, glare, excessive room lighting, poorly focused screens, very small typefaces and low-contrast displays could stress your eyes. The following sections provide suggestions on how to reduce eyestrain.

### Eyes

- Rest your eyes frequently.
- Give your eyes regular breaks by looking away from the monitor and focusing on a distant point.
- Blink frequently to keep your eyes from drying out.

### Display

- Keep your display clean.
- Keep your head at a higher level than the top edge of the display so your eyes point downward when looking at the middle of the display.
- Adjust the display brightness and/or contrast to a comfortable level for enhanced text readability and graphics clarity.
- Eliminate glare and reflections by:
  - Placing your display in such a way that the side faces the window or any light source.
  - Minimizing room light by using drapes, shades or blinds.
  - Using a task light.
  - Changing the display's viewing angle.

- Using a glare-reduction filter.
- Using a display visor, such as a piece of cardboard extended from the display's top front edge.
- Avoid adjusting your display to an awkward viewing angle.
- Avoid looking at bright light sources, such as open windows, for extended periods of time.

## Developing good work habits

Develop the following work habits to make your computer use more relaxing and productive:

- Take short breaks regularly and often.
- Perform some stretching exercises.
- Breathe fresh air as often as possible.
- Exercise regularly and maintain a healthy body.



# Regulations and safety notices

## FCC notice

This device has been tested and found to comply with the limits for a Class B 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 device 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 device does cause harmful interference to radio or television reception, which can be determined by turning the device 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 device and receiver.
- Connect the device into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

## Notice: Shielded cables

All connections to other computing devices must be made using shielded cables to maintain compliance with FCC regulations. In compliance with FCC regulations, use shielded cables to connect to other computing devices. A dual-link cable is recommended for DVI output.

## Notice: Peripheral devices

Only peripherals (input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this equipment. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

## Caution

Changes or modifications not expressly approved by the manufacturer could void the user's authority, which is granted by the Federal Communications Commission, to operate this computer.

## Operation conditions

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.

## Notice: Canadian users

This Class B digital apparatus complies with Canadian ICES-003.

## Remarque à l'intention des utilisateurs canadiens

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

Compliant with Russian regulatory certification



## Notice for Australia

For safety reasons, only connect headsets with a telecommunications compliance label. This includes customer equipment previously labelled permitted or certified.

## Notice for New Zealand

- 1 The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.
- 2 This equipment is not capable, under all operating conditions, of correct operation at the higher speeds for which it is designed. Telecom will accept no responsibility should difficulties arise in such circumstances.
- 3 Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecom's Specifications:
  - a There shall be no more than 10 call attempts to the same number within any 30 minute period for any single manual call initiation, and
  - b The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next call attempt.

- 4 Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. In order to operate within the limits for compliance with Telecom's specifications, the associated equipment shall be set to ensure that automatic calls to different numbers are spaced such that there is not less than 5 seconds between the end of one call attempt and the beginning of another.
- 5 This equipment shall not be set up to make automatic calls to Telecom's 111 Emergency Service.
- 6 This device is equipped with pulse dialing while the Telecom standard is DTMF tone dialing. There is no guarantee that Telecom lines will always continue to support pulse dialing.
- 7 Use of pulse dialing, when this equipment is connected to the same line as other equipment, may give rise to bell tinkle or noise and may also cause a false answer condition. Should such problems occur, the user should NOT contact the telecom Fault Service.
- 8 This equipment may not provide for the effective hand-over of a call to another device connected to the same line.
- 9 Under power failure conditions this appliance may not operate. Please ensure that a separate telephone, not dependent on local power, is available for emergency use.

## Laser compliance statement

The optical drive used with this computer is a laser product.  
The optical drive's classification label (shown below) is located on the drive.

CLASS 1 LASER PRODUCT

CAUTION: INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.

Appareil à laser de classe 1

Attention : Radiation laser visible et invisible en cas d'ouverture. Éviter toute exposition aux rayons.

Laserprodukt der Klasse 1

Achtung: Beim Öffnen werden unsichtbare Laserstrahlen freigelegt. Setzen Sie sich diesen Strahlen nicht aus.

Prodotto laser di classe 1

Attenzione: Radiazioni laser invisibili in caso d'apertura. Evitare l'esposizione ai raggi.

Producto láser de Clase 1

Precaución: Cuando está abierta, hay radiación láser. Evite una exposición al haz de luz.

Produto Laser de Classe 1

Precaução: Radiação laser invisível quando aberto. Evite exposição ao feixe.

Laserproduct klasse 1

Voorzichtig: Onzichtbare laserstraling indien geopend. Voorkom blootstelling aan straal.

## Digital audio output statement

The optical connector contains no laser or light emitting diode (LED) more than Class I.

## Radio device regulatory notice



.....  
**Note:** Below regulatory information is for models with wireless LAN and/or Bluetooth only.

## General

This product complies with the radio frequency and safety standards of any country or region in which it has been approved for wireless use. Depending on configurations, this product may or may not contain wireless radio devices (such as wireless LAN and/or Bluetooth modules).

## Declaration of Conformity for EU countries

Hereby, Acer, declares that this system is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

### List of applicable countries

This device must be used in strict accordance with the regulations and constraints in the country of use. For further information, please contact local office in the country of use. Please see <http://ec.europa.eu/enterprise/rtte/implem.htm> for the latest country list.

## ENERGY STAR

ENERGY STAR qualified products save you money by reducing energy cost and protecting the environment without sacrificing features or performance. Acer is proud to offer our customers products with the ENERGY STAR mark.



What is ENERGY STAR?

Products that are ENERGY STAR qualified use less energy and prevent greenhouse gas emissions by meeting strict energy efficient guidelines set by the U.S. Environmental Protection Agency. Acer is committed to offer products and services worldwide that help customers save money, conserve energy and improve the quality of our environment. The more energy we can save through higher energy efficiency, the more we reduce greenhouse gases and the risks of climate change. For more information, go to [www.energystar.gov](http://www.energystar.gov) or [www.energystar.gov/powermanagement](http://www.energystar.gov/powermanagement).



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**Note:** The statement above is applicable only to Acer system with an ENERGY STAR sticker.



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# 1 System tour

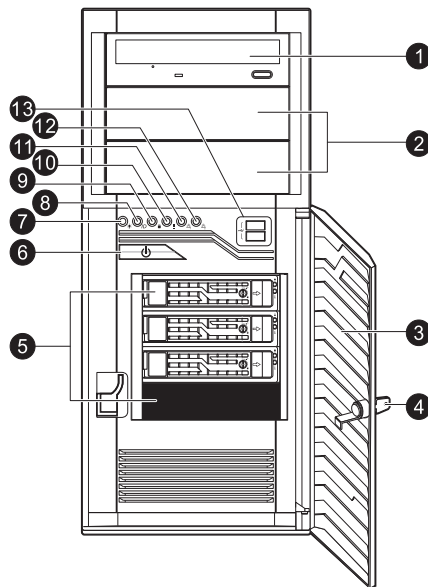
## System notes

AT310 F1 server is a single-processor tower server designed to meet the needs of various network environments. The server board is based on Intel® 2-chip architecture and supports the Intel Core i3, Intel Xeon 3400 series or Pentium processors. The server system features six DDR3-1333 DIMM slots that support both Unbuffered ECC and Registered DIMMs, four PCI-E slots and one 32-bit/33 MHz PCI slot, onboard SATA SW RAID with RAID 0, 1, 5 or 10 support, onboard Baseboard Management Controller (BMC), iKVM feature, and an integrated VGA with 32 MB memory. The server accepts up to three optical devices and four hot-pluggable SATA/SAS hard disk drives, configurable for RAID 0, 1, 5 or 10.








The server's tool-less chassis design allows for easy hardware access and set up in both tower and rack-mount configurations.

# External and internal structure






## Front panel



No.	Icon	Component	Description
1		Optical drive	Disk drive for reading CD, VCD, and DVD contents.
2		5.25" drive bays	Allow installation of additional storage devices.
3		Bezel door	Unlock and open the bezel door to power on the server and access the server's hard drives and USB ports.
4		Security keylock	Secures the bezel door to protect the server unit from unauthorized access.
5		3.5-inch hard disk drive (HDD) bay	Supports four 3.5-inch hot-plug SATA/SAS hard disk drives.

No.	Icon	Component	Description
6		Power button	Press to turn the server on/off, or to put it in standby mode.
7		Power state indicator	Indicates the power status. (green)
8	<i>ID</i>	System ID indicator	Indicates the system ID button on the rear panel is pressed or activated through IPMI. (blue)
9		HDD activity indicator	Indicates the status of a system hard disk drive. (green)
10		System status/fault indicator	Indicates the status of the systems operations. (green/amber)
11		LAN port 1 activity indicator	Indicates the system network 1 connection status. (green)
12		LAN port 2 activity indicator	Indicates the system network 2 connection status. (green)
13		USB 2.0 ports	Connect to USB devices.

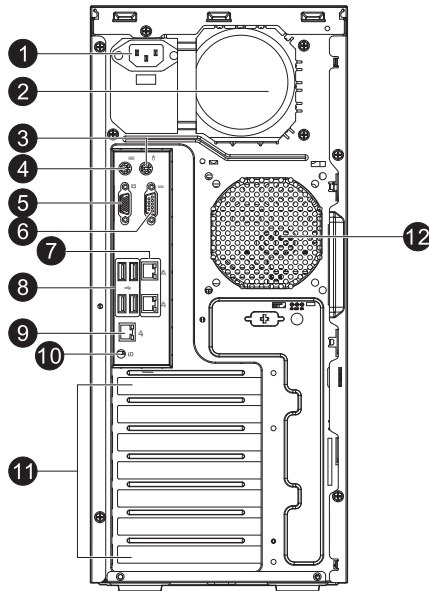
## Front panel LED indicator status





LED indicator	LED color	LED state	Status
Power state indicator 	Green	On	S0: Power On
	Green	Blink (1 Hz with at 50% duty cycle)	S1: Sleep
	N/A	Off	S4
	N/A	Off	S5
HDD activity indicator 	Green	Blink	HDD access
	N/A	Off	No access and No HDD fault
System status/fault indicator 	Green	On	System ready/No alarm
	Green	Blink (1 Hz with at 50% duty cycle)	System ready but some CPU functions and DIMM may be degraded or damaged
	Amber	On	Critical alarm (critical power modules, voltage power supply, critical temperature and voltage ... etc. failure)
	Amber	Blink (1 Hz with at 50% duty cycle)	Non-critical Alarm (non-critical temperature and voltage)
	N/A	Off	System not ready (POST error/NMI event/CPU or terminator missing, ... etc.)
LAN activity indicators LAN1  LAN2 	Green	On	LAN link/No access
	Green	Blink	LAN access
	N/A	Off	Disconnect/Idle




LED indicator	LED color	LED state	Status
System ID indicator	N/A	Off	Normal
<i>ID</i>	Blue	On	System ID button pressed

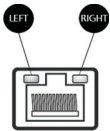


## Rear panel



No.	Icon	Component	Description
1		Power supply module cord socket	Connect the system power cord here.
2		Main power supply module	Provides the system's main power supply.
3		PS/2 mouse port	Connects to a PS/2 mouse.
4		PS/2 keyboard port	Connects to a PS/2 keyboard.
5		Monitor port	Connects to monitors.
6		Serial port	Connects to serial devices.

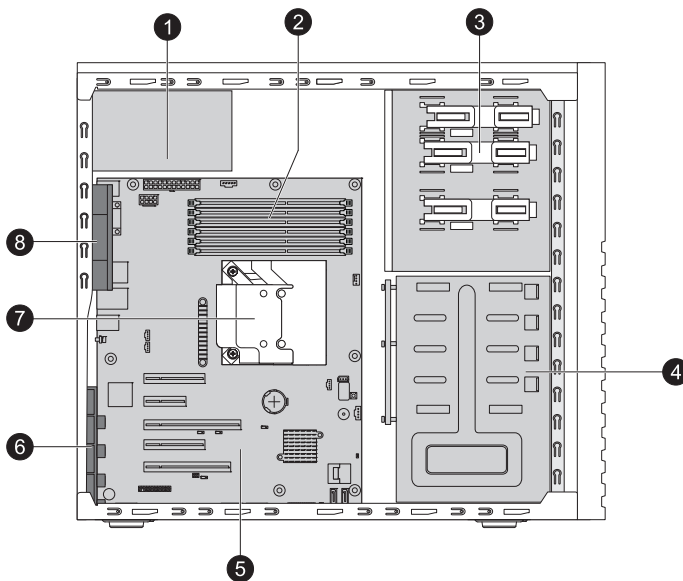
No.	Icon	Component	Description
7		Gigabit LAN port	Connects to an internet or intranet network.
8		USB 2.0 ports	Connect to USB devices.
9		Server management port (10/100)	Reserved for remote management of server.
10	<i>ID</i>	System ID button	Press to mark the server unit within a server group (when rack mounted) for purpose of identification during servicing or maintenance procedures. (blue)
11		PCI slot covers	Protect the vacant expansion slots.
12		System fan	Regulates the system airflow.



## LAN port LED indicator status

LED indicator	LED color	LED state	Status
RJ-45 LED (left)	N/A	Off	No connection or 10 Mbps
	Green	On	100 Mbps
	Amber	On	1000 Mbps
RJ-45 LED (right)	Yellow	On	Active connection
	Yellow	Blinking	Transmit/Receive activity

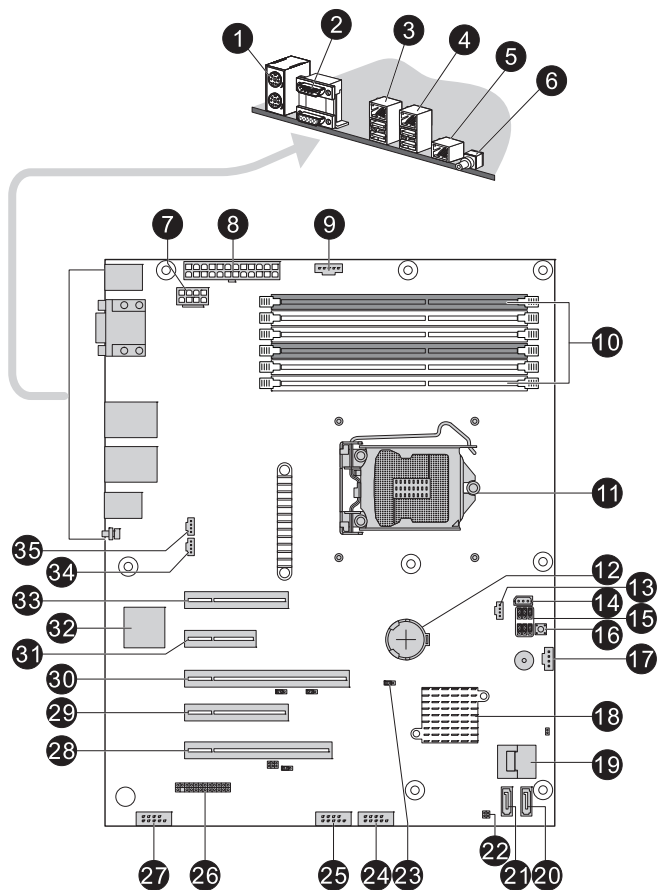
## Internal components



No.	Component
1	Power supply
2	DIMM modules
3	Sliders for the 5.25" devices
4	HDD carriers
5	Mainboard
6	PCI slot lock
7	Heatsink fan assembly
8	System fan

# System boards

## Mainboard

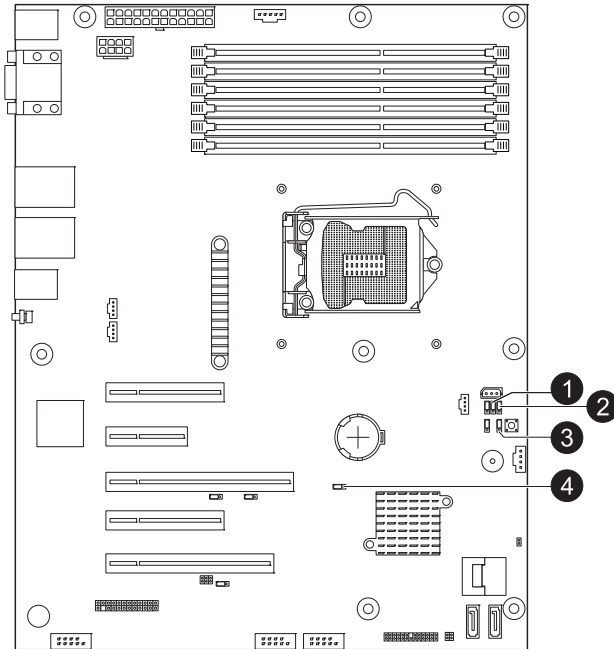


No.	Code	Description
1	MS KB	PS/2 mouse port (top) PS/2 keyboard port (bottom)

No.	Code	Description
2	COM1 VGA	Serial port (top) VGA port (bottom)
3	GLAN1	LAN1 port (top) USB ports (bottom)
4	GLAN2	LAN2 port (top) USB ports (bottom)
5	BMC_LAN	Server management port
6	SW1	System ID button
7	ATX CPU	8-pin ATX power connector
8	ATX	24-pin ATX power connector
9	PWR_DET	Power supply PSMI connector
10	DIMM 2A, DIMM 2B, DIMM 2C, DIMM 1A, DIMM 1B, DIMM 1C	DDR3 DIMM slots
11	U1	Processor socket
12	BAT	Battery
13	FAN3	System fan 3 cable connector
14	IPMB	IPMB header (for an IPMI card)
15		Select jumpers
16	NMI_BTN	NMI button
17	BPB_SMBUS	Backplane board system management bus (SMBUS) connector
18	U2	Intel 3420 PCH chipset
19	SATA0-3	Mini-SAS port (supports 4 ports, SATA only)

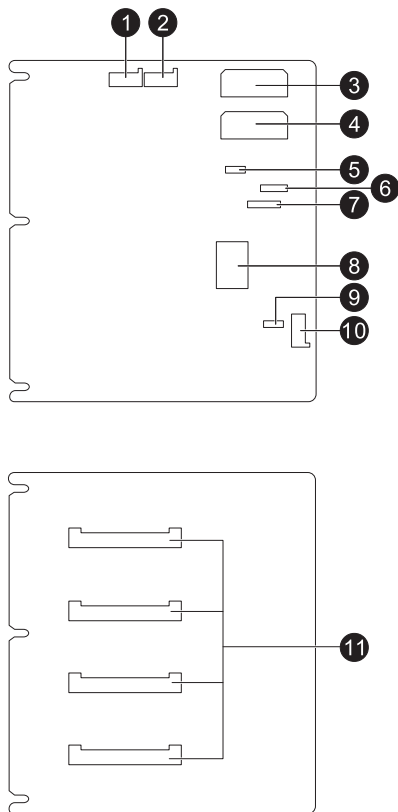
No.	Code	Description
20	SATA4	SATA 4 port
21	SATA5	SATA 5 port
22	CASE_OPEN	Chassis intrusion header
23	CLR_CMOS1	Clear CMOS jumper
24	USB1	Front USB1 cable connector
25	USB2	Internal USB connector
26	F_PANEL	Front panel connector
27	COM2	Connects to serial port
28	PCI5	PCI slot (32-bit/33 MHz, 3.3 V)
29	PCI4	PCI-E x8 slot (x4 signal)
30	PCI3	PCI-E x16 slot (x8 signal)
31	PCI2	PCI-E x4 slot (x1 signal)
32	U28	BMC controller
33	PCI1	PCI-E x8 slot (x8 signal)
34	FAN2	System fan 2 cable connector Connects to the rear system fan
35	FAN4	System fan 4 cable connector

## Mainboard jumper settings



No.	Code	Jumper	Default Setting
1	BIOS_WP	BIOS data write protect	1-2 Close: Normal (default setting) 2-3 Close: Enable BIOS write protect
2	PASSWORD	Set Supervisor Password	1-2 Close: Set Supervisor Password (default setting) 2-3 Close: Clear Supervisor Password
3	BIOS_RVCR	BIOS recovery	1-2 Close: Normal (default setting) 2-3 Close: Enable BIOS recovery
4	CLR_CMOS1	Clear CMOS	1-2 Close: Normal (default setting) 2-3 Close: Clear CMOS

## Backplane board and jumper settings



No.	Code	Description
1	J2	SMBUS connector Connects to mainboard or RAID card
2	J1	SMBUS (W83792D) connector Connects to enclosure IC
3	CN1/X1	Power connector
4	CN2/X2	Power connector



No.	Code	Description
5	J20	MG9082 configuration setting Close 1-2: CONF 8 Close 2-3: reserve (CONF9)
6	J12	MG9082 upgrade/debug header
7	SGPIO_JP1	SGPIO connector
8	SATA0-3	Mini-SAS port (supports 4 ports)
9	J21	LM75 address setting Close 1-2: 0X94 Close 2-3: reserve (0X96)
10	J3	SMBUS connector Connects to backplane cascade
11	SATA/SAS_3, SATA/SAS_2, SATA/SAS_1, SATA/SAS_0	SATA 0-3 connectors



## 2 System setup

# Setting up the system

## Pre-installation requirements

### Selecting a site

Before unpacking and installing the system, select a suitable site for the system for maximum efficiency. Consider the following factors when choosing a site for the system:

- Near a grounded power outlet.
- Clean and dust-free.
- Stable surface free from vibration.
- Well-ventilated and away from sources of heat.
- Secluded from electromagnetic fields produced by electrical devices such as air conditioners, radio and TV transmitters, etc.

### Checking the package contents

Check the following items from the package:

- AT310 F1 system
- AT310 F1 accessory box

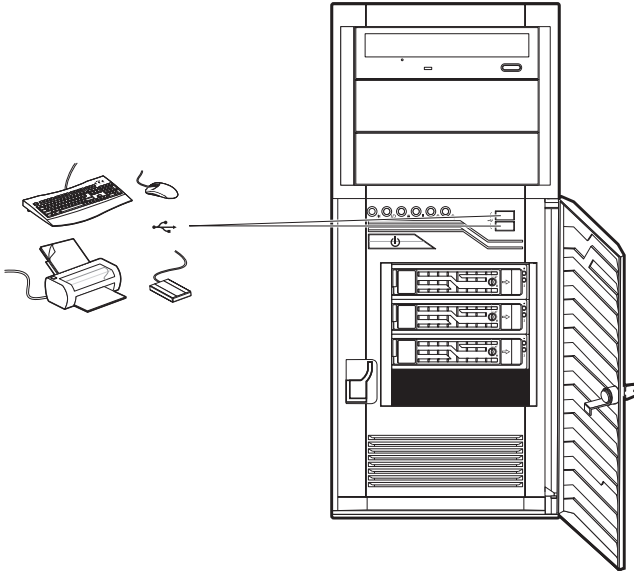
If any of the above items is damaged or missing, contact your dealer immediately.

Save the boxes and packing materials for future use.

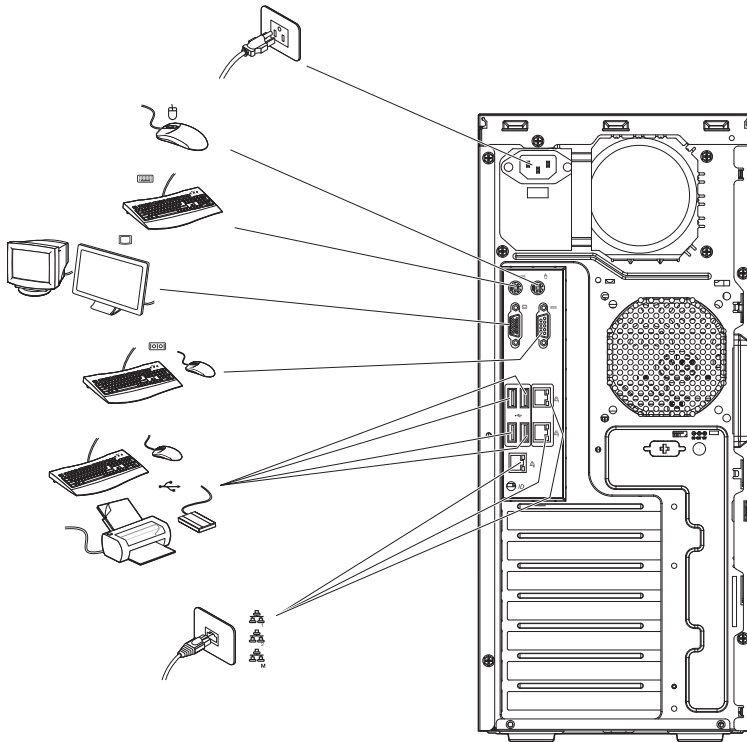
# Connecting peripherals

Refer to the illustration below for specific connection instructions on the peripherals you want to connect to the system.

## Front connections



## Rear connections



**Note:** Consult the operating system manual for information on how to configure the network setup.

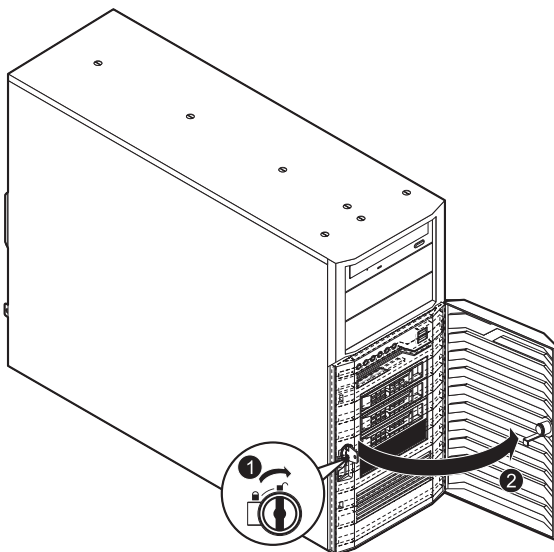


**Caution:** Do not route the power cord where it will be walked on or pinched by items placed against it. The server is designed to be electrically grounded (earthed). To ensure proper operation, plug the power cord into a properly grounded AC outlet only.

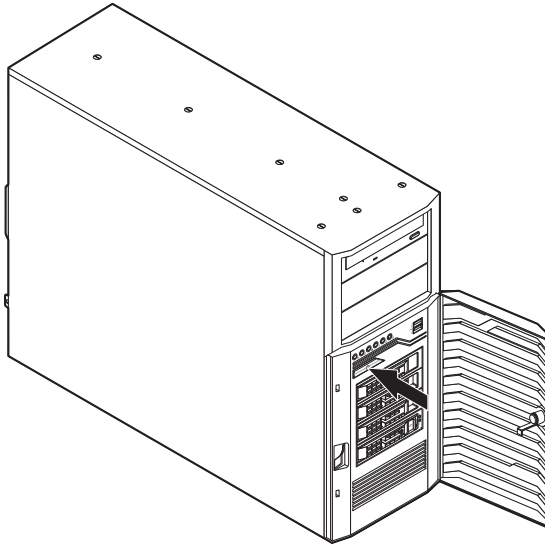
# Turning on the system

After making sure that you have properly set up the system, applied power and connected all the necessary peripherals, you can now power on the system. Follow the procedure below.

- 1 Open the bezel door.
  - (1) Unlock the bezel door.
  - (2) Pull it open.



- 2 Press the power button.



The system starts up and displays a welcome message on the monitor. After that, a series of power-on self-test (POST) messages appears. The POST messages indicate if the system is running well or not.



**Note:** If the system does not turn on or boot after pressing the power button, go to the next section for the possible causes of the boot failure.

Aside from the POST messages, you can determine if the system is in good condition by checking if the following occurred.

- The power status indicator on the front panel lights up blue.
- The Num Lock, Caps Lock and Scroll Lock indicators on the keyboard light up.



## Power-on problems

If the system fails to boot after you have applied power, check the following factors that might have caused the boot failure.

- The external power cord may be loosely connected.

Check the power cord connection from the power outlet to the power cord socket on the rear panel. Make sure that the cord is properly connected to the power outlet and to the power cord socket.

- No power comes from the grounded power outlet.

Have an electrician check your power outlet.

- Loose or improperly connected internal power cables.

Check the internal cable connections. If you are not confident to perform this step, ask a qualified technician to assist you.



.....  
**Warning! Make sure all power cords are disconnected from the electrical outlet before performing this task.**



.....  
**Note:** If you have gone through the preceding actions and the system still fails to boot, ask your dealer or a qualified technician for assistance.

# Configuring the system OS

Acer Smart Setup assists you to conveniently install your choice of operating.



.....

**Note:** To purchase the Acer Smart Setup software, contact your local Acer representative.

To start using Acer Smart Setup, follow the steps below.

- 1 Locate the Smart Setup disc included in the system package.
- 2 If an optional optical drive is not installed in the server, connect an external optical drive to your system. Press the Stop/Eject button on the optical drive to eject the disc tray.
- 3 When the disc tray slides open, insert the Smart Setup disc with the label side of the disc facing upward.



.....

**Note:** When handling the disc, hold it by the edges to avoid smudges or fingerprints.

- 4 Gently press the disc down to make sure that it is properly inserted.



.....

**Caution!** While pressing the disc, be careful not to bend the disc tray. Make sure that the disc is properly inserted before closing the disc tray. Improper insertion may damage both the disc and the optical drive.

- 5 Press the drive Stop/Eject button again to close the disc tray.
- 6 On the Acer Smart Setup window, select OS Installation.
- 7 Follow all onscreen instructions.

For more information, refer to the Smart Setup Help file.



.....

**Note:** Acer Smart Setup only supports the Microsoft Windows Server, Red Hat Enterprise Linux, and SUSE Linux Enterprise Server operating systems. The Windows or Linux installation disc(s) is required when you install the OS with Smart Setup.

# Turning off the system

There are two ways to turn off the server—via software or via hardware. The software procedure below applies to a system running on a Windows OS. For other shutdown procedures, refer to the related user documentation.

To turn off the system via software:

- 1 Press <Ctrl> + <Alt> + <Delete> on the attached keyboard or click **Start** on the Windows taskbar.
- 2 Select **Shut Down**.
- 3 Select **Shut Down** from the drop-down menu, then click **OK**.

To turn off the system via hardware:

If you cannot shut down the server via software, press the power button for at least four seconds. Quickly pressing the button may put the server in a Suspend mode only.



# 3 System upgrades

# Installation precautions

Before you install any server component, it is recommended that you read the following sections first. These sections contain important ESD precautions along with pre-installation and post-installation procedures.

## ESD precautions

Electrostatic discharge (ESD) can damage static-sensitive hardware components, such as the processor, disk drives, and the system board. Always observe the following precautions before you install a server component:

- Do not remove a component from its protective packaging until you are ready to install it.
- Do not touch the component pins, leads, or circuitry.
- Components with a Printed Circuit Board (PCB) assembly should always be laid with the assembly-side down.
- Wear a wrist grounding strap and attach it to a metal part of the server before handling components. If a wrist strap is not available, maintain contact with the server throughout any procedure requiring ESD protection.
- Keep the work area free of nonconductive materials, such as ordinary plastic assembly aids and foam packing.

## Pre-installation instructions

Perform the steps below before you open the server or before you remove or replace any component.



.....

**Warning!** Failure to properly turn off the server before you start perform any hardware configuration may cause serious damage and bodily harm. Do not attempt the procedures described in the following sections unless you are a qualified service technician.

- 1 Turn off the server and all connected peripherals.
- 2 Unplug all power cables from their outlets.
- 3 Disconnect all telecommunication cables from their ports.

- 4 Place the server on a flat, stable surface.
- 5 Open the server according to the instructions on page 36.
- 6 Follow the ESD precautions described in the previous section when handling a server component.

## Post-installation instructions

Perform the steps below after installing a server component.

- 1 See to it that all components are installed according to the described step-by-step instructions.
- 2 Reinstall any expansion board(s), peripheral(s), bracket(s) and system cable(s) that have previously been removed.
- 3 Reinstall the side panel.
- 4 Reconnect the power, peripheral, and telecommunication cables.
- 5 Turn on the system.

# Configuring the hard disk drive

The AT310 F1 accommodates up to four 3.5" hot-plug SATA/SAS hard disk drives.



.....

**Note:** Max HDD support is SKU dependent.

## Accessing the drive bays

Since SATA/SAS drives have hot-plug capability, you do not need to access the inside of the chassis or power down the system to install or replace SATA/SAS drives. Proceed to the next step for instructions.



.....

**Note:** The operating system you use must have RAID support to enable the hot-plug capability of the SATA drives.



.....

**Caution!** When working around the SATA backplane, do not touch the backplane with any metal objects and make sure no cables touch the backplane. Also, regardless of how many SATA drives are installed, all four drive carriers must remain in the chassis to maintain proper airflow.

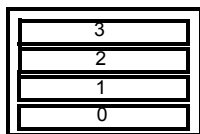
## Guidelines for configuring hard disk drives

Observe these guidelines when replacing or installing a hard disk drive.

- Use only qualified SATA or SAS HDDs. To purchase a SATA or SAS HDD, contact your local representative.
- Install hard disk drives in the special drive carriers that fit in the hard drive bays.
- Before removing an HDD, make sure to back up all important system files.
- Check HDD status by checking the status LED indicators on the HDD carrier.





- The recommended HDD installation order is from bottom to top.



## Determining the drive status

Each HDD carrier features two status LED indicators to display the hard drive status. If you are replacing a failed HDD, determine which drive has failed by checking the hot-plug HDD status indicators.



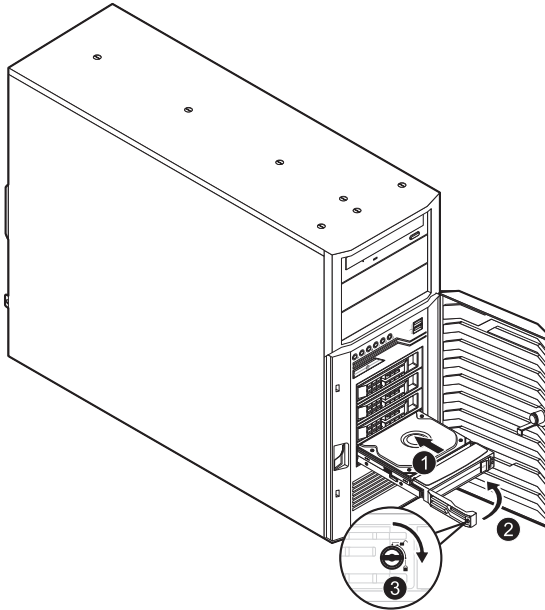
Description		
	Green	Red
Onboard SATA or RAID card without SGPIO support		
HDD present	On	Off
HDD access	Blink	Off
LSI RAID card with SGPIO support		
HDD present no access	On	Off
HDD access	Blink	Off
HDD failure	On	On
HDD removal	Off	Off
HDD insertion and rebuilding		Blink (1 Hz)
HDD locate		Blink (4 Hz)

## Installing and removing a hard disk drive

This section describes how to install a new HDD in an empty drive bay, remove the HDD, and install an additional HDD.

### Installing a hard disk drive with carrier

- 1 Observe the ESD precautions described on page 28.
- 2 If necessary, unlock the bezel door then pull it open.
- 3 Install the hard disk drive with carrier.
  - (1) Use the lever to push the HDD carrier in the empty bay until it locks into place.
  - (2) Close the HDD carrier lever.
  - (3) Lock the HDD carrier.

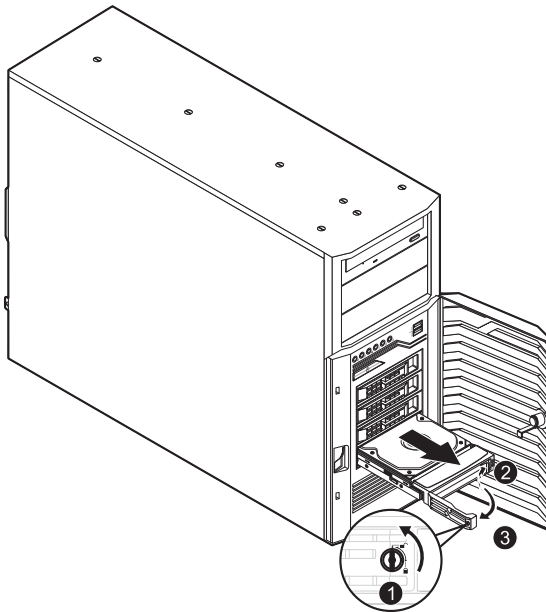


- 4 Close the bezel door.
- 5 Observe the post-installation instructions on page 29.

## Removing a hard disk drive with carrier

If you intend to replace a HDD and need to remove the old drive, proceed to the instructions below.

- 1 Observe the ESD precautions described on page 28.
- 2 If necessary, unlock the bezel door then pull it open.
- 3 Remove the hard disk drive with carrier.
  - (1) Unlock the HDD carrier latch.
  - (2) Slide the HDD carrier latch to release the lever.
  - (3) Pull the lever and slide the carrier from the server.



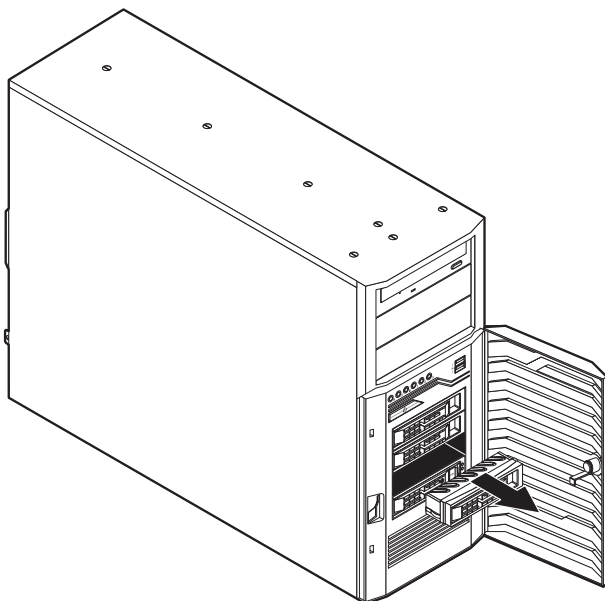
- 4 If you have no plans of installing a new HDD to the server, you must reinstall the blank HDD carrier or HDD cover to maintain proper airflow.
- 5 Close the bezel door.
- 6 Observe the post-installation instructions on page 29.

## Installing an additional hard disk drive with carrier

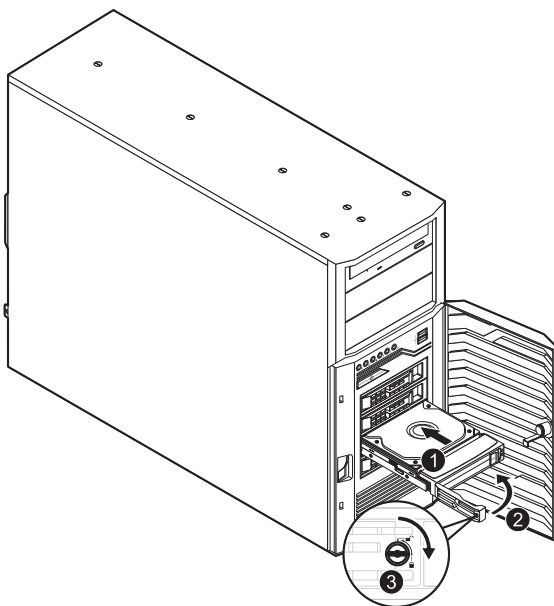
If you intend to install an additional HDD, you first need to remove the hard disk drive cover from the hard drive bay.

- 1 Observe the ESD precautions described on page 28.
- 2 If necessary, unlock the bezel door then pull it open.
- 3 Remove the hard disk drive cover.

Pull the HDD cover straight out of the drive bay.



- 4 Install the hard disk drive with carrier.
  - (1) Use the lever to push the HDD carrier in the empty bay until it locks into place.
  - (2) Close the HDD carrier lever.
  - (3) Lock the HDD carrier.



- 5 Close the bezel door.
- 6 Observe the post-installation instructions on page 29.

# Opening the server



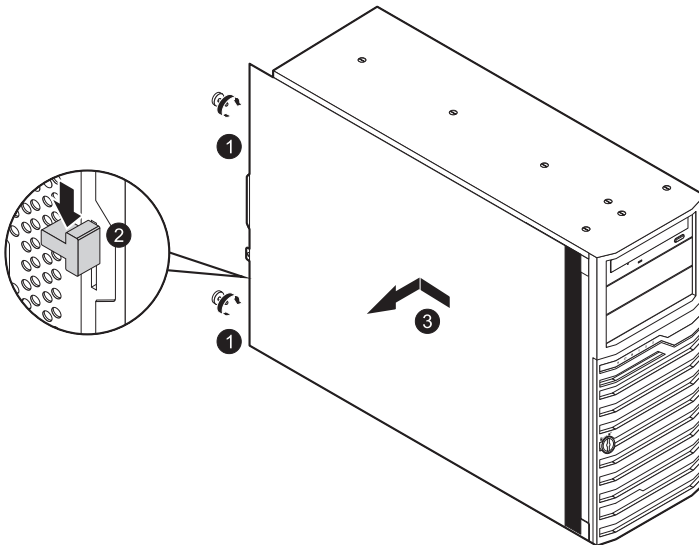
**Caution:** Before you proceed, make sure that you have turned off the system and all peripherals connected to it. Read the Pre-installation instructions section on page 28.

You need to open the server before you can install upgrade components. The left side panel is removable to allow access to the server's internal components. Refer to the following sections for instructions.

## Removing and installing the side panel

### Removing the side panel

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the two thumb screws on the rear edge of the side panel.
- 3 Slide and hold the locking switch.
- 4 Slide the side panel toward the rear of the server to disengage it then lift the panel away from the server.



## Installing the side panel

- 1 Perform the pre-installation instructions described on page 28.
- 2 Position the side panel so that the tabs on the cover align with the slots on the server, then slide the side panel toward the front of the server until you hear a click sound.
- 3 Replace the two thumb screws.

# Configuring a 5.25" storage device

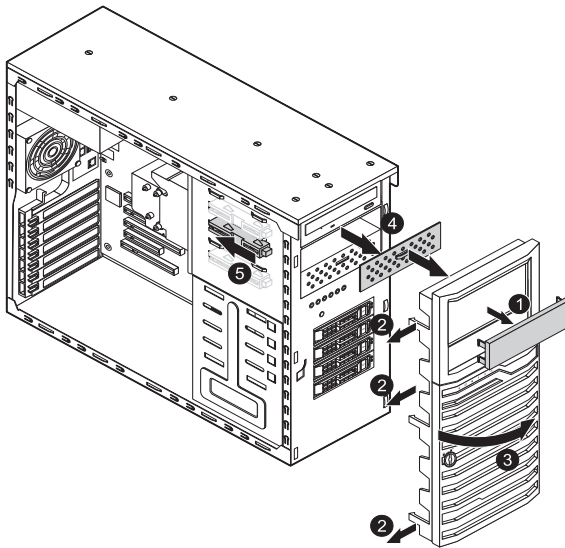
The two 5.25" device bays support a variety of storage devices for additional storage capacity and scalability.

By default, the system ships with an optical drive installed on the topmost device bay. You can choose to replace these default drives, or you can install a new storage device on the second device bay.

Please ensure all installed devices support the SATA interface.

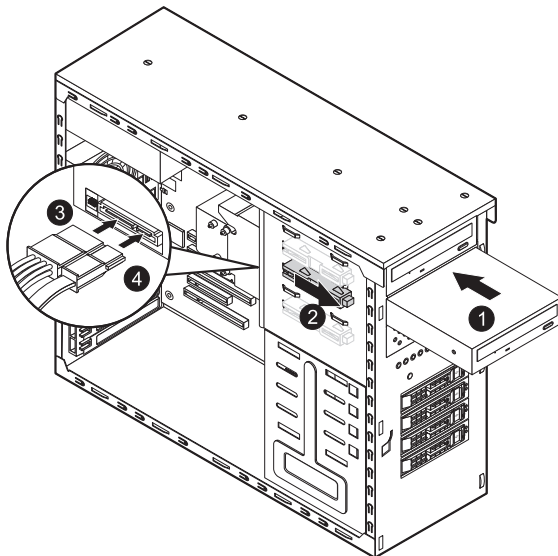
To install an optional storage device:

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the side panel described on page 36.
- 3 Remove the bay cover of the empty 5.25" drive bay (1).  
Keep this cover for future reinstallation.
- 4 Remove the front bezel by releasing the bezel retention tabs from the chassis interior (2).
- 5 Pull the bezel away from the server (3).
- 6 Remove the EMI protector of the empty 5.25" drive bay (4).
- 7 Slide the tool-less bracket to the left to unlock the bay (5).





- 8 Insert the new 5.25" storage device (1) and slide the tool-less bracket to the right in the locked position (2).
- 9 Connect the power (3) and SATA cables (4) to the new 5.25" drive.

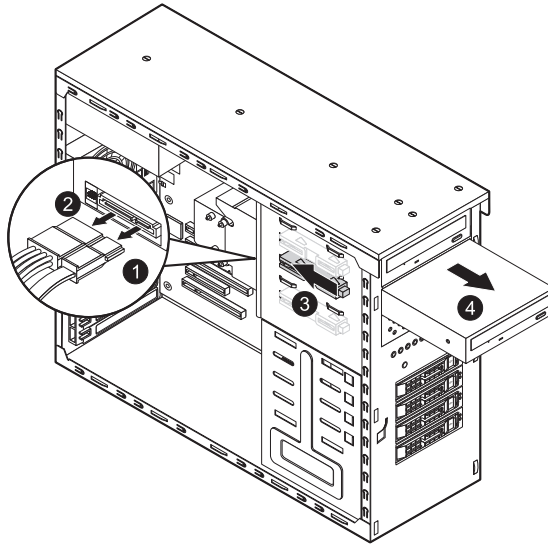


- 10 Replace the front bezel.
- 11 Observe the post-installation instructions described on page 29.

To upgrade or replace a defective storage device:

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the side panel described on page 36.
- 3 Remove the front bezel. Perform steps 4 and 5 of the previous section.

- 4 Disconnect the SATA (1) and power (2) cables connected to the storage device. Slide the tool-less bracket to the left (3) and pull out the device from the drive bay (4).



- 5 If you intend to install a new storage device, refer to the previous section.
- 6 Replace the front bezel.
- 7 Observe the post-installation instructions described on page 29.

# Replacing the processor and heatsink fan assembly



## Notes:

- Always connect the power cord last and always remove it before adding, removing or changing any hardware components. Make sure that you install the processor in the CPU socket before you install the CPU heatsink fan assembly.
- If you buy a processor separately, make sure that you use an Intel-certified multidirectional heatsink fan assembly only.
- Make sure to install the mainboard in the server before you install the CPU heatsink fan assembly.
- When receiving a mainboard without a processor pre-installed, make sure that the plastic CPU socket cap is in place and none of the socket pins is bent; otherwise, contact your retailer immediately.

## Removing and installing the heatsink fan assembly

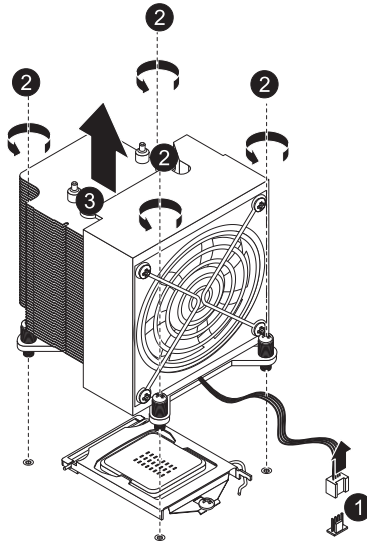
### Removing the heatsink fan assembly



**Warning!** We do not recommend that the processor or the heatsink assembly be removed. However, if you do need to uninstall the heatsink fan assembly, please follow the instructions below to prevent damage to the processor or the CPU socket.

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the side panel described on page 36.
- 3 Lay the server on its side (components showing).

- 4 Remove the heatsink fan assembly.
  - (1) Disconnect the heatsink fan assembly cable from its mainboard connector.
  - (2) Using a screwdriver, loosen the four heatsink fan assembly screws from the mainboard.
  - (3) Lift the heatsink fan assembly away from the processor.



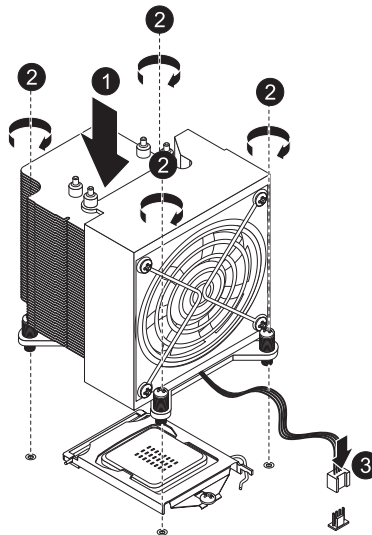
- (4) Lay down the heatsink fan assembly in an upright position — with the thermal patch facing upward. Do not let the thermal patch touch the work surface.
- 5 Observe the post-installation instructions described on page 29.

## Installing the heatsink fan assembly



**Caution!** The heatsink fan assembly has a thermal interface material (TIM) on the underside. Use caution so that you do not damage the TIM. If a protective film is installed on the TIM, remove it.

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the side panel described on page 36.
- 3 Lay the server on its side (components showing).
- 4 Do not apply any thermal grease to the heatsink fan assembly or the processor die; the required amount has already been applied.
- 5 Install the heatsink fan assembly.
  - (1) Align then insert the heatsink fan assembly on top of the retention plate.
  - (2) Use a long-nosed screwdriver to tighten the four heatsink fan assembly screws to secure the assembly.
  - (3) Reconnect the heatsink fan assembly cable to its mainboard connector.



- 6 Observe the post-installation instructions described on page 29.

# Upgrading the processor

## Processor configuration guidelines

The server supports a single LGA 1156 processor socket supporting Intel Xeon 3400 series or Pentium and i3 series processors. The supplied processor may be upgraded.

Observe the following guidelines when replacing or installing a processor.

- The CPU socket must always be populated. If no processor is installed in this socket, the system will fail to boot.
- Before removing the processor, make sure to back up all important system files.
- Handle the processor and the heatsink fan assembly carefully. Damage to either may prevent the system from functioning properly.

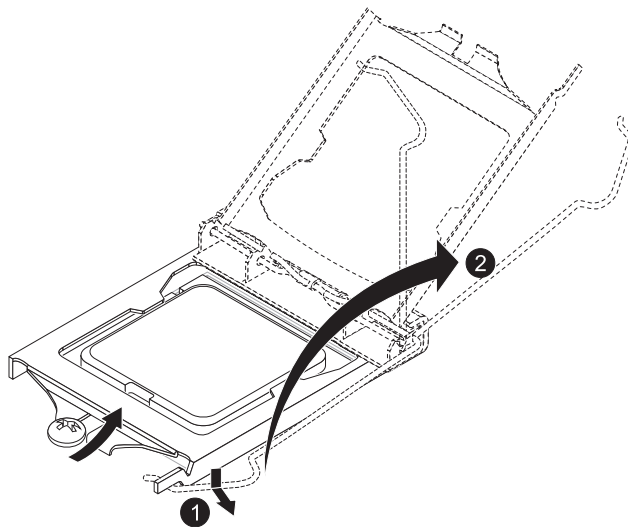
## Replacing the processor



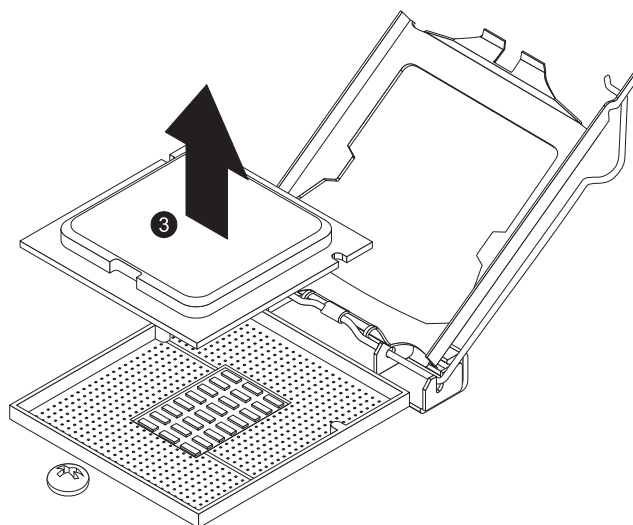
.....  
**Warning! The processor becomes very hot when the system is on. Allow it to cool off first before handling.**

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the side panel described on page 36.
- 3 Lay the server on its side (components showing).
- 4 Remove the heatsink fan assembly (see "**Removing the heatsink fan assembly**" on page 41).
- 5 Remove the default processor.
  - (1) Press down on the load lever then release out of the retention tab.

- (2) Rotate the load lever to the fully open position until the retention plate is completely lifted.

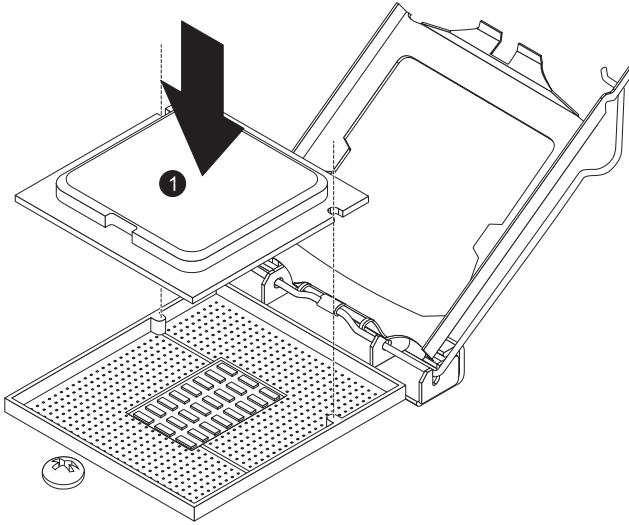


- (3) Grasp the processor by its edges and lift it out of its socket.



- (4) Store the old processor inside an anti-static bag.

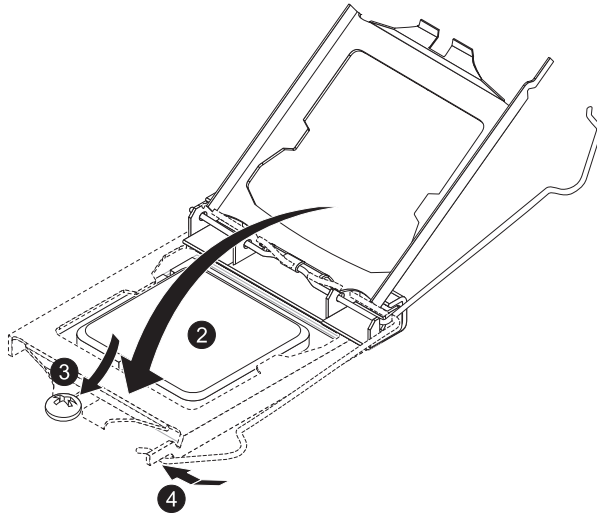
- 6 Remove the new processor from its protective packaging.
- 7 Install the new processor.
  - (1) Hold the processor by its edges then insert it in the socket. Make sure that the alignment tabs on the socket fit the two notches located on the edges of the processor. The pins are keyed in such a way that you cannot install the processor in the wrong orientation without bending the pins.



- (2) Close the retention plate.
- (3) Slide the retention plate tab under the retention knob.



- (4) Engage the load lever back in place and secure the load lever under the load lever retention tab.



- 8 Apply the thermal interface material.
  - (1) Use an alcohol pad to wipe off the old thermal grease from both the heatsink fan assembly and the processor socket retention plate.
  - (2) Apply a thin layer of thermal interface material before installing the heatsink fan assembly.

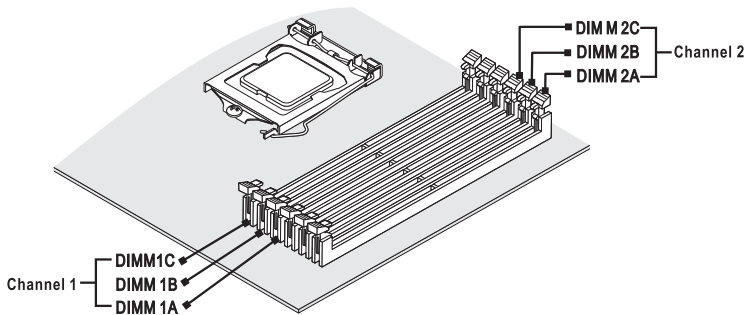
Make sure that only a very thin layer is applied so that both contact surfaces are still visible.
- 9 Install the heatsink fan assembly (see **"Installing the heatsink fan assembly" on page 43**).
- 10 Observe the post-installation instructions described on page 29.

# Upgrading the system memory

## System memory interface

The server has a total of six DIMM slots in two memory channels (1 and 2). In each channel, the slot farthest from the CPU is slot A (DIMM1A, 2A in blue) while the nearest one is slot C (DIMM1C, 2C in black).

The following illustration shows the DIMM slot locations.



## Independent mode

There are six DIMM slots in two memory channels that support two UDIMM modules or three RDIMM modules per channel. Depending on the type of processor installed, the system can support up to six RDIMM modules for Intel Xeon X3400 series or L3426 processor, or four UDIMM modules for Xeon X3400 series, L3426, Core i3 Series, Pentium or L3406 processor.

- For all memory modes, slot A in each channel should be populated first and then slot B. If slot A is empty, then slots B and C cannot be used.
- It is recommended to populate DIMM slots 1A first, followed by slots 2A, 1B, 2B, 1C and 2C.
- To maximize memory performance, install the DIMM modules in pairs. DIMM slots with the same slot number across memory channels should be populated with DIMM modules of the same type, size, and manufacturer.
- If mixing different DIMMs in one channel, the DIMM with higher rank and density should be populated from slot A.

## Memory population for independent mode

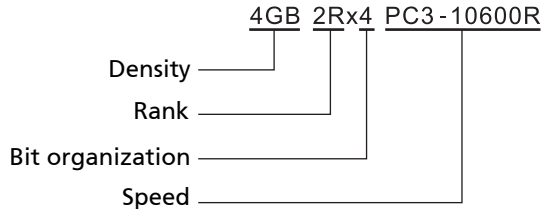
Configuration	Channel 1 DIMM slots			Channel 2 DIMM slots			Notes
	1C	1B	1A	2C	2B	2A	
A			X				
B			X			X	
C		X	X		X	X	
D	X	X	X	X	X	X	SR, DR RDIMMs only



- Notes:**
1. Place DIMMs in "X" location.
  2. DIMM population must correspond to the above tables.
  3. DIMM modules support 1 GB, 2 GB and 4 GB DIMMs.
  4. DIMM modules support 8 GB DIMMs (support depends on availability).
  5. Do not mix UDIMMs with RDIMMs.
  6. Use single rank and dual rank RDIMMs only for Configuration D.
  7. RDIMM is only supported by Intel Xeon X3400 series and L3426 processors.

## Memory identification

Generally, there is memory information printed on the label of the DIMM module. Different vendors may have different formats but the convention is usually like this:



Item	Description
Density	1 GB, 2 GB, 4 GB, 8 GB. This server supports DIMM organized by 1 Gb or 2 Gb DRAM chips.
Rank	1R = Single Rank 2R = Dual Rank 4R = Quad Rank <b>Note:</b> If quad rank DIMM is used, a maximum of only two DIMMs per channel can be supported. It is not recommended to mix DIMMs with different ranks in one system.
Bit Organization	This platform supports x4 and x8. But x4 is only supported by Xeon X3400 series processor.
Speed	PC3 - 6400 => DDR3- 800 PC3 - 8500 => DDR3- 1066 PC3 - 10600 => DDR3- 1333

## Installing a memory module



**Warning!** Memory of the identical size, speed, and organization must be installed in the same colored DIMM slots.

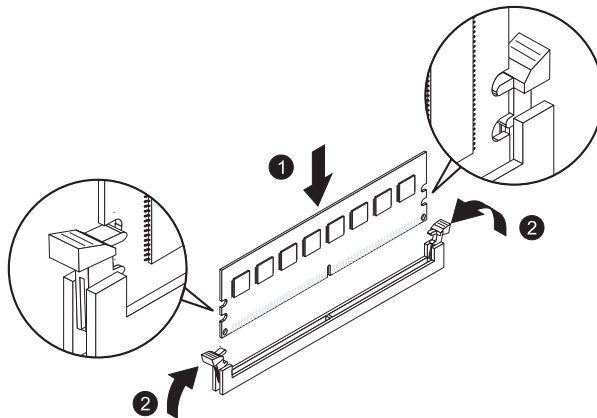
- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the side panel described on page 36.
- 3 Lay the server on its side (components showing).
- 4 Install the memory module.

- (1) Align the DIMM so that the notch on the slot fits the keyed edge of the module, then press the module at both ends to seat it fully in the slot.

If you insert a DIMM but it does not fit easily in the slot, you have inserted it incorrectly. Reverse the orientation of the module and insert it again.

- (2) Firmly press the holding clips inward to lock the DIMM in place.

If the holding clips do not close, the DIMM is not properly inserted.



- 5 Observe the post-installation instructions described on page 29.

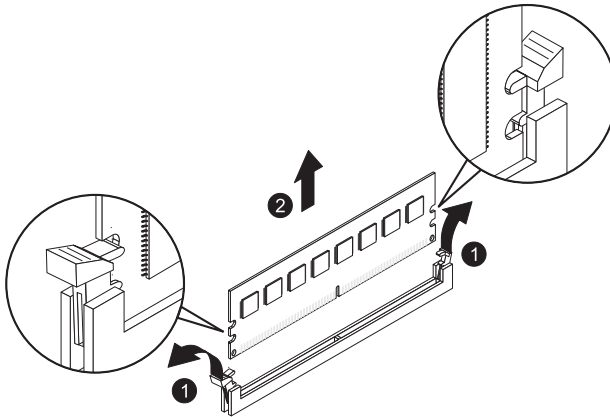
The system automatically detects the amount of memory installed. Run the BIOS setup to view the new value for total system memory and make a note of it.

## Removing a memory module



**Important:** Before removing any DIMM from the mainboard, make sure to create a backup file of all important data.

- 1 Perform steps 1 through 3 of the previous section.
- 2 Remove the memory module.
  - (1) Press the holding clips on both sides of the slot outward to release the DIMM.
  - (2) Gently pull the DIMM upward to remove it from the slot.



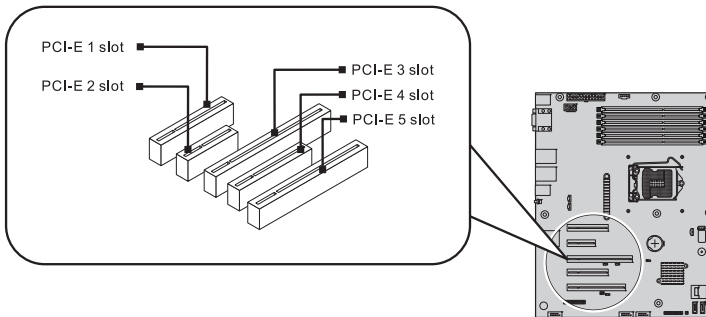
- 3 If you intend to install a new DIMM, refer to the previous section, otherwise observe the post-installation instructions described on page 29.

# Installing an expansion card

## I/O interface

The AT310 F1 has five PCI bus slots with four separate bus segments, namely:

- PCI1 — PCI Express® x8 slot (x8 bandwidth)
- PCI2 — PCI Express® x4 slot (x1 bandwidth)
- PCI3 — PCI Express® x16 slot (x8 bandwidth)
- PCI4 — PCI Express® x8 slot (x4 bandwidth)
- PCI5 — PCI slot (32-bit/33 MHz, 3.3 V)



**Note:** PCI1 will be disabled and signal is switched to PCI3 slot when a x16 PCI device is plugged in the PCI3 slot.

To install an expansion card:

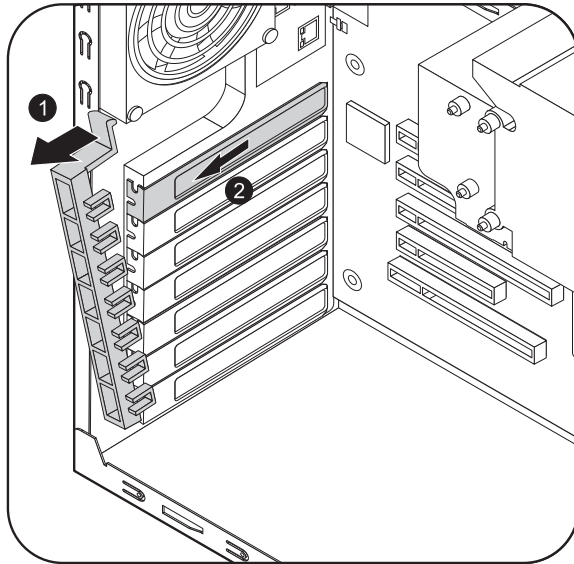
- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the side panel described on page 36.
- 3 Lay the server on its side (components showing).
- 4 If necessary, remove any cables that prevent access to the PCI slot.
- 5 Locate an empty expansion slot that is compatible with the specification of the card you intend to install.

## 6 Install the expansion card.

- (1) Lift the PCI slot lock securing the slot covers of the expansion slots.
- (2) Pull out the slot cover and store it for reassembly later.



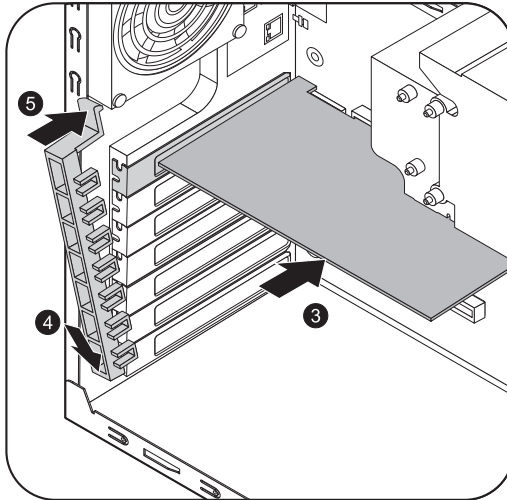
-----  
**Caution:** Do not discard the slot cover. If the expansion card is removed in the future, the slot cover must be reinstalled to maintain proper system cooling.



Remove the expansion card from its protective packaging, handling it by the edges.



- (3) Insert the card in the selected slot making sure that the card is properly seated.
- (4) Align the notch on the slot lock to the guides on the chassis and snap it back into the chassis securing the card into place. Connect the necessary cables to the expansion card as required.



- 7 Observe the post-installation instructions described on page 29.

When you turn on the system, the BIOS setup automatically detects and assigns resources to the new device (applicable only to Plug-and-Play expansion cards).



# 4 System BIOS

# BIOS overview

BIOS setup is a hardware configuration program built into the system's Basic Input/Output System (BIOS). Since most systems are already properly configured and optimized, there is no need to run this utility. You will need to run this utility under the following conditions.

- When changing the system configuration settings.
- When redefining the communication ports to prevent any conflicts.
- When modifying the power management configuration.
- When changing the password or making other changes to the security setup.
- When a configuration error is detected by the system and you are prompted ("Run Setup" message) to make changes to the BIOS setup.



.....

**Note:** If you repeatedly receive Run Setup messages, the battery may be bad. In this case, the system cannot retain configuration values in CMOS. Ask a qualified technician for assistance.

BIOS setup loads the configuration values in a battery-backed nonvolatile memory called CMOS RAM. This memory area is not part of the system RAM, which allows configuration data to be retained when power is turned off.

Before you run the *Phoenix*BIOS Setup Utility, make sure that you have saved all open files. The system reboots immediately after you close the Setup.



.....

**Note:** *Phoenix*BIOS Setup Utility will be simply referred to as "Setup" or "Setup Utility" in this guide.

The screenshots used in this guide display default system values. These values may not be the same those found in your system.

# Entering BIOS Setup

- 1 Turn on the server and the monitor.

If the server is already turned on, close all open applications, then restart the server.

- 2 During POST, press <F2>.

If you fail to press <F2> before POST is completed, you will need to restart the server.

The Setup Main menu will be displayed showing the menu bar. Use the left and right arrow keys to move between selections on the menu bar.

## BIOS setup primary menus

The tabs on the Setup menu bar correspond to the seven primary BIOS Setup menus, namely:

- Main
- Advanced
- Power
- Security
- Server Management
- Boot
- Exit

In the descriptive table following each of the menu screenshots, settings in **boldface** are the default and suggested settings.

## BIOS setup navigation keys

Use the following keys to move around the Setup Utility:

- **Left** and **Right** arrow keys – Move between selections on the menu bar.
- **Up** and **Down** arrow keys – Move the cursor to the field you want.
- **PgUp** and **PgDn** keys – Move the cursor to the previous and next page of a multiple page menu.
- **Home** – Move the cursor to the first page of a multiple page menu.
- **End** – Move the cursor to the last page of a multiple page menu.
- **+** and **-** keys – Select a value for the currently selected field (only if it is user-configurable). Press these keys repeatedly to display each possible entry, or the **Enter** key to choose from a pop-up menu.



.....  
**Note:** Grayed-out fields are not user-configurable.

- **Enter** key – Display a submenu screen.



.....  
**Note:** Availability of submenu screen is indicated by a (>).

- **Esc** – If you press this key:
  - On one of the primary menu screens, the Exit menu displays.
  - On a submenu screen, the previous screen displays.
  - When you are making selections from a pop-up menu, closes the pop-up without making a selection.
- **F1** – Display the BIOS setup General Help panel.
- **F9** – Press to load default system values.
- **F10** – Save changes made the Setup and close the utility.

# Main menu

Phoenix SecureCore(tm) Setup Utility	
Main	Advanced Power Security Server Management Boot Exit
System BIOS Version:           D04 Build Date:       12/31/09 Processor CPU Type:         Intel(R) Xeon(R) CPU X3450 @ 2.67GHz Core Frequency:  2.67 GHz Count:            1 Memory Size:             4096 MB  Quiet Boot:      [Disabled] Post Error Pause: [All, but Keyboard]  System Date:     [01/04/2010] System Time:     [15:26:22]	Item Specific Help  Display the diagnostic screen during boot
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults Esc Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit	

Parameter	Description	Option
System BIOS		
Version	Version number of the BIOS Setup Utility.	
Build Date	Date when the BIOS Setup Utility was created.	
Processor		
CPU Type	Technical specifications for the installed processor.	
Core Frequency		
Count		
Memory		
Size	Total size of extended memory detected during POST.	
Quiet Boot	Allows the bootup screen options to be modified between POST messages or the OEM logo. Select <b>Disabled</b> to display the POST messages. Select <b>Enabled</b> to display the OEM logo instead of the normal POST messages.	<b>Enabled</b> Disabled

Parameter	Description	Option
Post Error Pause	Select whether or not to pause POST when a boot-up error is detected.	<b>All, But Keyboard No Errors</b>
System Date	Sets the date following the weekday-month-day-year format.	
System Time	Sets the system time following the hour-minute-second format.	



# Advanced menu

The Advanced menu display submenu options for configuring the function of various hardware components. Select a submenu item, then press <Enter> to access the related submenu screen.

Phoenix SecureCore (tm) Setup Utility							
Main	Advanced	Power	Security	Server Management	Boot	Exit	
<ul style="list-style-type: none"> <li>▶ Processor Configuration</li> <li>▶ Memory Configuration</li> <li>▶ ATA Controller Configuration</li> <li>▶ Serial Port Configuration</li> <li>▶ PCI Configuration</li> <li>▶ Advanced Chipset Configuration</li> <li>▶ System Acoustic &amp; Performance Configuration</li> </ul>						<p>Item Specific Help</p> <p>Additional setup menus to configure Memory devices.</p>	
F1	Help	↑↓	Select Item	-/+	Change Values	F9	Setup Defaults
Esc	Exit	↔	Select Menu	Enter	Select ▶ Sub-Menu	F10	Save and Exit

# Processor Configuration

Phoenix SecureCore(tm) Setup Utility		
Advanced		
Processor Configuration		Item Specific Help
Hyper-Threading Technology:	[Enabled]	Enabling Hyper-Threading Technology activates additional CPU threads. These threads may appear as additional processors but will share some resources with the other threads within the physical package.
Enhanced Intel SpeedStep Technology:	[Disabled]	
Processor C1E State Support:	[Disabled]	
Thermal Monitor Protection : TMI/TM2:	[Enabled]	
Active Processor Cores:	[Max. Col]	
Intel Virtualization Technology:	[Enabled]	
Execution Disable Bit:	[Enabled]	
Hardware Prefetcher:	[Enabled]	
Adjacent Cache Line Prefetch:	[Enabled]	
CPU Thermal Trip:	[Enabled]	
RMC Action for CPU Thermal Trip:	[Power Off]	
Trusted Execution Technology	[Disabled]	
Lock DPR memory region	[Enabled]	

F1 Help F11 Select Item +/- Change Values F9 Setup Defaults  
Esc Exit +/- Select Menu Enter Select > Sub-Menu F10 Save and Exit

Phoenix SecureCore(tm) Setup Utility		
Advanced		
Processor Configuration		Item Specific Help
Adjacent Cache Line Prefetch:	[Enabled]	Select TMI DMA Protected Region - 3 to 255
CPU Thermal Trip:	[Enabled]	
RMC Action for CPU Thermal Trip:	[Power Off]	
Trusted Execution Technology	[Disabled]	
Lock DPR memory region	[Enabled]	
Enter TMI DPR Size	[ 5 ]	
Processor 1 Information:		
Maximum Frequency:	2.67 GHz	
L2 Cache Size:	1024 kB	
L3 Cache Size:	8192 kB	
CPUID Register:	106E5	

F1 Help F11 Select Item +/- Change Values F9 Setup Defaults  
Esc Exit +/- Select Menu Enter Select > Sub-Menu F10 Save and Exit

Parameter	Description	Options
Hyper Threading Technology	Select whether to enable the Intel HyperThreading (HT) Technology function. HT enables to host operating system to view a single physical processor to appear as two logical processors. This can boost performance in OS and applications that are HT-compliant.	Enabled Disabled

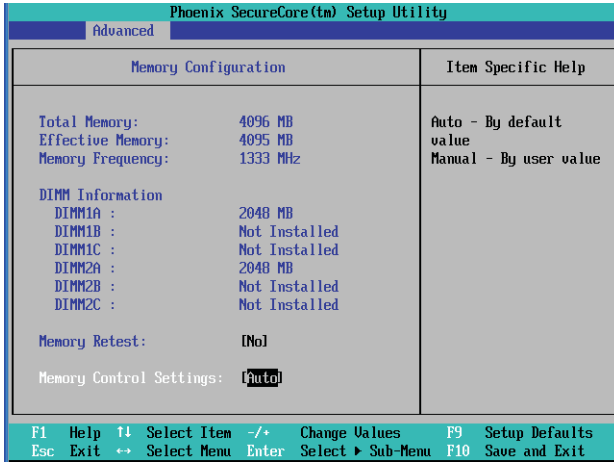
Parameter	Description	Options
Enhanced Intel SpeedStep Technology	Conventional Intel SpeedStep Technology switches both voltage and frequency in tandem between high and low levels in response to processor load. When enabled, the <u>Intel Turbo Mode Technology</u> field is displayed.	Enabled <b>Disabled</b>
Processor C1E State Support	Select whether to enable the C1 Enhanced mode for the processor. If enabled, all logical processors in a physical processor will run in a C1 state.	Enabled <b>Disabled</b>
Thermal Monitor Protection TM1/TM2	Enables or disables Intel CPU Thermal Monitor function, a CPU overheating protection function. When enabled, the CPU core frequency and voltage will be reduced when the CPU is overheated.	<b>Enabled</b> Disabled
Active Processor Cores	Sets the active processor core.	One Core Two cores <b>Max Core</b>
Intel Virtualization Technology	Select <b>Enabled</b> to use Virtualization Technology (VT) to allow one platform to run multiple operating systems and applications in independent partitions, creating multiple virtual systems in one physical computer.	<b>Enabled</b> Disabled
Execute Disable Bit	When this item is enabled, the processor prevents the execution of code in data-only memory pages. This provides some protection against buffer overflow attacks.	<b>Enabled</b> Disabled

Parameter	Description	Options
Intel Turbo Mode Technology	When this feature is enabled, the processor can dynamically overclock one or two of its four processing cores to improve performance with applications that are not multithreaded or optimized for quad-core processors. <b>Note:</b> This field is not shown when the Enhanced SpeedStep Technology is disabled.	Enabled Disabled
Hardware Prefetcher	If set to <b>Enabled</b> , the hardware prefetcher will prefetch streams of data and instructions from the main memory to the L2 cache in the forward or backward manner to improve CPU performance.	<b>Enabled</b> Disabled
Adjacent Cache Line Prefetch	When enabled, cache lines are fetched in pairs. When disabled, only the required cache line is fetched.	<b>Enabled</b> Disabled
CPU Thermal Trip	The CPU thermal trip occurs whenever the processor temperature exceeds determined threshold.	<b>Enabled</b> Disabled
BMC Action for CPU Thermal Trip	Determines the BMC Action for CPU Thermal Trip.	<b>Power Off</b> Power Cycle
Trusted Execution Technology	Intel TXT provides the protection to against software-based attacks aimed at stealing sensitive information.	Enabled <b>Disabled</b>
Lock DPR memory region	Locks DPR memory region.	<b>Enabled</b> Disabled
Enter TXT DPR Size	Select TXT DMA Protected Region. Value is 3-255.	

Parameter	Description	Options
Processor Information	Technical specifications for the installed processor.	
Maximum Frequency		
L2/L3 Cache Size		
CPUID Register		

---

## Memory Configuration



Parameter	Description	Options
Total Memory	Total size of system memory detected during POST.	
Effective Memory	Total size of effective memory detected during POST.	
Memory Frequency	Total memory frequency detected during POST	
DIMM Information DIMM 1A/1B/1C/2A/ 2B/2C slots	The size of memory installed on each of the DDR3 DIMM slots.	
Memory Retest	Select whether to delete the historical memory data log. System memory will be retested on the next boot-up.	Yes <b>No</b>
Memory Control Setting	Memory control setting.	<b>Auto</b> Manual

## ATA Controller Configuration

Phoenix SecureCore(tm) Setup Utility	
Advanced	
ATA Controller Configuration	Item Specific Help
Serial ATA: <input checked="" type="checkbox"/> Enabled SATA Mode Selection: <input type="checkbox"/> IDE ▶ SATA Port 0 <input type="checkbox"/> None ▶ SATA Port 1 <input type="checkbox"/> None ▶ SATA Port 2 <input type="checkbox"/> None ▶ SATA Port 3 <input type="checkbox"/> None ▶ SATA Port 4 <input type="checkbox"/> None ▶ SATA Port 5 <input type="checkbox"/> None	Enable the SATA
F1 Help   F4 Select Item   -/+ Change Values   F9 Setup Defaults Esc Exit   ← Select Menu   Enter Select ▶ Sub-Menu   F10 Save and Exit	

Phoenix SecureCore(tm) Setup Utility	
Advanced	
SATA Port 0 [None]	Item Specific Help
Type: <input checked="" type="checkbox"/> Auto Multi-Sector Transfers: <input type="checkbox"/> Disabled LBA Mode Control: <input type="checkbox"/> Disabled 32 Bit I/O: <input type="checkbox"/> Disabled Transfer Mode: <input type="checkbox"/> Standard Ultra DMA Mode: <input type="checkbox"/> Disabled	User = you enter parameters of hard-disk drive installed at this connection. Auto = autotypes hard-disk drive installed here. CD-ROM = a CD-ROM drive is installed here. ATAPI Removable = removable disk drive is installed here.
F1 Help   F4 Select Item   -/+ Change Values   F9 Setup Defaults Esc Exit   ← Select Menu   Enter Select ▶ Sub-Menu   F10 Save and Exit	

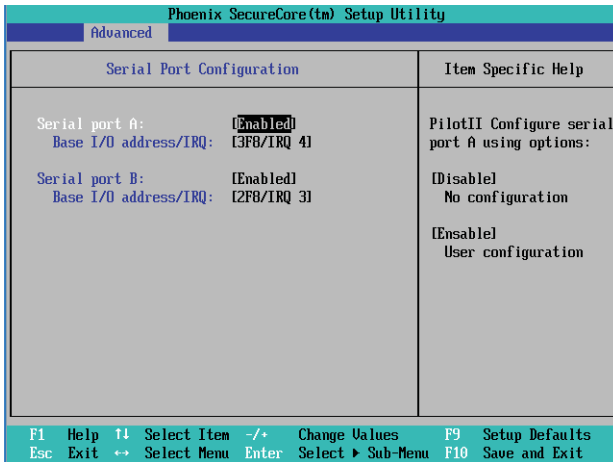
Parameter	Description	Options
Serial ATA	Enables or disables the Serial ATA.	Enabled Disabled

Parameter	Description	Options
SATA Mode Selection	<p>When set to IDE, the SATA controller disables its RAID and AHCI functions and runs in the IDE emulation mode. You will not have access to the RAID setup utility.</p> <p>When set to AHCI, the SATA controller enables its AHCI functionality. However, its RAID functions will be disabled and you will not be able to access the RAID setup utility at boot time. For more information on AHCI, refer to the SATA AHCI Mode BIOS feature.</p> <p>When set to RAID, the SATA controller enables both its RAID and AHCI functions. You are allowed to access the RAID setup utility at boot time.</p>	<b>IDE</b> RAID ACHI
SATA Port 0/1/2/3/4/5	Press <Enter> to configure the advanced HDD.	
Type	Press the space bar to configure this parameter.	<b>Auto</b> None CD-ROM Other ATAPI User
Multisector Transfer	Specifies the number of sectors per block for multiple sector transfers.	Disabled 2 Sectors 4 Sectors 8 Sectors 16 Sectors
LBA Mode Control	Enabling the LBA causes Logical Block Addressing to be used in place of Cylinders, Heads & Sectors (CHS).	Enabled Disabled
32-bit I/O	Enables/disables 32-bit IDE data transfers.	Enabled <b>Disabled</b>



Parameter	Description	Options
Transfer Mode	Selects the method for moving data to/from the drive.	Standard Fast PIO 1 Fast PIO 2 Fast PIO 3 Fast PIO 4 FPIO 3/DMA 1 FPIO 4/DMA 2
Ultra DMA Mode	Selects the Ultra DMA mode for moving data to/from the drive.	Disabled Mode 0 Mode 1 Mode 2 Mode 3 Mode 4 Mode 5 Mode 6

## Serial Port Configuration



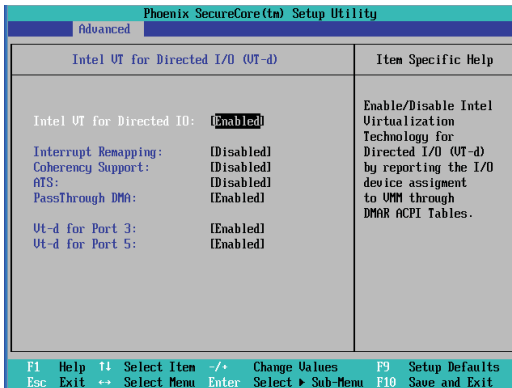
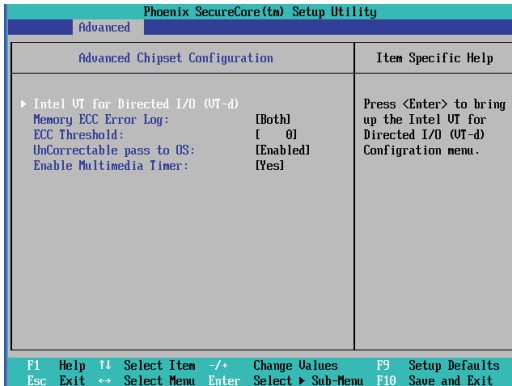
Parameter	Description	Options
Serial Port A/B	<p>When set to <b>Enabled</b>, the system allows you to configure the serial port settings.</p> <p>When set to <b>Auto</b>, the system allows the server BIOS or OS to select a configuration.</p> <p>When set to <b>Disabled</b>, the system will not display any configuration for the serial port.</p>	<b>Enabled</b> Disabled Auto
Base I/O Address	Selects the base I/O address and IRQ setting for the selected serial port.	<b>3F8/IRQ4</b> 2F8/IRQ3 3E8/IRQ4 2E8/IRQ3

## PCI Configuration

Phoenix SecureCore (tm) Setup Utility	
Advanced	
PCI Configuration	Item Specific Help
PCI1 Option ROM: [Enabled]	Initialize device expansion ROM
PCI2 Option ROM: [Enabled]	
PCI3 Option ROM: [Enabled]	
PCI4 Option ROM: [Enabled]	
PCI5 Option ROM: [Enabled]	
Onboard LAN iSCSI Boot ROM: [Disabled]	
Onboard NIC1: [Enabled]	
Onboard NIC1 ROM: [Enabled]	
Onboard NIC2: [Enabled]	
Onboard NIC2 ROM: [Enabled]	
F1 Help ↑ Select Item -/+ Change Values F9 Setup Defaults Esc Exit ↔ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit	

Parameter	Description	Options
PCI Slot 1/2/3/4/5 Option ROM	When enabled, this setting will initialize the device expansion ROM for the related PCI slot.	<b>Enabled</b> Disabled
Onboard LAN iSCSI Boot ROM	Enables or disables the load of embedded Internet SCSI option ROM for the onboard LAN controller.	Enabled <b>Disabled</b>
Onboard NIC1/NIC2	Enables or disables the onboard LAN controller.	Onboard LAN iSCSI Boot ROM Enabled <b>Disabled</b>
Onboard NIC1/ NIC2 ROM	Enables or disables the LAN option ROM.	<b>Enabled</b> Disabled

## Advanced Chipset Configuration



Parameter	Description	Options
Intel VT for Directed IO	Intel VT-d improves security and reliability of the systems and also improves performance of I/O devices in virtualized environment.  Enables or disables Directed IO supporting Intel Virtualization Technology.	<b>Enabled</b> Disabled

Parameter	Description	Options
Memory ECC Error Log	Identifies the memory ECC error log.	<b>Disabled</b> Correctable Error Uncorrectable Error Both
ECC Thresholds	Identifies the ECC thresholds. Use "+" and "-" keys to adjust the desire value.	
UnCorrectable pass to OS	When set to <b>Enabled</b> , the system will skip the error and boot up automatically.	<b>Enabled</b> Disabled
Enabled multimedia Timer	Enables or disables the onboard graphic device.	<b>Yes</b> No
Interrupt Remapping	Enables or disables the Interrupt Remapping.	Enabled <b>Disabled</b>
Coherency Support	Enables or disables the Coherency Support.	Enabled <b>Disabled</b>
ATS	Enables or disables ATS.	Enabled <b>Disabled</b>
PassThrough DMA	Enables or disables PassThrough DMA.	<b>Enabled</b> Disabled
VT-d for Port 3/5	Enables and disables VT-d support for port 3 and port 5 through ATSR structures in the ACPI Tables.	<b>Enabled</b> Disabled

# System Acoustic & Performance Configuration

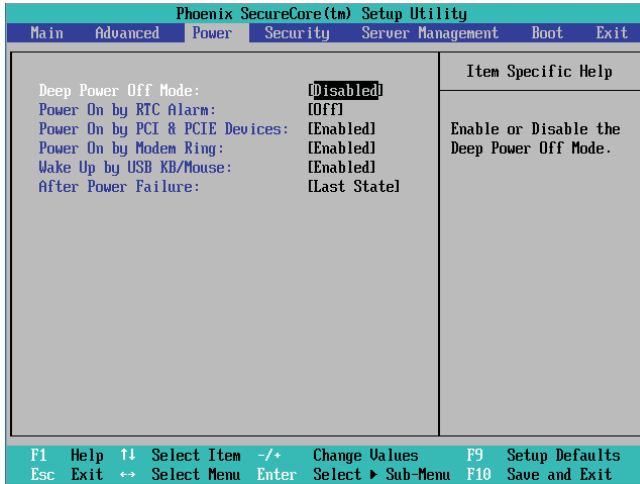
Phoenix SecureCore(tm) Setup Utility	
Advanced	
System Acoustic & Performance Configuration	Item Specific Help
Open-loop Thermal Throttle [Enabled]	Enable/Disable Open-loop Thermal Throttle
Temperature Chasis inlet [ 35]	
Temperature Rise [ 10]	
Air speed to the DIMMs [1500]	
System Altitude [ 0]	
Pitch between DIMMs [400]	
Close-loop Thermal Throttle [Enabled]	
Temperature hysteresis [1]	
Temperature guardband [ 3]	
Temperature Chasis inlet [ 35]	
Temperature Rise [ 10]	
Air speed to the DIMMs [1500]	
System Altitude [ 0]	
Pitch between DIMMs [400]	
F1 Help F4 Select Item +/- Change Values F9 Setup Defaults Esc Exit ++ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit	

Phoenix SecureCore(tm) Setup Utility	
Advanced	
System Acoustic & Performance Configuration	Item Specific Help
Temperature Rise [ 10]	Enable or Disable the FAN Speed Control by setting item to the desired value. PS: System will monitor the MB Temperature not CPU temperature for Fan Speed Control function.
Air speed to the DIMMs [1500]	
System Altitude [ 0]	
Pitch between DIMMs [400]	
Close-loop Thermal Throttle [Enabled]	
Temperature hysteresis [1]	
Temperature guardband [ 3]	
Temperature Chasis inlet [ 35]	
Temperature Rise [ 10]	
Air speed to the DIMMs [1500]	
System Altitude [ 0]	
Pitch between DIMMs [400]	
FAN Speed Control: [Enabled]	
F1 Help F4 Select Item +/- Change Values F9 Setup Defaults Esc Exit ++ Select Menu Enter Select ▶ Sub-Menu F10 Save and Exit	

Parameter	Description	Options
Open-loop Thermal Throttle	Enables or disables Open-loop Thermal Throttle.	<b>Enabled</b> Disabled
Temperature Chassis inlet	User-defined items. Use the number keys to input the desired value.	
Temperature Rise		
Air speed to the DIMMs		
System Altitude		
Pitch between DIMMs		

Parameter	Description	Options
Close-loop Thermal Throttle	Enables or disables Close-loop Thermal Throttle.	<b>Enabled</b> Disabled
Temperature hysteresis	User-defined items. Use the number keys to input the desired value.	
Temperature guardband		
Temperature Chassis inlet		
Temperature Rise		
Air speed to the DIMMs		
System Altitude		
Pitch between DIMMs		
FAN Speed Control	Enables or disables fan speed control.	<b>Enabled</b> Disabled

# Power menu



Parameter	Description	Options
Deep Power Off Mode	Enables or disables the Deep Power Off Mode.	Enabled <b>Disabled</b>
Power On by RTC Alarm	Sets the system to wake up from an RTC alarm.	On <b>Off</b>
Power On by PCI & PCIE	Sets the system to wake up when a PCI or PCIE device is detected.	<b>Enabled</b> Disabled
Power On by Modem Ring	Sets the system to wake up when an incoming call is detected on the modem.	<b>Enabled</b> Disabled
Wake Up by USB KB/Mouse	Sets the system to wake up when action on the USB keyboard or mouse is detected.	<b>Enabled</b> Disabled

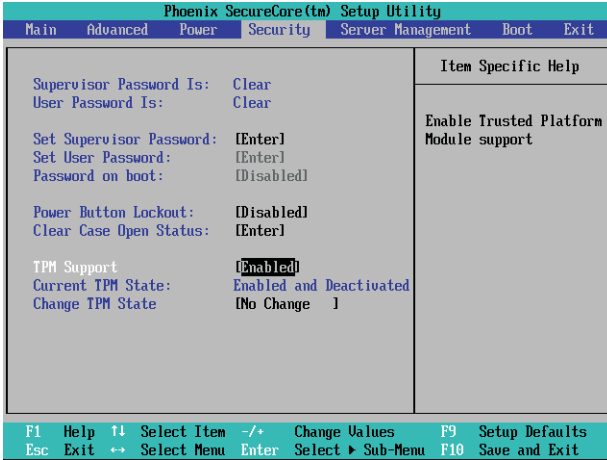


Parameter	Description	Options
After Power Failure	<p>Defines the power state to resume to after the system shuts down due to interruption in AC power.</p> <p>When set to <b>Last State</b>, the system will return to the active power state prior to the shutdown.</p> <p>When set to <b>Stay Off</b>, the system remains off after power shutdown.</p>	<p><b>Last State</b> Stay Off Power ON</p>

---

# Security menu

The Security menu allows you to safeguard and protect the system from unauthorized use by setting up access passwords.



There are three types of passwords that you can set:

- Supervisor password  
Entering this password will allow the user to access and change all settings in the Setup Utility.
- User password  
Entering this password will allow a user to enter the Setup menus, but not have the rights to make changes.
- Power-on password  
When the Password on Boot field is enabled, a password will be required to boot up the server.

Parameter	Description	Options
Supervisor Password Is	This parameter indicates whether a supervisor password has been assigned.	<b>Clear</b> Enabled
User Password Is	This parameter indicates whether a user password has been assigned.	<b>Clear</b> Enabled

Parameter	Description	Options
Set Supervisor Password	Press <Enter> to configure the supervisor password.	
Set User Password	Press <Enter> to configure the user password.	
Password On Boot	Select <b>Enabled</b> to activate security check during POST.	Enabled <b>Disabled</b>
Power Button Lockout	Enables or disables the power button lockout function.	Enabled <b>Disabled</b>
Clear Case Open Status	Press <Enter> to clear the case open status.	
TPM Support	TPM, stands for Trusted Platform Module. A Trusted Platform Module provides function for secure generation of cryptographic keys, the ability to limit the use of cryptographic keys, as well as a hardware pseudo-random number generator.	Enabled <b>Disabled</b>
Current TPM State	Displays the current TPM State status.	
Change TPM State	Changes the TPM state.	<b>No Change</b> Enable & Activate Deactivate & Disable Clear

## Setting a system password

- 1 Use the up/down keys to select a password parameter (Set Supervisor Password or Set User Password), then press <Enter>. A password box will appear.
- 2 Type a password then press <Enter>. The password may consist of up to eight alphanumeric characters (A-Z, a-z, 0-9).
- 3 Retype the password to verify the first entry then press <Enter> again.
- 4 Press <F10>.
- 5 Select **Yes** to save the new password and close the Setup Utility.

## Changing a system password

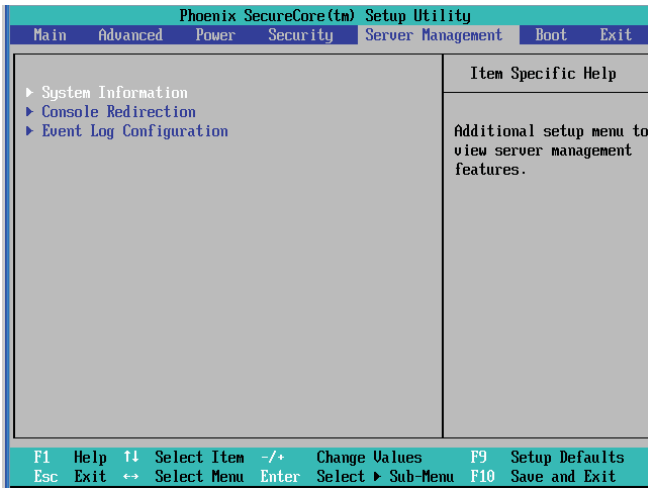
- 1 Use the up/down keys to select a password parameter (Set Supervisor Password or Set User Password), then press <Enter>.
- 2 Type the original password then press <Enter>.
- 3 Type a new password then press <Enter>.
- 4 Retype the password to verify the first entry then press <Enter> again.
- 5 Press <F10>.
- 6 Select **Yes** to save the modified password and close the Setup Utility.

## Removing a system password

- 1 Use the up/down keys to select a password parameter (Set Supervisor Password or Set User Password), then press <Enter>.
- 2 Enter the current password then press <Enter>.
- 3 Press <Enter> twice without entering anything in the new and confirm password fields.

After doing this, the system automatically sets the related password parameter to **Clear**.

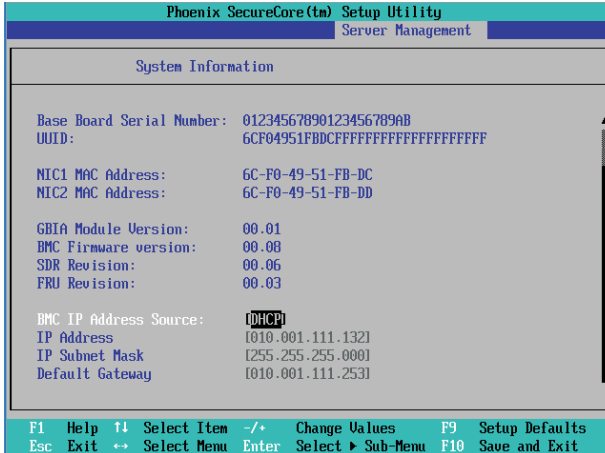
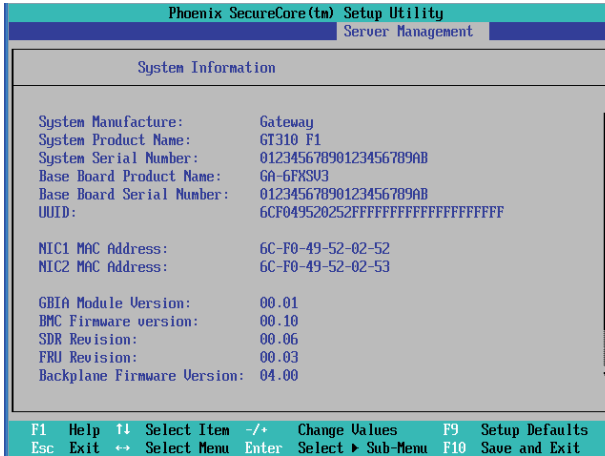
# Server Management menu



Parameter	Description
System Information	Displays basic system ID information, as well as BIOS firmware versions. Press <Enter> to access the related submenu.
Console Redirection	Displays console redirection-related settings. Press <Enter> to access the related submenu.
Event Log Configuration	Displays basic system event log information. Press <Enter> to access the related submenu.

## System Information

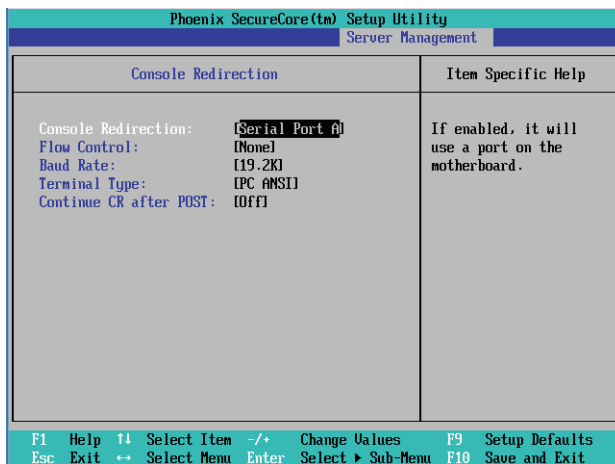
The System Information submenu is a simple display page for basic system ID information, as well as BIOS firmware versions. Items on this window are non-configurable.



Parameter	Description	Options
BMC IP Address Source	Configures the BMC IP address source.	Static DHCP

Parameter	Description	Options
IP Address	Determines the IP address.	
IP Subnet Mask	Determines the IP subnet mask.	
Default Gateway	Determines the default gateway address.	

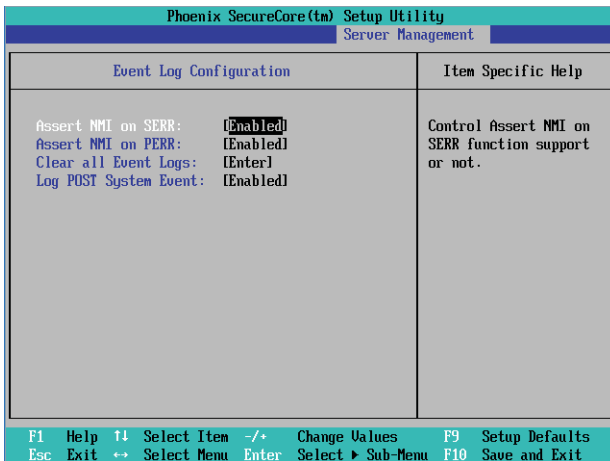
## Console Redirection



Parameter	Description	Options
BIOS Redirection Port	Selects whether to enable console redirection. Console redirection enables users to manage the system from a remote location.	<b>Serial Port A</b> Serial Port B Disabled
Flow Control	Assigns control for the console redirection flow.	<b>None</b> XON/OFF CTS/RTS
Baud Rate	Selects the baud rate for console redirection.	9600 <b>19.2K</b> 38.4K

Parameter	Description	Options
Terminal Type	Selects a terminal type to be used for console redirection.	VT100 VT100 8bit <b>PC-ANSI 7bit</b> VT100+ VT-UTF8 ASCII
Continue C.R. After POST	Selects whether to enable console redirection after POST.	On <b>Off</b>

## Event Log Configuration



Parameter	Description	Options
Assert NMI on SERR	Enables the SERR signal to be reported as a critical event via NMI.	<b>Enabled</b> Disabled
Assert NMI on PERR	Enables the PERR signal to be reported as a critical event via NMI. The Assert NMI on SERR option must also be enabled.	<b>Enabled</b> Disabled
Clear all Event Logs	Deletes all DMI event log entries during the next system start-up.	

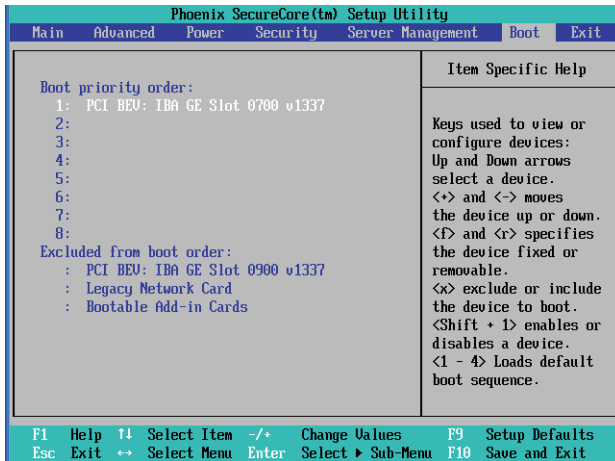


Parameter	Description	Options
Log POST System Event	Logs in to the System Event log when the system boots.	<b>Enabled</b> Disabled

---

# Boot menu

The Boot menu allows you to set the drive priority during system boot-up. BIOS setup will display an error message if the drive specified is not bootable.

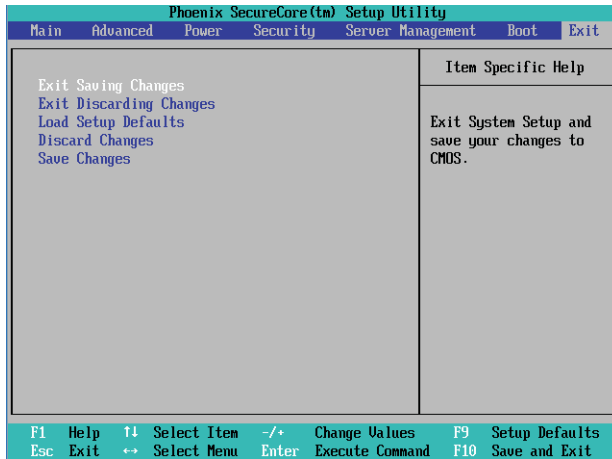


By default, the server searches for boot devices in the following order:

- 1 Hard disk drive
- 2 Optical disk drive
- 3 Removable device
- 4 Network device

# Exit menu

The Exit menu displays the various options to quit from the BIOS setup. Highlight any of the exit options then press <Enter>.



Parameter	Description
Exit Saving Changes	Saves changes made and close the BIOS setup.
Exit Discarding Changes	Discards changes made and close the BIOS setup.
Load Setup Defaults	Loads the default settings for all BIOS setup parameters. Setup Defaults are quite demanding in terms of resources consumption. If you are using low-speed memory chips or other kinds of low-performance components and you choose to load these settings, the system might not function properly.
Discard Changes	Discards all changes made in the BIOS setup.
Save Changes	Saves changes made in the BIOS setup.



# 5 System troubleshooting

## Resetting the system

Before going through in-depth troubleshooting, attempt first to reset the system using one of the methods below.

Perform	Purpose	To do this
Soft boot reset	To clear the system memory and reload the operating system.	Press <Ctrl> + <Alt> + <Del>
Cold boot reset	To clear the system memory, restart POST, and reload the operating system. This will halt power to all peripherals.	Turn the system off and then on again.

# Initial system startup problems

Problems that occur at initial system startup are usually caused by an incorrect installation or configuration. Hardware failure is a less possible cause. If the problem you are experiencing is with a specific application, see the **“There is problem with the software program”** section on page 99.

# Initial troubleshooting checklist

Use the checklist below to eliminate possible causes for the problem you are encountering.

- AC power is available at the wall outlet?
- Is the power supply module properly installed?
- Is the system power cord properly plugged into the power supply module socket? and connected to a NEMA 5-15R outlet for 100-120 V or a NEMA 6-15R outlet for 200-240 V?
- Are all peripheral cables correctly connected and secured?
- Did you press the system power button to turn the server on (power on indicator should be lit green)?
- Are all device drivers properly installed?
- Are hard disk drive(s) properly formatted and configured?
- Are the BIOS configuration settings in the BIOS Setup Utility correct?
- Is the operating system properly loaded?

Refer to the operating system documentation.

- Are all hardware components compliant with the tested components lists?
- Are all internal cables correctly connected and secured?
- Is the processor properly seated in its mainboard socket?
- Are all standoffs in the proper location and not touching any components, causing a potential short?
- Are all add-in expansion cards fully seated in their mainboard slots?
- Are all system jumpers correctly set?
- Are all switch settings on add-in boards and peripheral devices correct?

To check these settings, refer to the manufacturer's documentation that comes with them. If applicable, ensure that there are no conflicts (e.g., two add-in boards sharing the same interrupt).



# Hardware diagnostic testing

This section provides a detailed approach to identifying a hardware problem and its cause.

## Checking the boot-up status



-----  
**Caution:** Before disconnecting any peripheral cables from the server, turn off the system and any peripheral devices. Failure to do so can cause permanent damage to the system and/or the peripheral device.

- 1 Turn off the system and all external peripheral devices.
- 2 Disconnect all peripheral devices from the system, except for the keyboard and the display monitor.
- 3 Make sure the system power cord is plugged into a properly grounded AC outlet and in the power supply module cord socket.
- 4 Make sure the display monitor and keyboard are correctly connected to the system.
- 5 Turn on the display monitor.
- 6 Set the display brightness and contrast controls to at least two thirds of their maximum range.  
Refer the documentation that came with your display monitor.
- 7 If the operating system normally loads from the hard drive, make sure there is no diskette in floppy drive and no disc in the optical drive.
- 8 If the power indicator is lit, attempt to boot from a disc.
- 9 Turn on the system.

If the power indicator did not light up, see **“Power indicator does not light” on page 97.**

## Verifying the condition of the storage devices

As POST determines the system configuration, it tests for the presence of each mass storage device installed in the system. As each device is checked, its activity indicator should turn blue briefly. Check the activity indicators for the hard drive(s), optical drive, and any other 5.25" device you may have installed.

If any of these indicators fail to light up, refer to related problems listed in the Specific problems and corrective actions section.

## Confirming loading of the operating system

Once the system boots up, the operating system prompt appears on the screen. The prompt varies according to the operating system. If the operating system prompt does not appear, see **"No characters appear the display monitor"** on page 99.

# Specific problems and corrective actions

Listed below are specific problems that may arise during the use of your server and their possible solutions.

## Power indicator does not light.

Do the following:

- Make sure the power supply module is properly installed.
- Make sure the power cord is connected correctly.
- Make sure that the wall outlet has power. Test it by plugging in another device.
- Make sure the power indicator on the front panel is lit up.
- Remove all add-in cards and see if the system boots.

If reboot is successful, install the cards back in one at a time with a reboot between each addition to determine if one of them is causing the problem.

- Make sure that you have properly installed system compliant memory modules, and that they are populated according to the system guidelines.
- Make sure that you have installed system compliant processors, and that they are populated according to the system guidelines.

## HDD activity indicator does not light.

Do the following:

- Make sure the drive is not disabled in the BIOS Setup Utility.
- Make sure the drive is compatible
- Make sure you have not exceeded the power budget for the server.
- Check that relevant switches and jumpers on the hard drive and on the backplane board are set correctly.

### Optical drive activity indicator does not light.

Do the following:

- Make sure the SATA and power cables are properly connected.
- Check that relevant switches and jumpers on the drive are set correctly.
- Check that the drive is properly configured.

### Optical drive tray cannot be ejected.

Insert the tip of a paperclip into the small hole on the optical drive. Slowly pull the tray out from the drive until the tray is fully extended.

### Optical drive cannot read a disc.

Do the following:

- Make sure you are using the correct type of disc.
- Make sure the disc is properly seated in the drive.
- Make sure the disc is unscratched.
- Make sure the drive's cables are properly connected.

### Newly installed memory modules are not detected.

Do the following:

- Make sure the memory modules specifications comply with the system requirements.
- Make sure the memory modules have been populated according to the system guidelines.
- Make sure the memory modules are properly installed on their mainboard slots.

### Network connection indicators do not light.

Do the following:

- Check the cabling and network equipment to make sure that they are in proper condition.
- Reinstall the network drivers.
- Try another port or hub on the switch.

Network activity indicators do not light.

Do the following:

- Make sure the correct network drivers are loaded on the system.
- Network might be idle.

Peripheral device connected to a USB port does not work.

Do the following:

- Reduce the number of external devices connected to a USB hub.
- Refer to the documentation that came with the device.

There is problem with the software program.

Do the following:

- Verify that the software is properly configured for the system.  
Refer to the software installation and operation documentation for instructions on setting up and using the software.
- Try a different version of the software to see if the problem is with the copy you are using. If the other version runs correctly on the system, contact your vendor about the defective software.

No characters appear on the display monitor.

Check the following:

- Is the keyboard functioning? Test it by turning the Num Lock function on and off to check if the Num Lock indicator lights up.
- Is the display monitor plugged in and turned on? If you are using a switch box, is it switched to the correct system?
- Are the brightness and contrast controls on the video monitor properly adjusted?
- Is the display monitor signal cable properly connected?
- Does this display monitor work correctly if plugged into a different system?
- Remove all add-in cards and see if the system boots.

If reboot is successful, install the cards back in one at a time with a reboot between each addition to determine if one of them is causing the problem.

- Make sure that you have properly installed system-compliant memory modules, and that they are populated according to the system guidelines.
- Make sure that you have installed system compliant processors, and that they are populated according to the system guidelines.

If you are using an add-in video controller card, do the following:

- 1 Verify that the display monitor works using the onboard video controller.
- 2 Verify that the add-in video controller card is fully seated in its slot.
- 3 Reboot the system for the changes to take effect.
- 4 If there are still no characters on the screen after you reboot the system, reboot it again.

Take note of the beep codes emitted during POST. This information may be required if you seek technical assistance.

If POST do not emit any beep code and characters still do not appear, the display monitor or the video controller may be defective. Contact your local Acer representative or authorized dealer for technical assistance.

# Appendix A

## Server management tools

# Server management overview

The server management tools supported by this system are listed in the table below.

Tool	Function
BIOS Setup Utility	Configure different hardware components and system functions (memory, processor, and security settings). Please refer to the <b>"4 System BIOS" on page 57</b> for details.
Acer Smart Server Manager	Remotely manage the server in a network environment through a single management station. For detailed instructions on how to install and use this utility, please refer to the Acer Smart Server Manager User Guide.
Acer Smart Setup	Allows you to install your choice of operating system for the server, clone system to set up multiple identical servers, update the system BIOS and firmware, set up BMC, and configure RAID for the system hard drives. For detailed instructions on this utility, please refer to the Acer Smart Setup Help file. <b>Note:</b> BIOS and firmware updates are only available on selected operating systems.
Acer Smart Console	Remotely manage the server via a UPnP tool or a Web browser. For detailed instructions on this utility, please refer to <b>"Appendix C Acer Smart Console" on page 119</b> .



# RAID configuration utilities

## MEGARAIID SAS 8204ELP configuration

This section briefly shows how to create a RAID volume with MegaRAID SAS 8204ELP.

### Entering MegaRAID SAS RAID Configuration Utility

To start MegaRAID SAS RAID Configuration Utility for MegaRAID SAS 8204ELP, press <Ctrl> + <M> when you see RAID BIOS during POST.

### Loading factory default settings

- 1 Select **Objects** from Management menu.
- 2 Select **Adapter** from Objects. The screen shows a list of available adapters.
- 3 Select an adapter and press <Enter>. The screen shows the adapter settings. You can change the settings from this menu.
- 4 Select **Factory Default** and **Yes** to load the default settings.
- 5 Exit the configuration utility and press <Ctrl> + <Alt> + <Del> to reboot the server.

### Creating RAID Volume

- 1 Select **Configuration** from the Management Menu.
- 2 Select **New Configuration** from the Configuration menu. An array selection window displays the devices connected to the current controller.
- 3 Press the arrow keys to choose specific physical drives and press the space bar to associate the selected drive with the current array. The indicator for the selected drive changes from **READY** to **ONLINE**.
- 4 After adding the drives to the current array, press <Enter> to finish creating the current array.
- 5 Press <Enter> again to select an array to configure.
- 6 Press the space bar to select the array and press <F10> to configure the logical drive.
- 7 Select **Accept** and press <Enter> to use the default setting for the RAID volume.

- 8 Press <Enter> to end the array configuration.
- 9 Select **YES** to save the configuration and press any key to return to the Configuration menu.
- 10 Press <Esc> to return to the Management Menu.

### Initialing a RAID volume

- 1 Select **Initialize** from the Management menu. All logical drives should be listed under Logical Drives.
- 2 Press the space bar to select drives for initialization. The selected drive will be shown in yellow.
- 3 After selecting the drives, press <F10> and select **YES** to start the initialization process.
- 4 When initialization is complete, press <Esc> to continue.
- 5 Press <Esc> to return to the Management Menu.

### Assigning a hot spare disk

- 1 Select **Objects** from the Management menu.
- 2 Select **Physical Drive** from Objects. All of the HDDs will be listed.
- 3 Select a drive marked as READY and press <Enter>.
- 4 Select **Make Hot Spare** and press <Enter>.
- 5 Select **Yes** and the selected drive changes from READY to HOTSP.
- 6 Press <Esc> to return to the Management Menu.

### Saving and Exiting the RAID Configuration Utility

- 1 After performing RAID configuration, initialization and assigning the hot spare disk, press <Esc> in the Management Menu and select **YES** to exit the RAID Configuration Utility.
- 2 Press <Ctrl> + <Alt> + <Del> to reboot the server.
- 3 Now you can start to install the operating system.

## Onboard SATA RAID creation

This section explains briefly how to create a RAID volume with the onboard SATA RAID.

### Enabling the onboard SATA RAID controller

To configure onboard SATA RAID, you have to enable the onboard SATA RAID in BIOS first.

- 1 During POST, press <F2> to access the BIOS Setup Utility.
- 2 Select the **Advanced > ATA Controller Configuration** submenu.
- 3 Change the setting of the SATA Mode Selection from **IDE** to **RAID**.
- 4 Press <F10> and select **Yes** to save the setting and exit the Setup Utility.

### Entering onboard SATA RAID Configuration Utility

To start the onboard SATA RAID Configuration Utility, press <CTRL> + <I> when you see the RAID BIOS during POST.

### Loading the factory default setting

There is no option setting for onboard SATA RAID in RAID BIOS, so there is no need to load the factory default setting.

### Creating a RAID 5 volume

- 1 Select **Create RAID Volume**.
- 2 The screen displays the **CREATE VOLUME MENU**.
- 3 Key in the name of the RAID volume.
- 4 Select RAID 5 level.
- 5 Select a hard disk drive to create the RAID.
- 6 Select **Create Volume**.
- 7 Press Y when the screen prompts "**Are you sure you want to create the volume? (Y/N):**".
- 8 The RAID volume is now created. Press <Esc> and select **Exit** to exit.

### Initialing a RAID volume

During onboard SATA RAID volume creation process, once the onboard SATA RAID volume is created, it will be initiated automatically.

## **Assigning a hot spare drive**

The onboard SATA RAID Configuration Utility in POST does not provide the function to assign a hot spare drive. To assign a hot spare drive, use the onboard SATA RAID utility installed in the operating system.

# Appendix B

## Rack mount configuration

# Rack installation information

## Rack installation precautions

Follow the rack manufacturer's safety and installation instructions for proper rack installation.

The following additional rack safety installation measures should be considered:

- Anchor the equipment rack

The equipment rack must be anchored to an unmovable suitable support to prevent the rack from falling over when one or more systems are fully extended out of the rack assembly. You must also consider the weight of any other devices installed in the rack assembly. The equipment rack must be installed according to the manufacturer's instructions.

- Main AC power disconnect

You are responsible for installing an AC power disconnect for the entire rack unit. This main disconnect must be readily accessible, and it must be labeled as controlling power to the entire unit, not just to the system(s).

- Earth ground the rack installation

To avoid the potential for an electrical shock hazard, the rack assembly itself must be suitably earth grounded, according to your local regional electrical codes. This typically will require the rack to have its own separate earth ground. We recommend you consult your local approved electrician.

- Elevated operating ambient temperature

The maximum operating temperature of the system is 35°C (95°F). Careful consideration should be given to installing the system in an environment compatible with the 35°C (95°F) maximum ambient temperature.

- Reduced airflow

The amount of airflow required for the safe operation of the equipment should not be compromised when installing the system in a rack.

- Mechanical loading

Exercise care when mounting the system in a rack to avoid any accidents.

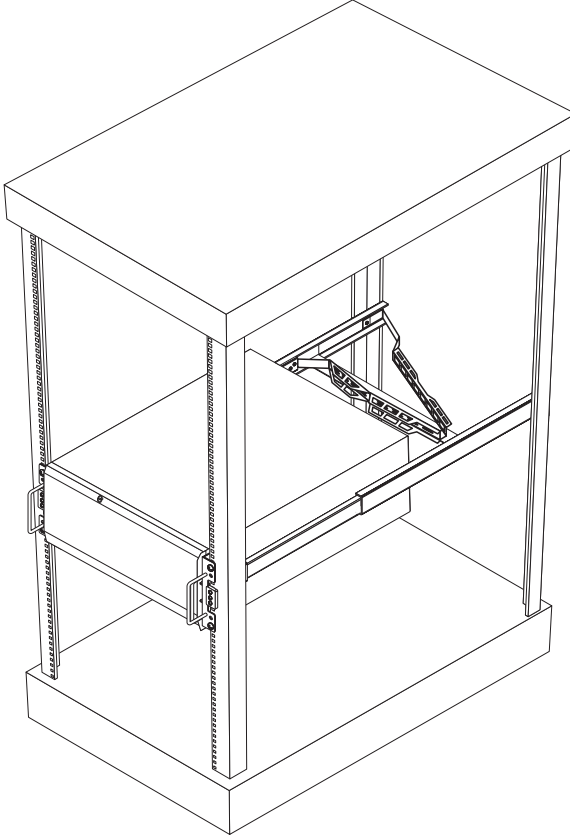
- Circuit overloading

Appropriate consideration should be given when connecting the supply circuit to the system to avoid any circuit overload. The system name plate rating should be used when addressing concerns about circuit overload.

## System rack installation

The server should be mounted into a rack. A tool-less rack rail kit is available for installing system to a rack cabinet.

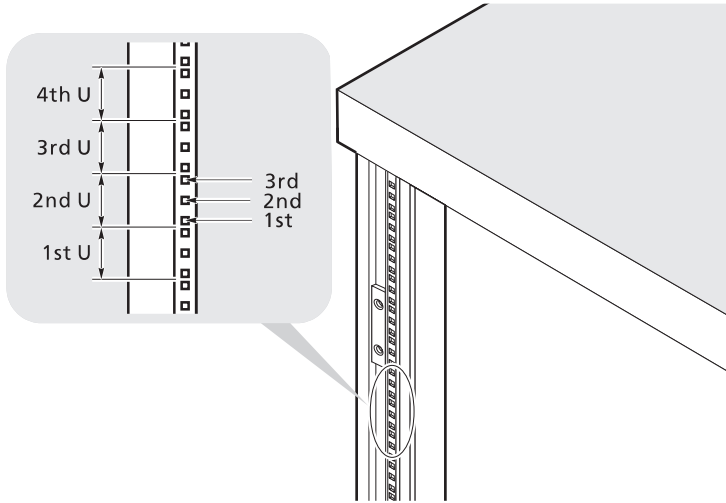
The figure below shows the server in a rack-mount position.





## Vertical mounting hole pattern

The four vertical rails of the system rack contain mounting holes arranged in a manner shown in the figure below:



The system occupies 5U in the rack. Count the U positions and hole numbers from the bottom up.

The distance from the center of two holes with closer spacing to the center of the next pair is equivalent to 1U.



**Note:** The unit of measurement used in this guide is "U" (1U = 1.75 inches or 44.45 mm). The total sum of the heights of all components in the rack measured in "U" cannot exceed the height of the rack. For more information, refer to the documentation that came with the system rack.

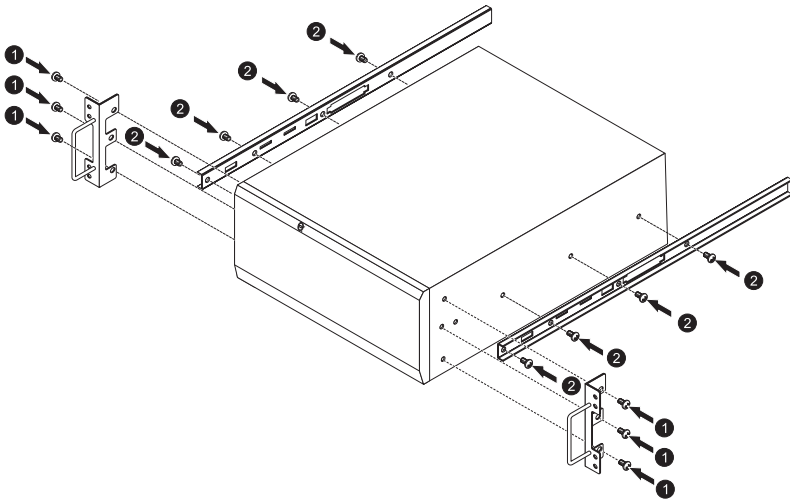
When installing components, you must start your measurement from the center of the two holes with closer spacing. Otherwise, the screw holes on the component may not match those on the rack.

# Installing the system into the rack



**Caution!** To minimize the chances of injuries, make sure that two or more people help in installing the server.

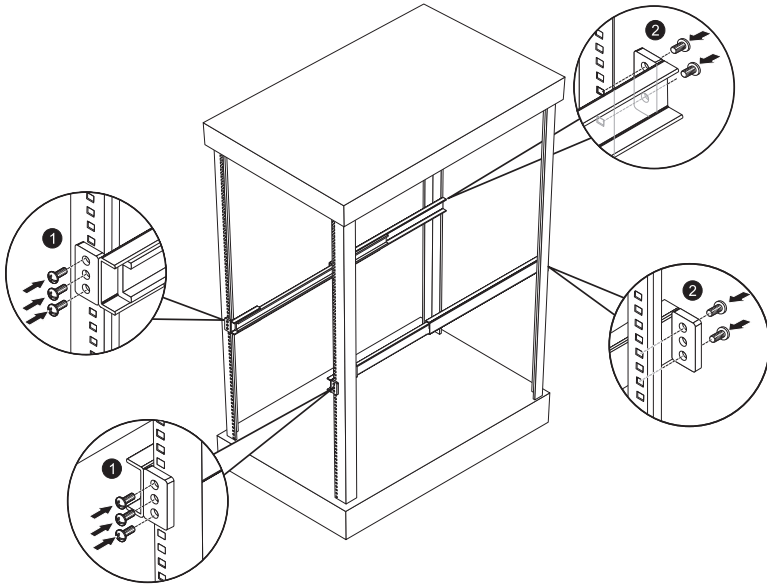
- 1 Confirm that the left and right inner rails have been correctly identified.
- 2 Attach the inner rails to both sides of the server.
  - (1) Align the screw holes on the rack handles with those on the server and use the screws from the rack mount kit to secure the rack handles to the server.
  - (2) Align the screw holes on the left and right front inner rails and use the screws from the rack mount kit to secure both rails to the server.



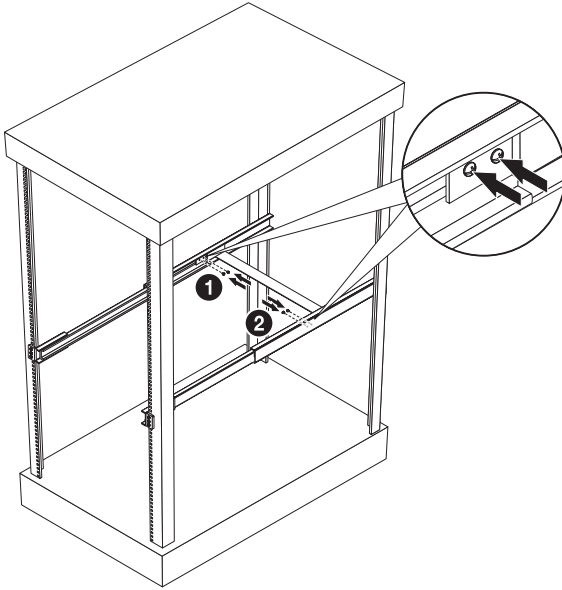
### 3 Install the mounting rails and rail bracket.

One end of the mounting rail includes hinged bracket with three mounting holes and the other end of the mounting rail includes a hinged bracket with two mounting holes.

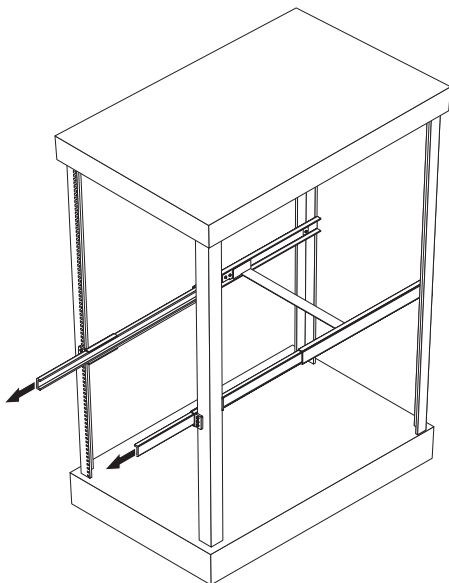
- (1) Using three screws attach the end of the mounting rail with three mounting holes to the front rack.
- (2) Install the free end of the mounting rail to the rear rack.
- (3) Do the same thing to the other mounting rail.



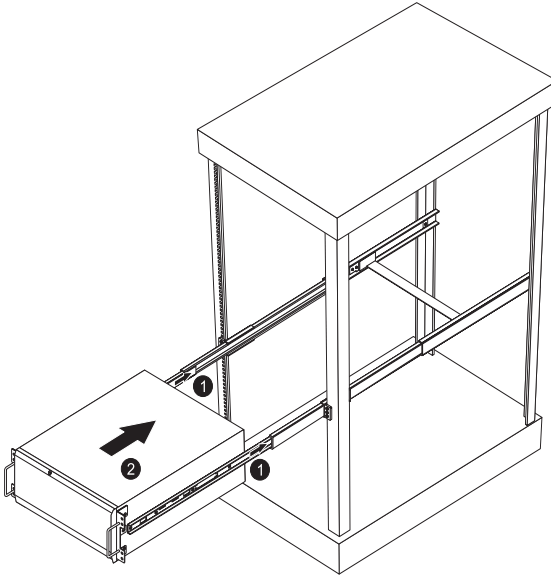
- (4) Install the rail bracket to the inner rails by using two screws for each side.



- (5) Extend the middle sliding piece of each mounting rail forward until you hear an audible click.



- 4 Install the server in the system rack.
  - (1) Insert the inner rails attached to the server into the mounting rails.
  - (2) Push the server into the rack until you hear a click sound.



**Caution!** To avoid personal injury, care should be taken when pressing the inner rail release latches and sliding the component into the rack.

## 5 Install the cable arm.

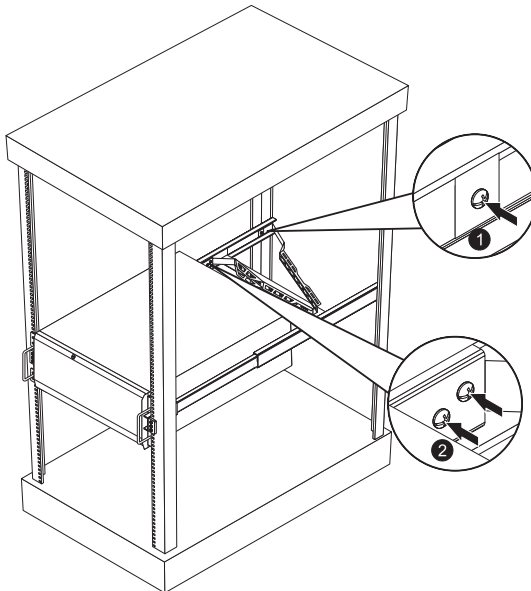
The cable arm option allows you to tie-wrap all cables to and from the system. As you slide the system in and out of the rack, the cable arm collapses and extends, keeping the cables untangled and attached to the system.



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**Note:** One end of the cable arm includes hinged bracket with two mounting holes and the other end of the cable arm includes a hinged bracket with one mounting hole.

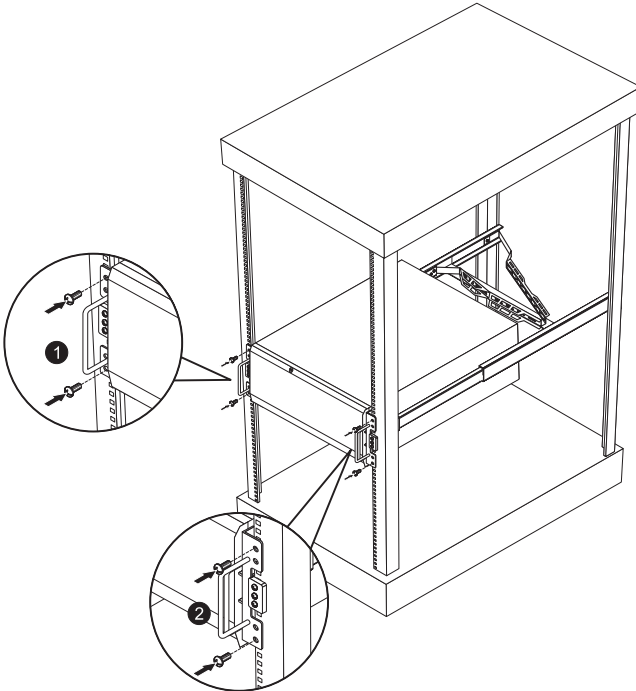
- (1) Using two screws attach the end of the cable arm with two mounting holes to the right inner rail.
- (2) Attach the free end of the cable arm to the right mounting rail using two screws.



- (3) Arrange all server cables in the cable arm.

6 Secure the rack handles to the system rack.

For security purposes, you can use screws to secure the rack handles to the front of the rack as illustrated below.





# Appendix C

## Acer Smart Console

# Using Acer Smart Console

The Acer Smart Console has a user-friendly graphical user interface (GUI) and a standard Internet browser. This article will help you become familiar with the Acer Smart Console. Each function will be described clearly.

Acer Smart Console offers:

- System monitoring - Providing detailed information via a web UI, including system information readings, system health overview, sensors readings, and System Event Log readings. Green, amber and red indicators give a clear system health overview and sensor readings to help you to determine system status.
- Remote system management - Via KVM/IP redirection lets you fully control the system. You can remotely power on, off, reset system through Acer Smart Console in band or out-of-band. Acer Smart Console implements media redirection for the optical drive and floppy drive. This feature enables remote installation of the operating system or applications.
- Notification - Via SNMP trap and email to inform person or management software when system status changes.
- Platform neutrality- Acer Smart Console uses a standard HTTP protocols. You can easily use a web browser to remotely manage servers running different operating systems. Acer Smart Console also provides cross-platform JAVA-based KVM redirection.
- Security - SSL (Secured Socket Layer) and auto session time out ensure higher security when using the Web UI through HTTPS. When using KVM and media redirection you can also encrypt the communication.
- Account management - Acer Smart Console implements role-based management. User accounts are separated into three levels: No access, operator and administrator. Acer Smart Console also provides LDAP Client Support.

# Software Installation

## Prerequisites on remote management PC

Before installing Java tool and UPnP tool, make sure your system have the following configuration requirements:

- Supported environments - Microsoft Windows Vista, XP, Windows 2000, 2003, 2008 Server.
- JAVA Recommended Version 6 Update 12 (file size: ~ 7 MB)

## Installing the Java Tool

Follow the instructions below to install Java in a Windows operating system.

- 1 Go to <http://www.java.com>.
- 2 Click **Downloads**.
- 3 Click the **See all Java downloads here** link.
- 4 Click **Windows XP/Vista/2000/2003/2008 Online**.
- 5 Choose a folder location. (Save the file to a known location on your computer.)
- 6 Click **Save**.
- 7 If you have previously downloaded this version of java, click **Yes**.
- 8 Verify the following:
  - (1) Name of the file is jre-6u12-windows-i586-p.exe or later version.
  - (2) Size is approximately 7 MB.
- 9 Close all applications including the browser.
- 10 Double-click on the saved file icon to start the installation process.

## Installing the UPnP tool

Follow the instructions below to get Intel Device Spy for UPnP Technologies tool:

- 1 Download Device Spy for UPnP Technologies from the Intel website: <http://www.intel.com>.
- 2 Enter **Intel Tools for UPnP Technologies** in the Search box.  
The download page changes from time to time, so doing a search will give you the best results.
- 3 Save the compressed file on your computer and uncompress it. The file will have a filename similar to the following:

*Download, Windows installer, .NET CLR 2.0 runtime required (ZIP 3.7MB)*

The ZIP file will contain an EXE file that will have a filename similar to the following:

*Intel\_Tools\_4UT\_v1768.exe*

- 4 Run the EXE file. The Device Spy.exe file becomes available. The Device Spy.exe file contains the *Intel Device Spy for UPnP Technologies* program.

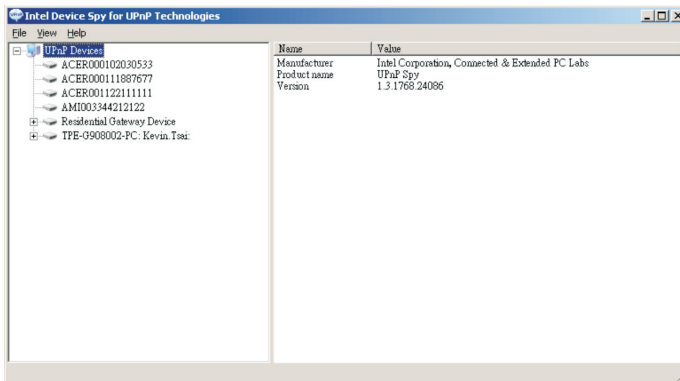
Intel Device Spy is a universal control point (UCP) that supports manual diagnostics for individual actions and events. Device Spy also traces packets sent to UPnP devices.

For more information on how to use Intel Device Spy for UPnP Technologies see the documentation provided with it.

## Using the UPnP tool to search for a server

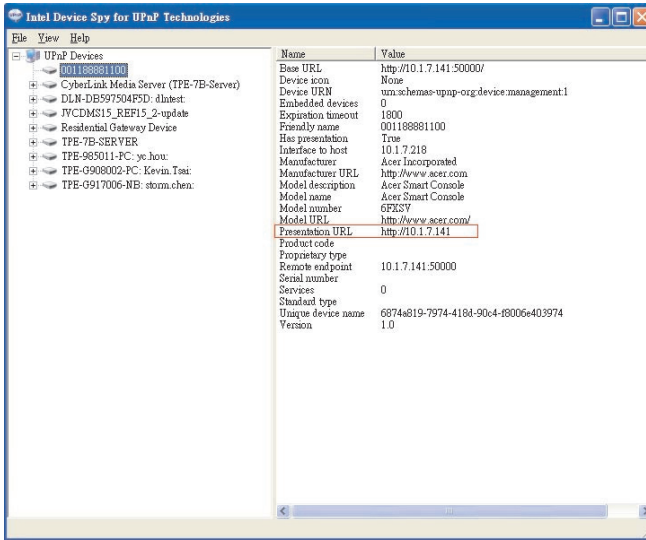
Follow the instructions below to search a server:

- 1 Download and install the Intel Device Spy for UPnP Technologies program onto your remote client system. Refer to "Installing the UPnP tool" for more information.
- 2 Run the Intel Device Spy for UPnP Technologies program. The name Acer Smart Console devices display on the left pane, under the UPnP Devices tree.



- 3 Select Acer Smart Console device to view its properties on the right pane.

- Click on the IP address located in the Presentation URL field to connect to your server.



- System will prompt a window for the user name and password.
- Enter the default user name and password.
  - Username: root
  - Password: superuser
- Click **Login** to log on to your Acer Smart Console.



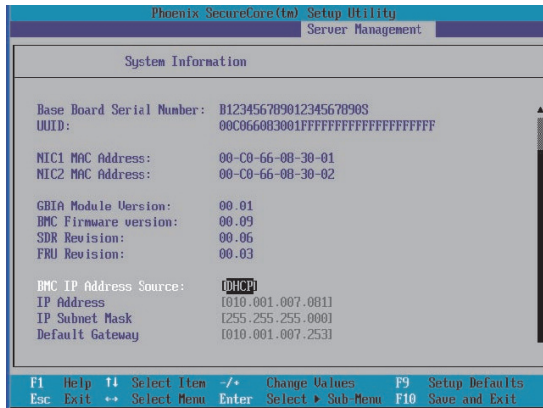
**Note:** The default user name is **root** and the default password is **superuser**. Both user name and password are case sensitive and should be entered in lower case each time.

## Configuring the BMC NIC settings

You can configure the BMC NIC settings using DHCP or static IP addressing.

Configuring the BMC NIC settings using DHCP

- 1 Enter the BIOS setup (see "**Entering BIOS Setup**" on page 59).
- 2 Select **Server Management** menu.
- 3 Select **System Information** then press <Enter>.
- 4 Select **BMC IP Address Source** then press <Enter>.
- 5 Select **DHCP**.

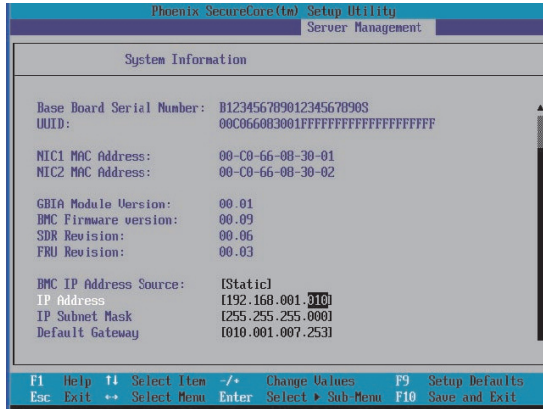


- 6 Press <F10>.
- 7 Select **Yes** to save the modified password and close the Setup Utility.

Configuring the BMC NIC settings using a static IP address

- 1 Enter the BIOS setup (see "**Entering BIOS Setup**" on page 59).
- 2 Select **Server Management** menu.
- 3 Select **System Information** then press <Enter>.
- 4 Select **BMC IP Address Source** then press <Enter>.

## 5 Select **Static**.



- 6 Enter the static IP address in the IP Address field.
- 7 Enter the IP subnet mask and default gateway settings in their respective fields.
- 8 Press <F10>.
- 9 Select **Yes** to save the modified password and close the Setup Utility.

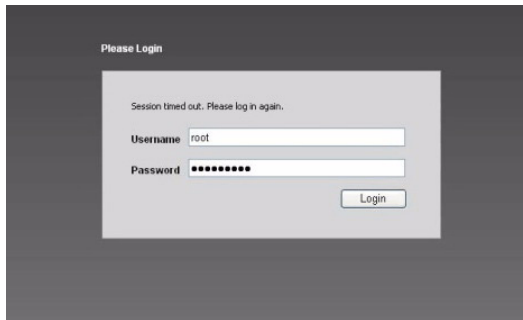


# Accessing Acer Smart Console

You can use the Intel Device Spy for UPnP technologies tool or a web browser to access the Acer Smart Console.

Accessing the Acer Smart Console using Intel Device Spy

- 1 Run the Intel Device Spy for UPnP Technologies program.
- 2 Click on the server name under the UPnP Devices tree.
- 3 Click on the IP address located in the Presentation URL field to connect to your server. The system will prompt you to enter the user name and password.



- 4 Enter the root user name and password in the login screen.
  - Username: root
  - Password: superuser
- 5 Click **Login**. The Acer Smart Console page appears.



-----

**Note:** The default user name is **root** and the default password is **superuser**. Both user name and password are case sensitive and should be entered in lower case each time.



-----

**Important:** Logging into the console allows you full administrative rights. Once logged in, you should change your password.

### Accessing the Acer Smart Console using the Web browser

- 1 Open your web browser and enter the system's IP address. You will be prompted to enter a username and password.
- 2 Enter the root user name and password in the login screen.
  - Username: root
  - Password: superuser
- 3 Click **Login**. The Acer Smart Console page appears.



.....

**Note:** The default user name is **root** and the default password is **superuser**. Both user name and password are case sensitive and should be entered in lower case each time.

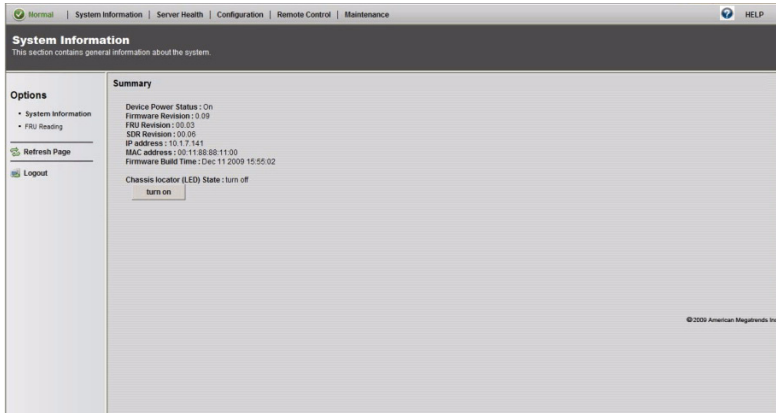


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**Important:** Logging into the console allows you full administrative rights. Once logged in, you should change your password.

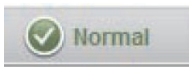
# Acer Smart Console user interface

The Acer Smart Console page opens once you have logged in. This page provides a central location for managing all connected servers. The user interface includes a system status alert indicator, function list, menu bar, function title, section information, and an online help.

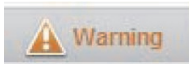


## System status indicator

The system status indicator, located in the upper left-hand corner of the Acer Smart Console page, monitors and displays the system health and stability. The system sensors allow you to monitor the system's hardware parameters, such as fan performance, temperature sensors, voltages, and power status. The following are the different system health statuses that may be displayed on the console.



The system is in good health and no alerts were detected on the sensors.



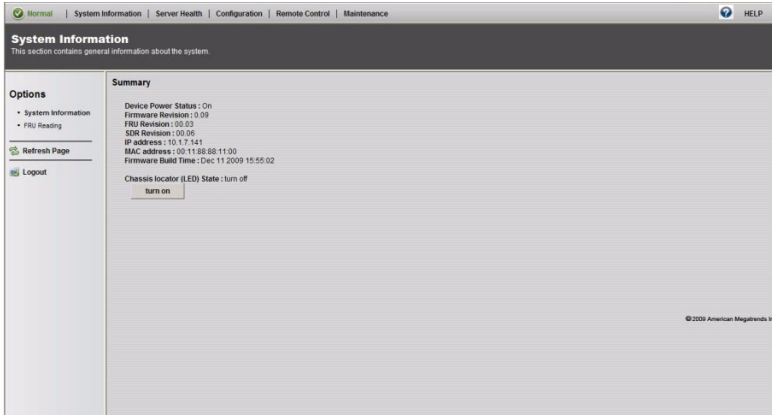
At least one sensor has a warning alert.



At least one sensor has critical alert.

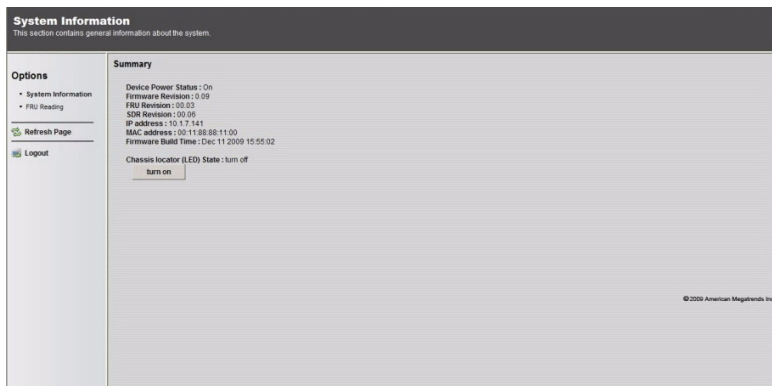
# System Information

The System Information menu includes options that allow you to view general system information and the system FRU (field replaceable unit). Selecting the System Information menu displays the system information and FRU readings options in the left pane.



## System Information

Displays general server information, such as the power status, management network IP and management controller MAC address, BMC firmware version and build time, FRU revision and SDR revision and allows you to manage the chassis LED indicator.



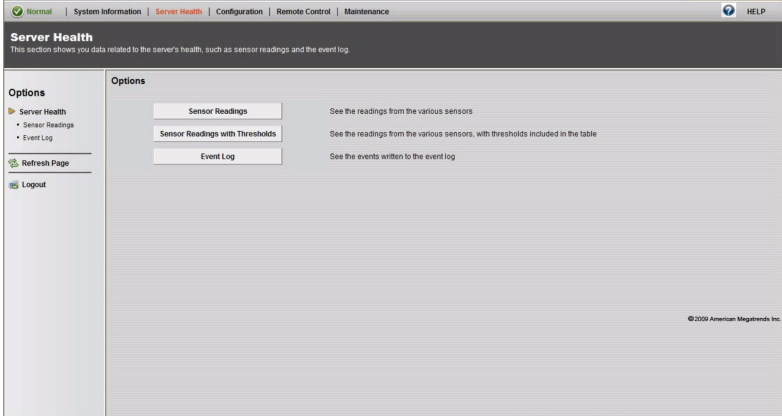
## FRU Reading

Provides information about major system components, including chassis, mainboard, and product information.

The screenshot displays a web interface for 'System Information'. The page title is 'System Information' and a subtitle reads 'This section contains general information about the system.' On the left, there is a sidebar with 'Options' including 'System Information', 'FRU Reading', 'Refresh Page', and 'Logout'. The main content area is titled 'FRU Readings' and contains the following text: 'This page displays system FRU information, including readings and status.' Below this, there is a dropdown menu for 'Selected a FRU type category:' set to 'All FRU'. A 'FRU Information' dropdown is also visible. The 'FRU Device ID:' is '0'. Under 'Chassis Info:', the details are: 'Chassis Type: Rack Mount Chassis', 'Chassis Part Number: 00000001', and 'Chassis Serial Number: 01234567890123456789AB'. Under 'Board Info:', the details are: 'Language: English', 'MyDataTm: 2009r11113 0.9', 'Board Product Name: G4-6P1313', 'Board Serial Num: 01234567890123456789AB', and 'Board Part Num: 00000001'. A 'Product ID: Info:' label is present at the bottom of the board info section. The footer of the page reads '© 2009 American Megatrends Inc.'

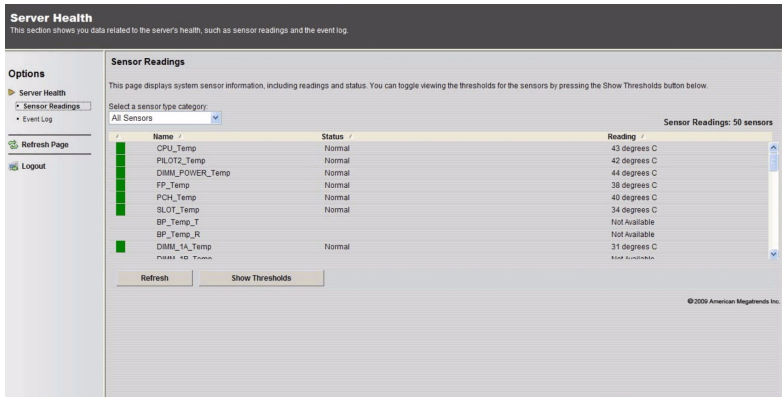
# Server Health

Displays data related to the server's health, such as sensor readings and the event log. This menu include two options: Sensor Readings and Event Log.



## Sensor Readings

Allows you to monitor status of the voltages of the power supply, the fan speed, processor and system temperature sensors.



## Sensor Color Display

Indicates the health condition of the system processor, fan, temperature, and voltage in a box displayed before each sensor category.

- Green - Indicates the sensor is in good health.
- Amber - Indicates the sensor is in warning status.
- Red - Indicates the sensor is in critical status.

## Threshold

Click **Show Thresholds** to view the threshold parameters of each sensor. It displays the Low Non-Recoverable (NR), High Non-Recoverable (NR), Low Non-Critical (NC), Low Critical Threshold (CT), High Non-Critical (NC), High Critical Threshold (CT) threshold information, and these items can not be modified. When each threshold matches alert level, system will send the alert to the specified destinations. To configure the specified destination, please go to **Alert** section. To refresh the sensor status, just click **Refresh**.

The screenshot displays the 'Server Health' dashboard. The main section is titled 'Sensor Readings' and contains a table of sensor data. The table has columns for Name, Status, Reading, and various threshold values (Low NR, Low CT, Low NC, High NC, High CT, High NR). The sensors listed are CPU\_Temp, PILOT2\_Temp, DIMM\_POWER\_Temp, FP\_Temp, PCH\_Temp, and SLOT\_Temp, all with a 'Normal' status. Below the table are 'Refresh' and 'Hide Thresholds' buttons. The footer of the dashboard indicates '© 2009 American Megatrends Inc.'

Name	Status	Reading	Low NR	Low CT	Low NC	High NC	High CT	High NR
CPU_Temp	Normal	43 degrees C	0 degrees C	0 degrees C	0 degrees C	87 degrees C	93 degrees C	99 degrees C
PILOT2_Temp	Normal	42 degrees C	0 degrees C	0 degrees C	0 degrees C	55 degrees C	60 degrees C	0 degrees C
DIMM_POWER_Temp	Normal	44 degrees C	0 degrees C	0 degrees C	0 degrees C	55 degrees C	60 degrees C	0 degrees C
FP_Temp	Normal	38 degrees C	0 degrees C	0 degrees C	0 degrees C	55 degrees C	60 degrees C	0 degrees C
PCH_Temp	Normal	40 degrees C	0 degrees C	0 degrees C	0 degrees C	55 degrees C	60 degrees C	0 degrees C
SLOT_Temp	Normal	34 degrees C	0 degrees C	0 degrees C	0 degrees C	45 degrees C	50 degrees C	0 degrees C

## Event Log

Provides a record of system events related to critical hardware components. It logs the events when the sensor triggers an abnormal state or is recovering from an abnormal state. When the log matches a pre-defined alert, the system will send out the notification automatically if pre-configured.

**Server Health**  
This section shows you data related to the server's health, such as sensor readings and the event log.

**Options**

- Server Health
  - Sensor Readings
  - Event Log
- Refresh Page
- Logout

**Event Log**

Below is a table of the events from the system's event log. You can choose a category from the pull-down box to filter the events, and also sort them by clicking on a column header.

Select an event log category:  
Sensor-Specific: Events

**Event Log: 34 event entries**

Event ID	Time Stamp	Sensor Number	Sensor Name	Sensor Type	Description
48	12/14/2009 15:38:02	134	SYS FAN	Fan	Lower Non-Critical - Going Low - Asserted
45	12/14/2009 15:37:24	57	Pwr Redundancy	Power Unit	Non-redundant, Sufficient Resources from Redundant - Asserted
44	12/14/2009 15:37:24	57	Pwr Redundancy	Power Unit	Redundancy Lost - Asserted
43	12/14/2009 15:37:24	57	Pwr Redundancy	Power Unit	Fully Redundant (Redundancy Regained) - Deasserted
42	12/14/2009 15:37:24	55	PSU1 Status	Power Supply	Power Supply Input Lost (AC/DC) - Asserted
41	12/14/2009 15:37:14	57	Pwr Redundancy	Power Unit	Non-redundant, Sufficient Resources from Redundant - Asserted
40	12/14/2009 15:37:14	57	Pwr Redundancy	Power Unit	Redundancy Lost - Asserted
39	12/14/2009 15:37:14	57	Pwr Redundancy	Power Unit	Fully Redundant (Redundancy Regained) - Deasserted
38	12/14/2009 15:37:14	65	PSU1 Status	Power Supply	Power Supply Input Lost (AC/DC) - Asserted

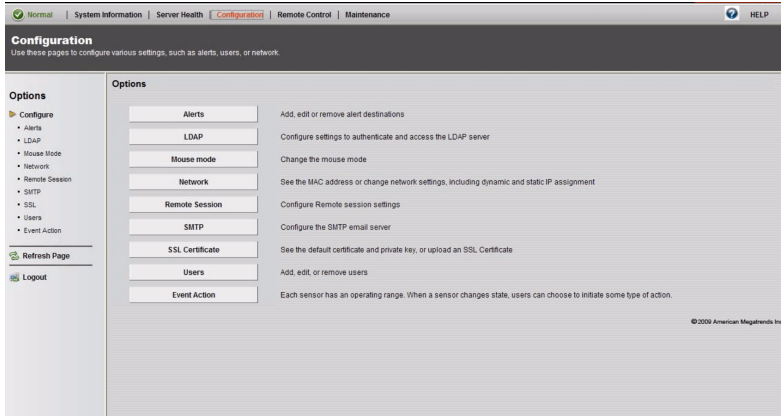
Clear Event Log

© 2009 American Megatrends Inc.



# Configuration

Allows you to designate email recipients for notification of system alerts, configure LDAP (Lightweight Directory Access Protocol) settings, configure the mouse mode settings, configure the network settings, configure the remote session settings, configure the SMTP email server settings, create an SSL certificate and, manage users, and initiate actions for a sensor alert.



The Configuration menu include the following configuration options:

- Alerts
- LDAP
- Mouse mode
- Network
- Remote Session
- SMTP
- SSL
- Users
- Event Action

## Alerts

Allows you to designate up to 15 email recipients for notification of system alerts. When alerts occur, the system will send an email or a SNMP (Simple Network Management Protocol) trap containing the event detail to the designated recipients.

**Configuration**  
Use these pages to configure various settings, such as alerts, users, or network.

**Options**

- Configure
  - Alerts
  - LDAP
  - Mouse Mode
  - Network
  - Remote Session
  - SMTP
  - SNMP
  - Users
  - Event Action
- Refresh Page
- Logout

**List of Alerts**

Below is a list of the configured alert destinations. You can select an alert and press the Modify button to configure it, or Send Test Alert to send a test alert to the destination.

LAN Channel: BMC Mgmt Channel 1 Alert Table: 15 entries

Alert #	Alert Level	Destination Address
1	Disable All	Not Configured
2	Disable All	Not Configured
3	Disable All	Not Configured
4	Disable All	Not Configured
5	Disable All	Not Configured
6	Disable All	Not Configured
7	Disable All	Not Configured
8	Disable All	Not Configured
9	Disable All	Not Configured
10	Disable All	Not Configured
11	Disable All	Not Configured

Modify    Send Test Alert    Delete

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The Alerts page allows you to do the following:

- **Modify** - Change the email address or the destination server.
- **Send Test Alert** - Sends a test alert to the designated email address.
- **Delete** - Removes the pre-set alert destination settings.

## Setting up alerts

You can set up notifications to be sent via SNMP traps or via email.

### Setting up SNMP traps

- 1 On the Alerts page, click **Modify**.

The screenshot shows a web interface for configuring alerts. The main heading is "Configuration" with a subtitle "Use these pages to configure various settings, such as alerts, users, or network." On the left is a sidebar with "Options" including "Configure" (with sub-items: Alerts, LDAP, Mouse Mode, Network, Remote Session, SMTP, SSL, Users, Event Action), "Refresh Page", and "Logout". The main content area is titled "Modify Alert" and contains the instruction "Enter the information for the alert below and press Save." The form fields are: "LAN Channel Number" (value: 1), "Alert Type" (dropdown menu: Snmp Trap), "Event Severity" (dropdown menu: Disable All), "Destination IP" (text input: Not Configured), "Email Address" (text input), "Subject" (text input), and "Message" (text input). At the bottom are "Save" and "Cancel" buttons.

- 2 Select Snmp Trap from the Alert Type drop-down menu.
- 3 Specify the event severity, such as Critical or Warning.
- 4 Enter the IP information.
- 5 Click **Save**.

### Setting up email notifications

- 1 On the Alerts page, click **Modify**.
- 2 From the Alert Type menu, select e-mail.
- 3 Specify the event severity, such as Critical or Warning.
- 4 Enter the recipient's email address.
- 5 Enter a subject and message.
- 6 Click **Save**.

## LDAP

Allows you to download user account list and the authentication from the LDAP server and create Acer Smart Console user account from this list.

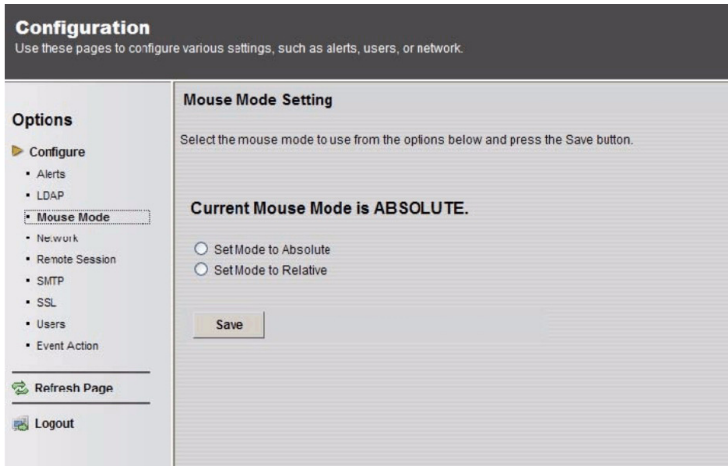
The screenshot shows the 'Configuration' page of the Acer Smart Console. The page title is 'Configuration' with a subtitle 'Use these pages to configure various settings, such as alerts, users, or network.' On the left, there is a sidebar with 'Options' including 'Configure', 'Alerts', 'LDAP', 'Mouse Mode', 'Network', 'Remote Session', 'SMTP', 'SSL', 'Users', and 'Event Action'. Below the sidebar are 'Refresh Page' and 'Logout' buttons. The main content area is titled 'LDAP Settings' and contains the instruction: 'Check the box below to enable LDAP authentication and enter the required information to access the LDAP server. P'. There is a checkbox for 'Enable LDAP Authentication' which is currently unchecked. Below it are four input fields: 'Port' (containing '389'), 'IP Address', 'Searchbase', and 'Bind DN'. A 'Bind Password' field is also present. A 'Save' button is located at the bottom of the form.

### Configuring the LDAP settings

- 1 Click **Enable LDAP Authentication** on the LDAP Settings page.
- 2 Enter the required information to access the LDAP server.
- 3 Click **Save**.

## Mouse mode

The Mouse mode option allows you to set a mouse mode to control your mouse.



### Setting the mouse mode

- 1 Select a mouse mode from the Mouse Mode page.
  - Absolute - Select this setting when using a Microsoft Windows operating system.
  - Relative - Select this setting when using a Linux operating system.
- 2 Click **Save**.

## Network

Allows you to configure and change the management network parameters. You can configure the network settings manually or using DHCP (Dynamic Host Configuration Protocol).

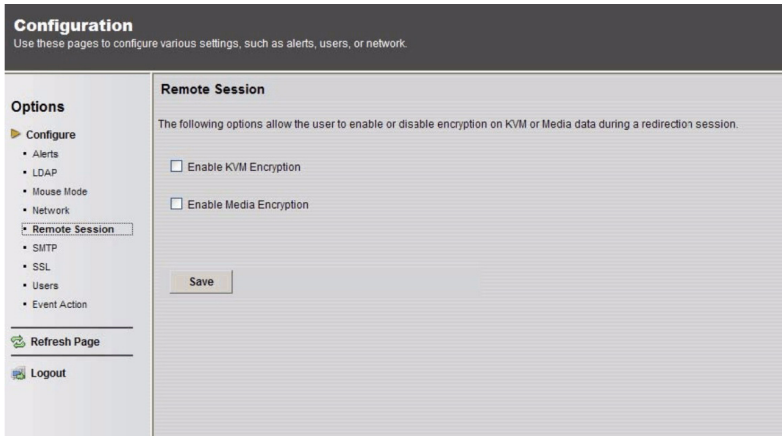
The screenshot shows the 'Configuration' interface of the Acer Smart Console. The main heading is 'Configuration' with a sub-heading 'Use these pages to configure various settings, such as alerts, users, or network.' Below this is a sidebar menu under 'Options' with a 'Configure' section containing: Alerts, LDAP, Mouse Mode, Network (selected), Remote Session, SMTP, SSL, Users, and Event Action. There are also 'Refresh Page' and 'Logout' options. The main content area is titled 'Network Settings' and contains the text: 'You can view and modify the network settings on this page. Select whether to obtain an IP address automatically or manually configure one.' The settings include: LAN Channel Number (dropdown menu set to 1), MAC Address (text field: 00:11:88:88:11:00), Current IP Address (text field: 10.1.7.141), IP configuration options (radio buttons for 'Obtain an IP address automatically (use DHCP)' and 'Use the following IP address'), IP Address (text field: 10.1.7.141), Subnet Mask (text field: 255.255.255.0), and Default Gateway (text field: 10.1.7.253). A 'Save' button is located at the bottom of the form.

### Configuring the network settings

- 1 On the Network Settings page, select whether to obtain an IP address automatically or configure the network settings manually.
- 2 Click **Save**.

## Remote Session

Allows you to enable or disable encryption on KVM (Keyboard, Video Mouse) or Media data during a redirection session.



### Configuring the Remote Session settings

- 1 On the Remote Session page, select whether to enable KVM or Media Encryption.
- 2 Select a Virtual Media Attach Mode.
- 3 Click **Save**.

## SMTP

Allows you to configure the SMTP (Simple Mail Transfer Protocol) mail server settings.

The screenshot shows the 'Configuration' page with a sub-section for 'SMTP Setting'. The page title is 'Configuration' and the subtitle is 'Use these pages to configure various settings, such as alerts, users, or network.' The left sidebar contains 'Options' with a tree view: 'Configure' (expanded), 'Alerts', 'LDAP', 'Mouse Mode', 'Network', 'Remote Session', 'SMTP' (selected), 'SSL', 'Users', and 'Event Action'. Below the sidebar are 'Refresh Page' and 'Logout' buttons. The main content area is titled 'SMTP Setting' and contains the instruction: 'Enter the IP address, User Name, Password, Sender Address and Machine Name for the SMTP Mail server below and press the Save button.' The form fields are: 'LAN Channel Number' (a dropdown menu with '1' selected), 'SMTP Server IP:' (a text input field), 'User Name:(Optional)' (a text input field), 'Password:(Optional)' (a text input field), 'Sender Address:' (a text input field), and 'Machine Name:' (a text input field). A 'Save' button is located at the bottom of the form.

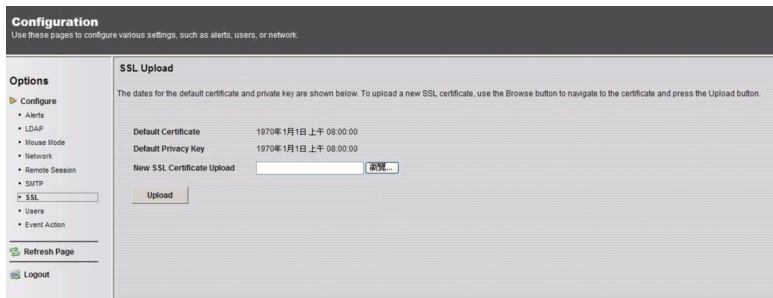
### Configuring the SMTP settings

- 1 On the SMTP Setting page, select a LAN channel number.
- 2 Enter the IP address of the SMTP server.
- 3 Enter the username and password.
- 4 Enter the email address for sending email notifications.
- 5 Enter the machine name.
- 6 Click **Save**.



## SSL

Allows you to upload a SSL certificate.

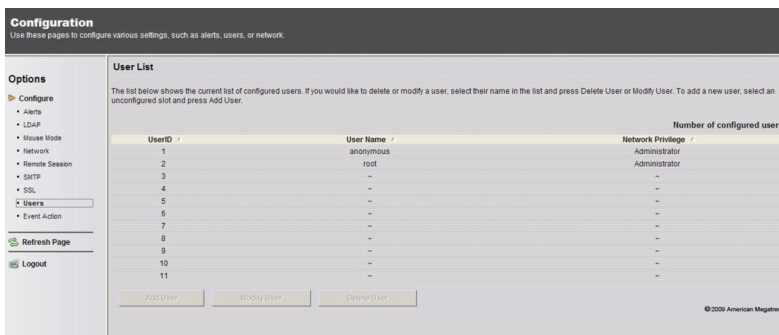


Uploading an SSL certificate

- 1 On the SSL Upload page, click **Browse** to locate the SSL certificate on your system.
- 2 Click **Upload**.

## Users

Allows you to create, edit, delete, and view user accounts from the user list.



To configure user accounts in the User List page, you can select from the following command buttons:

- Delete User - Removes the user from the list.
- Modify User - Edits the user profile.
- Add User - Creates a new user account.

## User Privileges

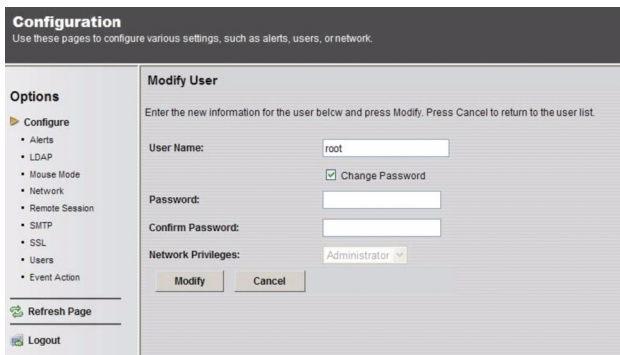
The User List page includes a privilege setting for determining the maximum privilege a user can have to the system. Users can be configured to have certain access permissions, such as administrator privilege, operator privilege, no access. The BMC (Baseboard Management Controller) maintains a local database of remote access users and their privileges. When the user logs in to the console, BMC determines the user's privileges and executes commands according to the privilege level.

The table below lists the privilege levels you can assign to a user.

Privilege level	Description
No access	Users assigned this privilege have the least amount of system access. This is considered the lowest privilege level.
Operator	The operator privilege has restricted access. All BMC commands are allowed, except for the configuration commands that allows the user to change the behavior of the out-of-band interfaces. Operator privilege can not disable individual channels or change user access privileges.
Administrator	The administrator privilege has full access and can configure the software and add users. Administrator privilege have access to all BMC commands, including configuration commands for disabling a communication channel.

## Modifying a user account

- 1 Click **Modify User** on the Users page.

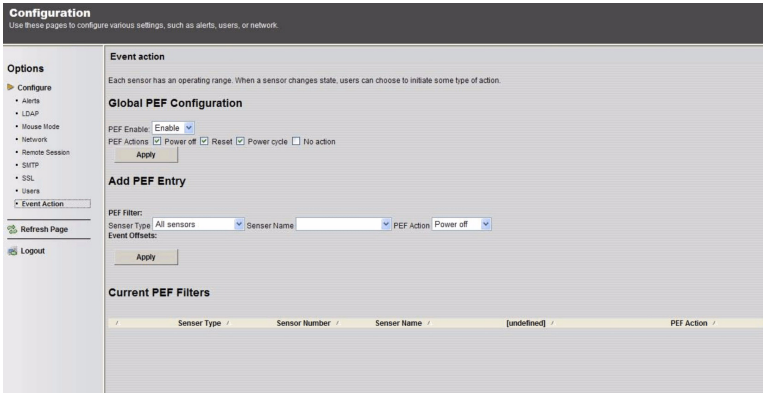


The screenshot shows a web interface for configuration. At the top, a dark header contains the word "Configuration" and a subtitle: "Use these pages to configure various settings, such as alerts, users, or network." Below this is a sidebar with "Options" and a "Configure" section containing a list of settings: Alerts, LDAP, Mouse Mode, Network, Remote Session, SMTP, SSL, Users, and Event Action. At the bottom of the sidebar are "Refresh Page" and "Logout" buttons. The main content area is titled "Modify User" and contains the instruction: "Enter the new information for the user below and press Modify. Press Cancel to return to the user list." The form includes: a "User Name:" field with "root" entered; a "Change Password" checkbox which is checked; a "Password:" field; a "Confirm Password:" field; a "Network Privileges:" dropdown menu set to "Administrator"; and "Modify" and "Cancel" buttons at the bottom.

- 2 Enter the username.
- 3 Enter the password.
- 4 Re-enter the password.
- 5 Select a privilege level from the Network Privileges drop-down menu.
- 6 Click **Modify**.

## Event Action

Allows you to initiate actions on a sensor alert. You can set system power off, power reset or power cycle when an event occurred.

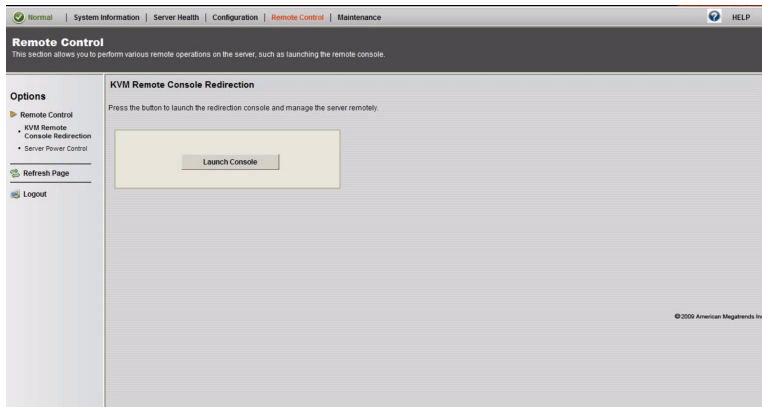


The table below lists the event actions.

Action	Description
Global PEF Configuration	Enables or disables the power off, power reset, power cycle action.
Add PEF Entry	Select sensor type and sensor name. After the Event Offsets table displays, you can select the PEF action and event offsets.
Current PEF Filters	Displays a list of the sensors associated with a component/system. The list includes sensor type, sensor number, sensor name, and PEF action.
Delete PEF Entry	Removes a PEF entry.

# Remote Control

The Remote Control menu allows you to start a Remote Console session with the host system and manage power remotely. This menu include two options: KVM Remote Console Redirection and Server Power Control.



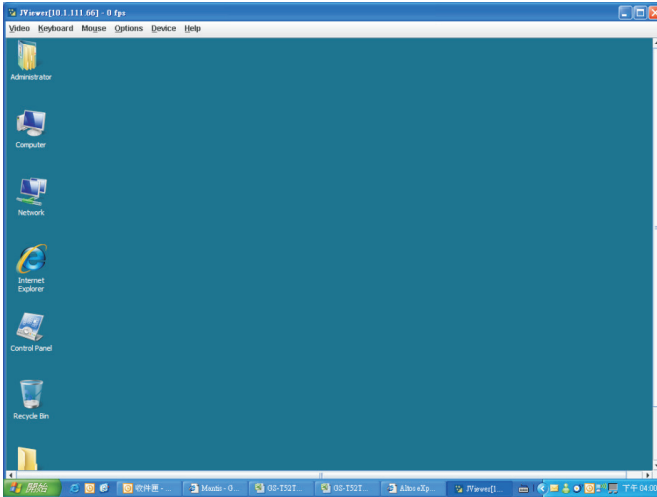
## KVM Remote Console Redirection

Allows you to start the KVM Remote Console utility and remotely manage the server using the monitor, mouse and keyboard as if you are connected directly to the server.

### Launching the KVM Remote Console utility

- 1 Click **Launch Console** on the Remote Control page.

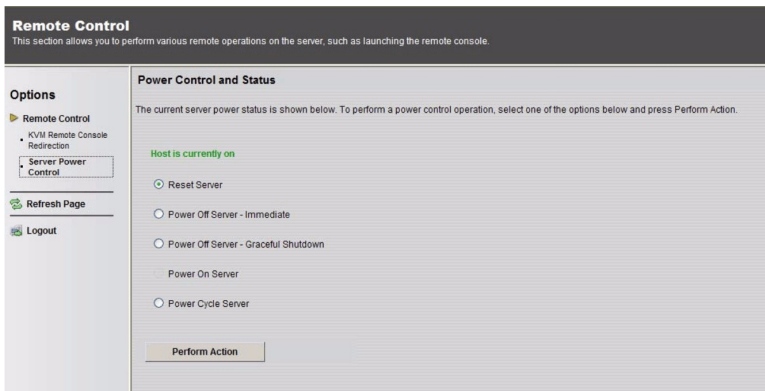
The web browser downloads and automatically launches the remote console application and the KVM Remote Console screen displays.



For more information about the KVM Remote Console application, refer to **"KVM Remote Console Utility"** on page 151.

## Server Power Control

Allows you to perform a remote power on, power off, power cycle, and reset of your server.

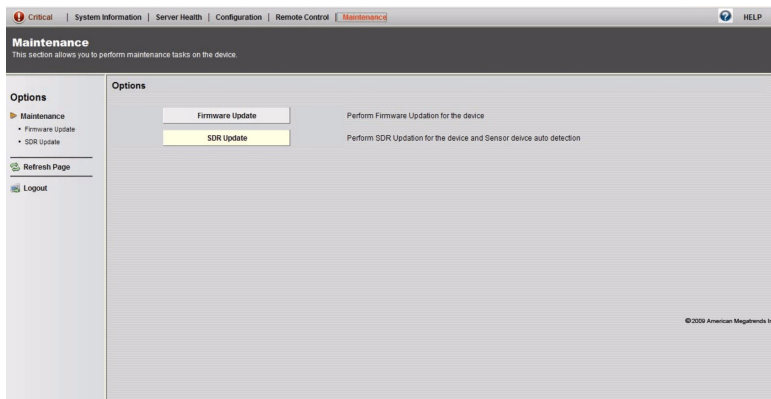


Performing a remote power control operation

On the Server Power Control page, select an option then click **Perform Action**.

# Maintenance

Allows you to perform a upgrade the BMC firmware (including Acer Smart Console and FRU information) and update the SDR file.

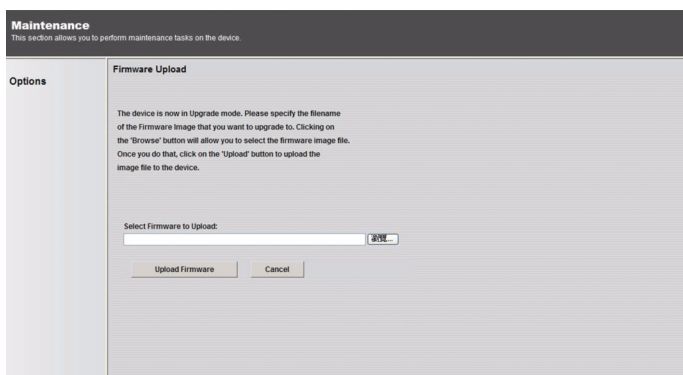


## Upgrading firmware

- 1 Click **Firmware Update** on the Maintenance page.
- 2 Click **Enter Update Mode**. The Firmware Upload page appears.



**Note:** You will not be able to perform any tasks until the upgrade is completed and the device is rebooted.



- 3 Click **Browse** to locate the firmware image file.
- 4 Click **Upload Firmware** to upload the image file to the server.

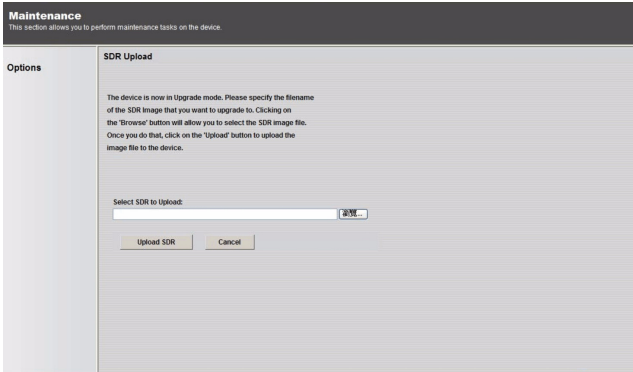
## Updating the SDR file

- 1 On the Maintenance Options page, click **SDR Update**.
- 2 Click **Enter Update Mode**. The SDR Upload page appears.



.....

**Note:** You will not be able to perform any tasks until the upgrade is completed and the device is rebooted.

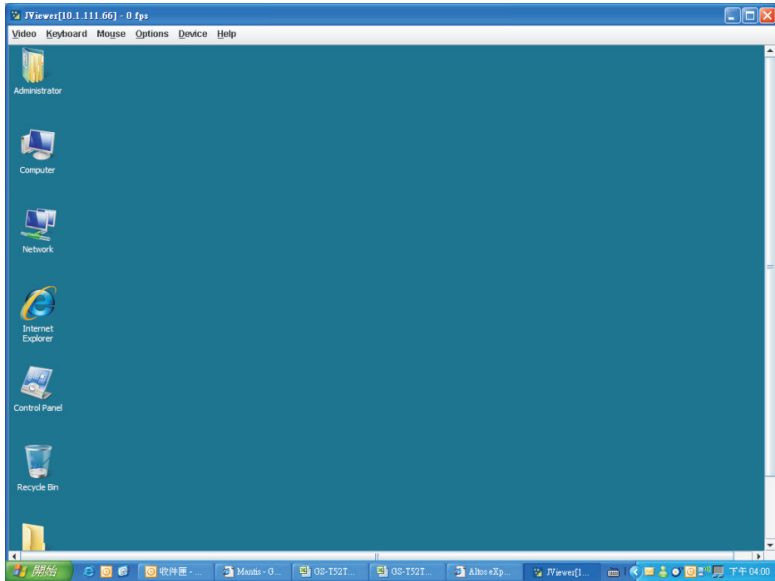


- 3 Click **Browse** to locate the SDR image file.
- 4 Click **Upload SDR** to upload the image file to the server.



# KVM Remote Console Utility

You can launch the KVM Remote Console utility from the Smart Console Remote Control menu. The KVM Remote Console utility enables you to control any programs on the server remotely, using a local keyboard, video and mouse.

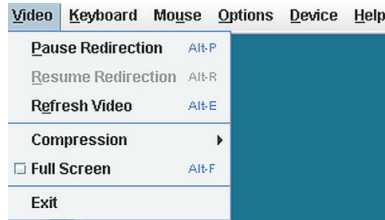


## Menu bar

The menu bar across the top of the KVM Remote Console screen contains the following menu options.

- Video
- Keyboard
- Mouse
- Options
- Device
- Help

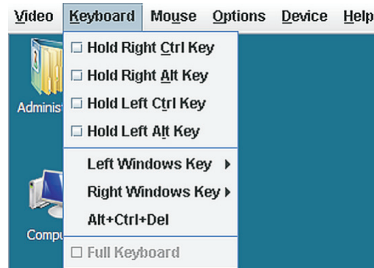
## Video menu



The Video menu includes the following command options:

- Pause Redirection - Temporarily pauses the KVM console redirection.
- Resume Redirection - Resumes KVM console redirection.
- Refresh Video - Reloads the KVM's viewer screen.
- Compression - Select a video compression type. Options include: None, Type I, Type II, Both
- Full Screen - Resizes the screen to full size of the local monitor.
- Exit - Closes the KVM's viewer window.

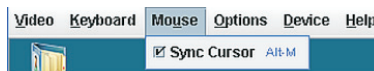
## Keyboard menu



The Keyboard menu includes the following command options:

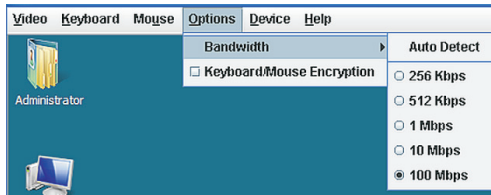
- Hold Right Ctrl Key - Select this option before typing keys you want to combine with the right <Ctrl> key.
- Hold Right Alt Key - Select this option before typing keys you want to combine with the right <Alt> key
- Hold Left Ctrl Key - Select this option before typing keys you want to combine with the left <Ctrl> key.
- Hold Left Alt Key - Select this option before typing keys you want to combine with the left <Alt> key.
- Left Windows Key - Select the Hold Down option before typing characters you want to combine with the right Windows key. Select the Press and Release option to send a left Windows key keystroke.
- Right Windows Key - Select the Hold Down option before typing characters you want to combine with the right Windows key. Select the Press and Release option to send a right Windows key keystroke.
- Alt+Ctrl+Del - Select this option to launch the Windows task manager.

## Mouse menu



The Mouse menu includes the Sync Cursor command that enables you to synchronize the client's mouse cursor to be redirected to the mouse on the server.

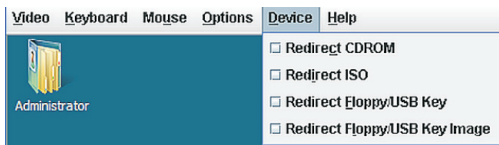
## Option menu



The Option menu includes the following command options:

- **Bandwidth** - Select auto-detect or manually select a bandwidth. Options include: 256 Kbps, 512 Kbps, 1 Mbps, 10 Mbps, and 100 Mbps.
- **Keyboard/Mouse Encryption** - Select to enable or disable keyboard/mouse encryption.

## Device menu

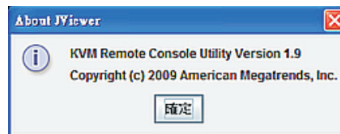


The Device menu allows you to redirect to any of the following device or image:

- CD-ROM drive
- ISO file
- Floppy/USB key
- Floppy/USB key image

## Help menu

The Help menu displays the KVM Remote Console utility version and copyright information.



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