AT350 F1 Series
User Guide

Acer AT350 F1 Series
User Guide

Acer AT350 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 plug as disconnecting device

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

- 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.
- This product is not suitable for use with visual display workplace devices according to B2 of the German Ordinance for Work with Visual Display Units.

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

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.

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**.

Regulations and safety notices

FCC notice

This device has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This 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 A 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 A digital apparatus complies with Canadian ICES-003.

Remarque à l'intention des utilisateurs canadiens

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

Compliant with Russian regulatory certification

Notice: BSMI

警告使用者：

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

Laser compliance statement

The CD or DVD drive used with this computer is a laser product.
The CD or DVD 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.

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.

Contents

1 System tour

System notes

The AT350 F1 is an outstanding 4U dual socket rack-mountable tower server that supports up to two new generations of Intel architecture processors (Intel® Xeon 5500 / 5600 series processors), DDR3 memory technology, PCI Express Gen2 (5.0Gb/s), dual onboard gigabit Ethernet controllers with Intel® I/O Acceleration Technology 2 (IOAT 2), VT-d and iSCSI boot and integrated BMC management feature.

The AT350 F1 targets small and medium businesses that require server solution combined with performance, reliability and expandability. AT350 F1 is a flexible and high reliability tower server that satisfies growing businesses and customers' needs.

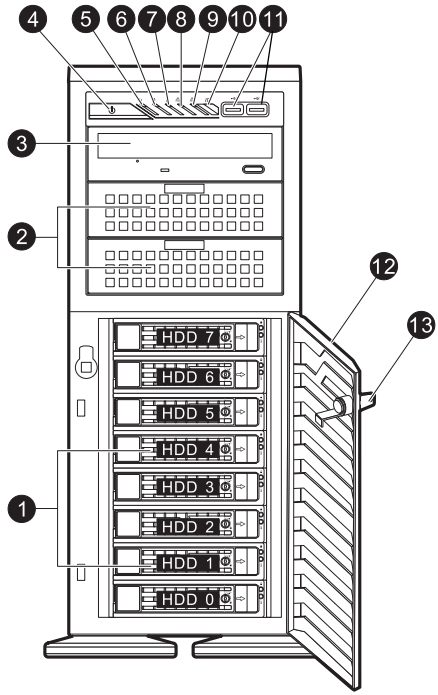
System features and support

- Supports up to eight 3.5-inch or sixteen 2.5-inch SAS/SATA hard disk drives
- Six USB ports (four on the rear panel and two on the front panel)
- Supports dual Intel® Xeon 5500 / 5600 series processors
- Eighteen DIMM slots that support a maximum of 192 GB (registered) or 48 GB (unbuffered) memory

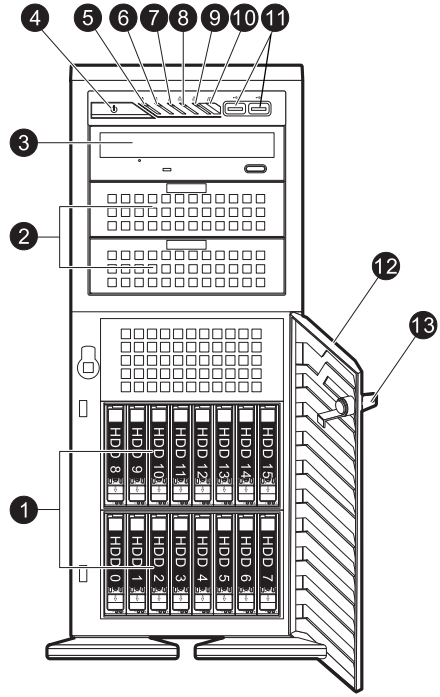
External and internal structure

Front panel

With 3.5-inch HDD bays



With 2.5-inch HDD bays



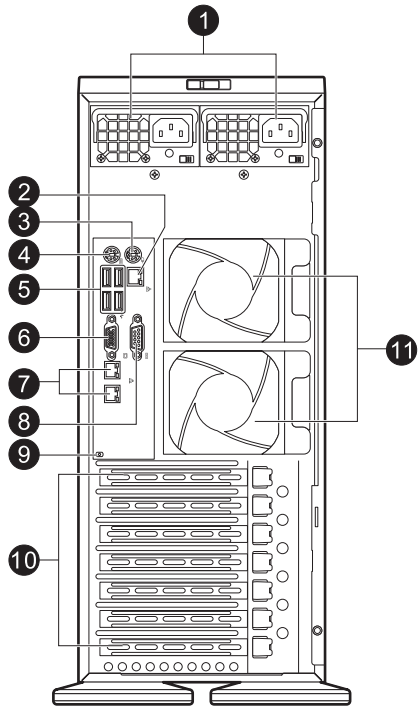
No.	Icon	Component	Description
1		Hard disk drive bays	Drive bays for 2.5-inch or 3.5-inch hard disk drives.
2		5.25-inch drive bays	Drive bays for 5.25-inch devices (i.e. ODD, tape drives, etc.)
3		Optical drive	Disk drive for reading CD, VCD, and DVD contents.
4	⏻	Power button	Press to turn the server on/off, or to put it in standby mode
5	⏻	Power indicator	Indicates the system power status.

No.	Icon	Component	Description
6		HDD activity indicator	Indicates the status of a system hard disk drive.
7		System status/fault indicator	Indicates the status of the system operations.
8		LAN port 1 activity indicator	Indicates the system network 1 connection status.
9		LAN port 2 activity indicator	Indicates the system network 2 connection status.
10	*ID*	System ID switch/ indicator	Indicates if the system ID button is pressed or activated through IPMI.
11		USB 2.0 ports	Connect to USB devices.
12		Bezel door	Unlock and open the bezel door to power on the server and access the server's hard drives and USB ports.
13		Security keylock	Secures the bezel door to protect the server unit from unauthorized access.

Front panel LED indicator status

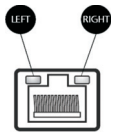
LED indicator	LED color	LED state	Status
Power state indicator 	Green	On	S0: Power On
	Green	Blink (1 Hz with at 50% duty cycle)	S1: Sleep
	N/A	Off	S4
	N/A	Off	S5
HDD activity indicator 	Amber	Blink	HDD access
	N/A	Off	No access and No HDD fault
System status 	Red	On	CPU overheat
	Red	Fast blink (once per second)	Fan failure
	Red	Slow blink (once every 4 seconds)	Power failure
	N/A	Off	Normal
LAN activity indicators LAN1  LAN2 	Green	On	LAN link/No access
	Green	Blink	LAN access
	N/A	Off	Disconnect/Idle
System ID indicator *ID*	N/A	Off	Normal
	Blue	On	System ID button pressed
	Blue	Blinking	IPMI-activated system ID

Rear panel



No.	Icon	Component	Description
1		Power supply module	Provides power to the system.
2	M	Server management port (10/100)	Reserved for remote management of server.
3		PS/2 mouse port	Connects to a PS/2 mouse.
4		PS/2 keyboard port	Connects to a PS/2 keyboard.
5		USB 2.0 ports	Connect to USB devices.

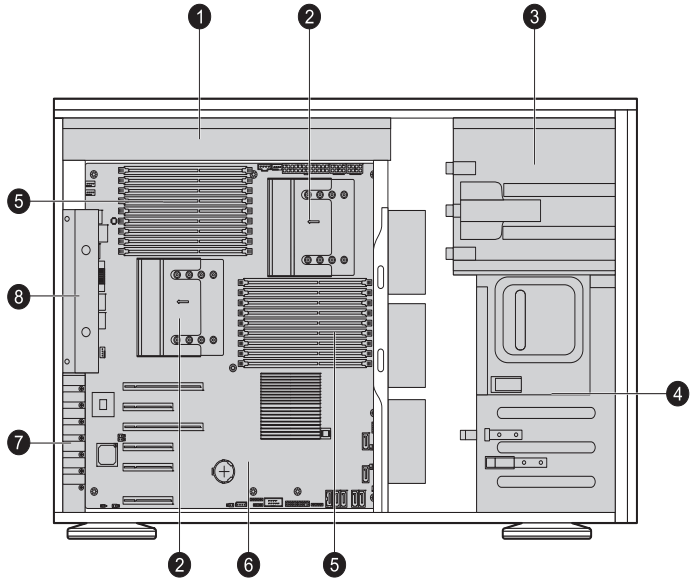
No.	Icon	Component	Description
6		Monitor port	Connects to monitors.
7		Gigabit LAN port	Connects to an internet or intranet network.
8		Serial port	Connects to serial devices.
9		Rear system ID switch	Press to mark the server unit within a server group (when rack mounted) for purpose of identification during servicing or maintenance procedures.
10		PCI slot covers	Protect the vacant expansion slots.
11		System fans	Regulate the system airflow.



LAN port LED indicator status

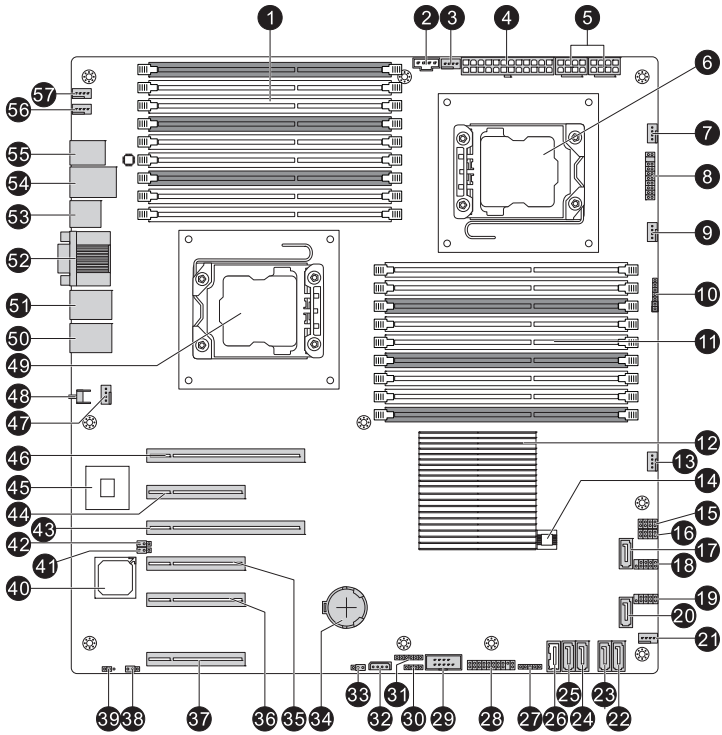
LED indicator	LED color	LED state	Status
RJ45 LED (left)	N/A	Off	No connection or 10 Mbps
	Green	On	100 Mbps
	Amber	On	1000 Mbps
RJ45 LED (right)	Yellow	On	Active connection
	Yellow	Blinking	Transmit/Receive activity

Internal components



No.	Component
1	Power supply
2	Heat sink fan (HSF) assemblies
3	Sliders for the 5.25" devices
4	HDD carriers
5	DIMM modules
6	Mainboard
7	PCI slot lock
8	System fans

Mainboard Layout



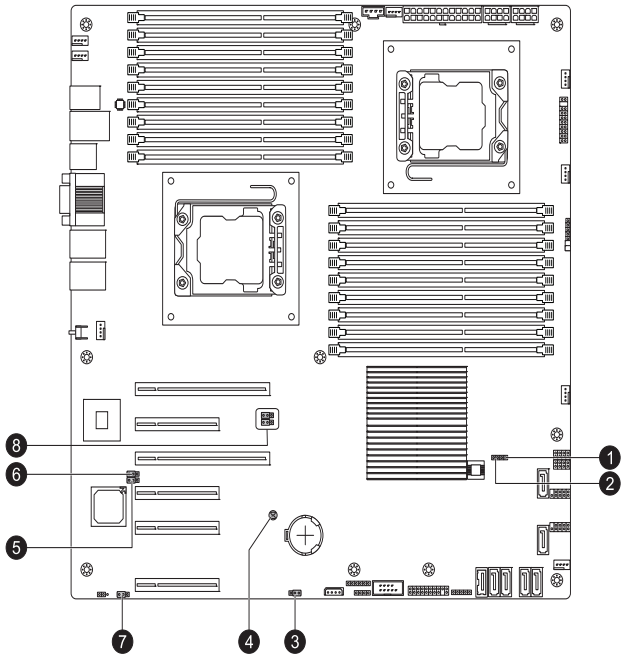
No.	Code	Description
1	P1 DIMM 3A, P1 DIMM 3B, P1 DIMM 3C, P1 DIMM 2A, P1 DIMM 2B, P1 DIMM 2C, P1 DIMM 1A, P1 DIMM 1B, P1 DIMM 1C,	DDR3 DIMM slots for processor 1
2	JI^{2}C1	Power supply SMBbus I^{2}C header
3	FAN7/CPU2	CPU2 fan header

No.	Code	Description
4	JPW1	24-pin ATX power connector
5	JPW2/JPW3	8-pin 12V power connectors
6	CPU2	Processor 2 socket
7	FAN1	System fan header
8	JF1	Front panel control header
9	FAN2	System fan header
10	JD1	Speaker/power LED indicator
11	P2 DIMM 3A, P2 DIMM 3B, P2 DIMM 3C, P2 DIMM 2A, P2 DIMM 2B, P2 DIMM 2C, P2 DIMM 1A, P2 DIMM 1B, P2 DIMM 1C,	DDR3 DIMM slots for processor 2
12	Intel IOH36 Chip	
13	FAN3	System fan header
14	Bios Chip/ Bios ROM	
15-16	T-SGPIO 1/2	Serial_Link General Purpose I/O Headers
17	I-SATA0	Intel SB SATA connector 0
18	USB 4/5	Front panel accessible USB connections
19	USB 6/7	Front panel accessible USB connections
20	I-SATA1	Intel SB SATA connector 1
21	FAN4	System fan header
22	I-SATA2	Intel SB SATA connector 2
23	I-SATA3	Intel SB SATA connector 3

No.	Code	Description
24	I-SATA4	Intel SB SATA connector 4
25	I-SATA5	Intel SB SATA connector 5
26	USB8	Front panel accessible USB connection
27	USB10	Front panel accessible USB connections
28	JTPM1	Trusted Platform Support Header
29	COM2	Serial connector 2
30	JL1	Chassis intrusion header
31	JP1	For debug only
32	IPMB	IPMB header (for an IPMI card)
33	JWD	Watch Dog jumper
34	JBAT1	Onboard battery holder
35	Slot3	PCI-E x8 slot (x4 signal)
36	Slot2	PCI-E x8 slot (x4 signal)
37	Slot0	Flex IO slot
38	JPL1	GLAN ports enable/disable jumper
39	JWOR1	Wake-On-Ring header
40	BMC CTRL	BMC controller
41	JPG1	VGA enable/disable jumper
42	JPB	BMC enable/disable jumper
43	Slot4	PCI-E x16 slot (x8 signal)
44	Slot5	PCI-E x8 slot (x4 signal)
45	LAN CTRL	LAN controller
46	Slot6	PCI-E x16 slot (x8 signal)

No.	Code	Description
47	FAN8/CPU1	CPU1 fan header
48	UID SW1	System ID button
49	CPU1	Processor 1 socket
50	LAN2	LAN2 port
51	LAN1	LAN1 port
52	COM1 VGA	Serial port (top) VGA port (bottom)
53	USB2/3	Rear panel USB ports
54	USB0/1	Rear panel USB ports
55	KB MS	PS/2 keyboard port PS/2 mouse port
56	FAN6	System fan header
57	FAN5	System fan header

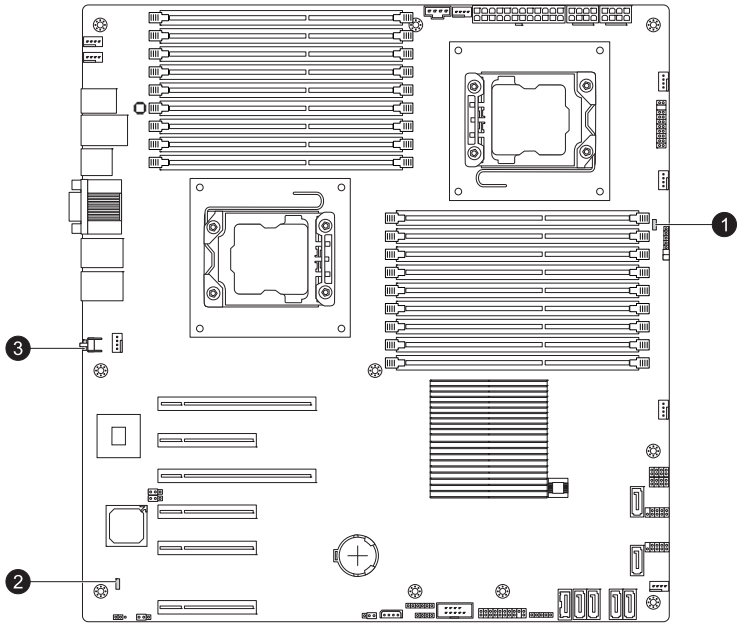
Mainboard jumper settings



No.	Code	Jumper	Default Setting
1	JP7	ME Mode Select	Open (Normal)
2	JP5	ME Recovery	Open (Normal)
3	JWD	Watch Dog	1-2 Close: Reset (default setting) 2-3 Close: NMI Open: Disabled
4	JBT1	Clear CMOS	To clear CMOS, use a metal object such as a small screwdriver to touch both pads at the same time to short the connection.
5	JPG1	Enable VGA	1-2 Close: Enabled (default setting) 2-3 Close: Disabled

No.	Code	Jumper	Default Setting
6	JPB	Enable BMC	1-2 Close: Enabled 2-3 Close: Normal (default setting)
7	JPL1	Enable GLAN ports	1-2 Close: Enabled (default setting) 2-3 Close: Disabled
8	JI^{2}C1/ JI^{2}C2	System Management Bus (I2C) to PCI and PCI-Express slots	Close: Enabled Open: Disabled (default setting)

Mainboard LEDs



No.	LED	Description	State	Status
1	LE1	Standby power LED	Green: On	Power on
2	LEM1	BMC heartbeat LED	Green: blinking	BMC normal
3	LE2	System ID switch LED	Blue	Unit identified

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:

- AT350 F1 system
- AT350 F1 accessory box

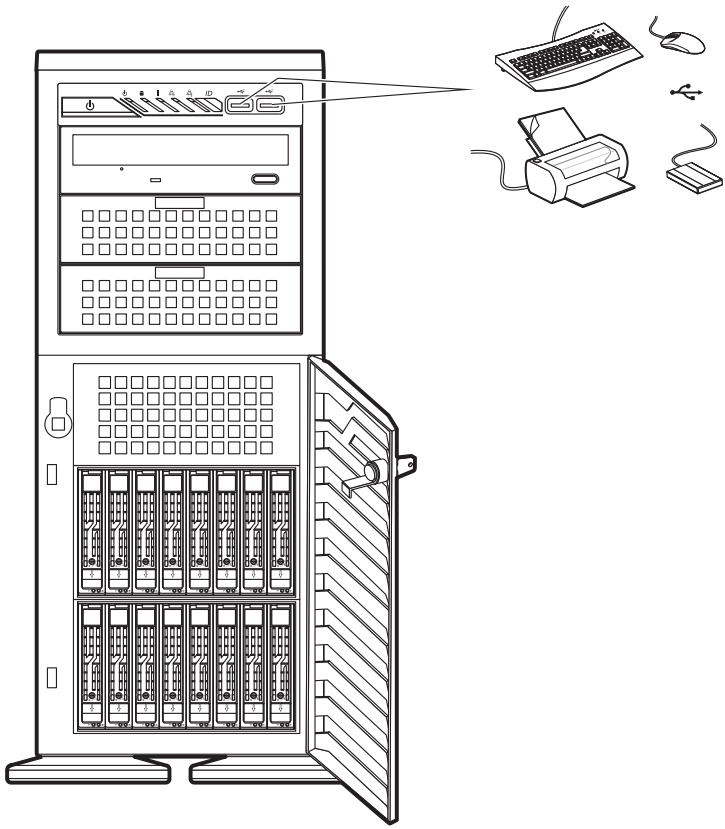
If any of the above items is damaged or missing, contact your dealer immediately.

Save the boxes and packing materials for future use.

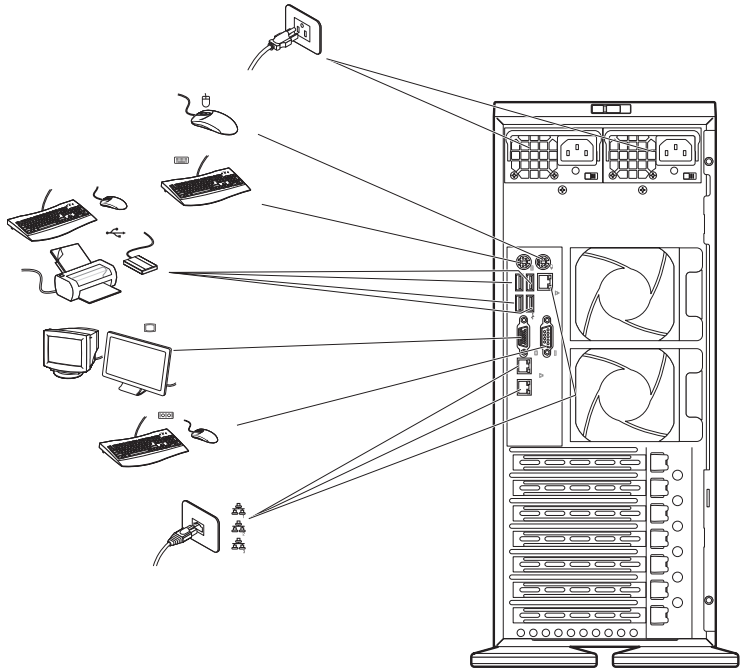
Connecting peripherals

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

Front connections



Rear connections



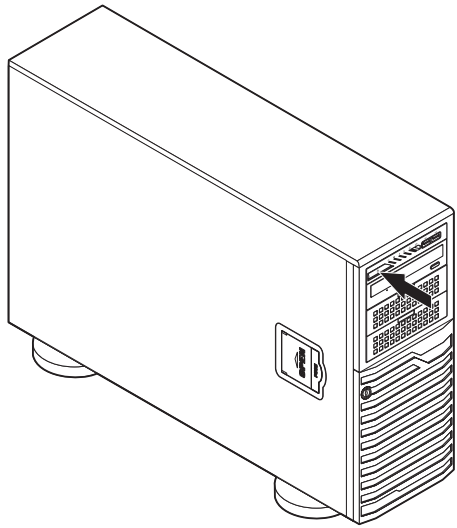
Note: Consult the operating system manual for information on how to configure the network setup.

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 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.

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

1 Locate the Smart Setup DVD included in the system package.

2 If an optional DVD drive is not installed in the server, connect an external DVD drive to your system. Press the Stop/Eject button on the DVD drive to eject the disc tray.

3 When the disc tray slides open, insert the Smart Setup DVD 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 CD-ROM 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 your 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 41.

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.

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 26.

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

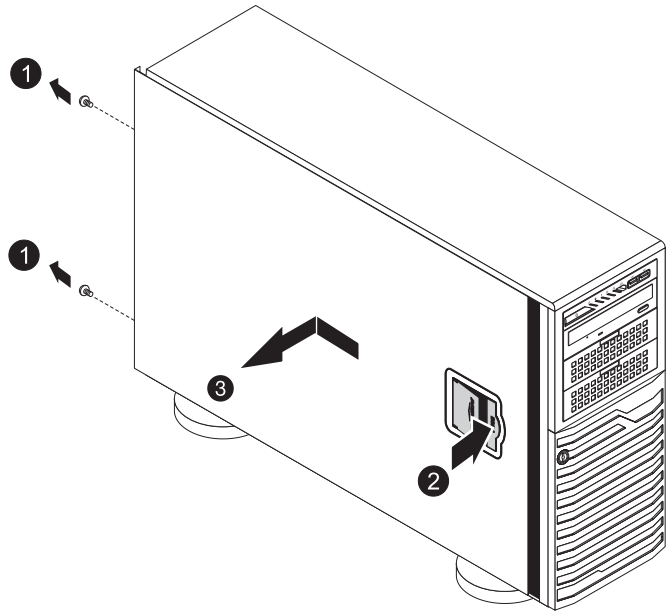
1 Observe the ESD precautions described on page 26.

2 Observe the pre-installation instructions described on page 26.

3 Remove the two screws (**1**) on the rear edge of the side panel.

4 Slide and hold the locking switch (**2**).

5 Slide the side panel toward the rear of the server to disengage it then lift the panel away from the server (**3**).



Installing the side panel

1 Observe the pre-installation instructions described on page 26.

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 screws.

Configuring the hard disk drive

The AT350 F1 accommodates up to eight 3.5-inch or sixteen 2.5-inch hot-plug SATA/SAS hard disk drives.

By default, the system is shipped with only one hard disk drive bay. To install additional hard disk drives in the second hard disk drive bay, you need to purchase the optional bay and SAS RAID controller.

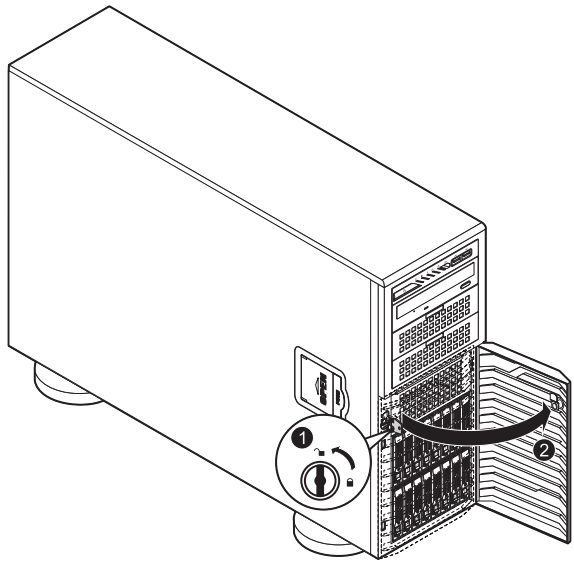
Note: Maximum HDD support is SKU-dependent.

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. Access the HDD bay door as follows:

1 Unlock the drive bay door.

2 Open the HDD bay door as shown.



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

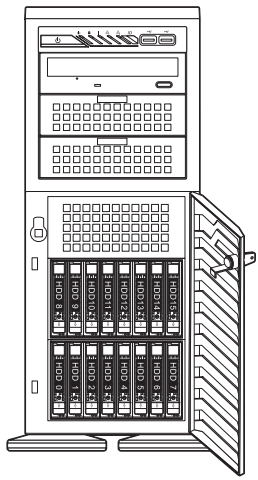
Caution! When working around the SATA backplane, do not touch the backplane with any metal objects and make sure no cables touch the backplane. Also, regardless of how many SATA drives are installed, all four drive carriers must remain in the chassis to maintain proper airflow.

Hard disk drive configuration guidelines

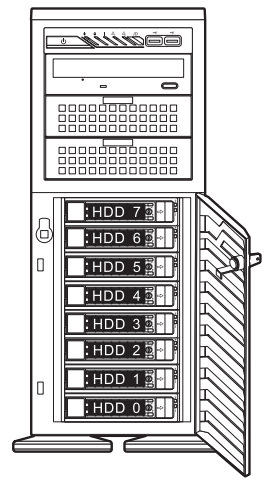
Observe these guidelines when replacing or installing a hard disk drive.

- Use only qualified SAS or SATA HDDs. To purchase a SAS or SATA 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 hard disk drive carriers must be installed in the following order:

2.5-inch HDD bays



3.5-inch HDD bays



Determining the drive status

Each HDD carrier features two status LED indicators (see page 6) 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.

3.5-inch HDD

2.5-inch HDD

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

Removing a hard disk drive with carrier

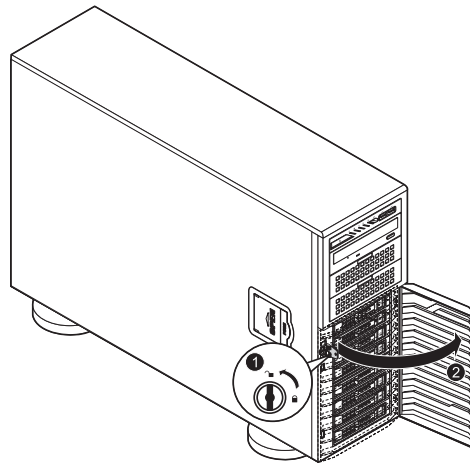
If you intend to replace a HDD and need to remove the old drive, proceed to the instructions below.

1 Observe the ESD precautions described on page 26.

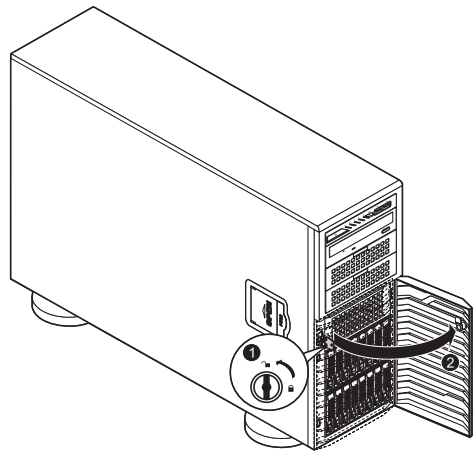
2 Observe the pre-installation instructions described on page 26.

3 If necessary, unlock (**1**) the bezel door then pull it open (**2**).

System with 3.5-inch HDD



System with 2.5-inch HDD



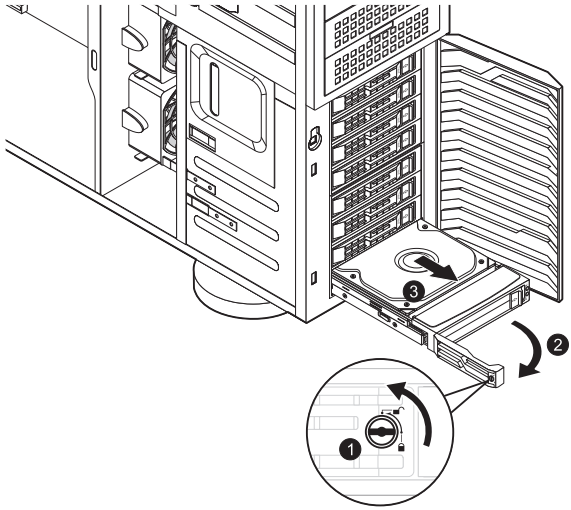
4 Remove the hard disk drive with carrier.

(1) Unlock the HDD carrier latch.

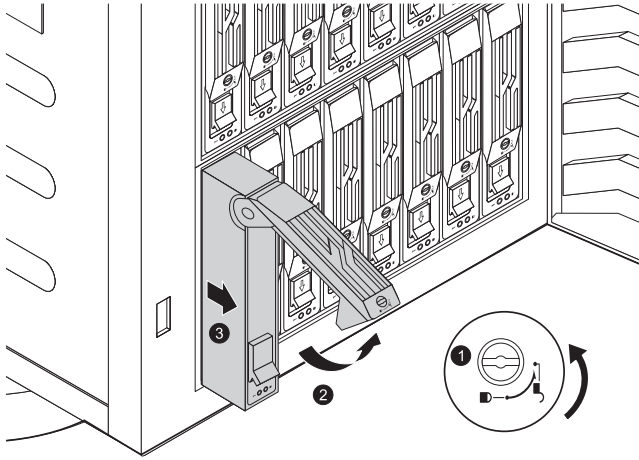
(2) Slide the HDD carrier latch to release the lever.

(3) Pull the lever and slide the carrier from the server.

3.5-inch HDD with carrier



2.5-inch HDD with carrier



5 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.

6 Close the bezel door.

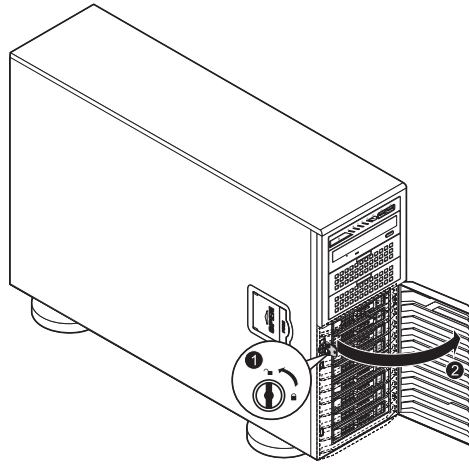
7 Observe the post-installation instructions on page 27.

Installing a hard disk drive with carrier

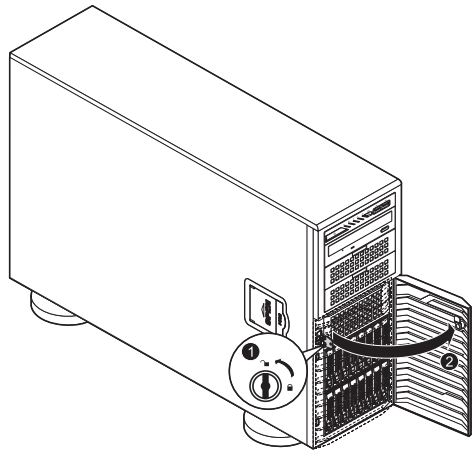
1 Observe the ESD precautions described on page 26.

2 If necessary, unlock the bezel door then pull it open.

System with 3.5-inch HDD



System with 2.5-inch HDD



3 Remove the hard disk drive cover.

Pull the HDD cover straight out of the drive bay.

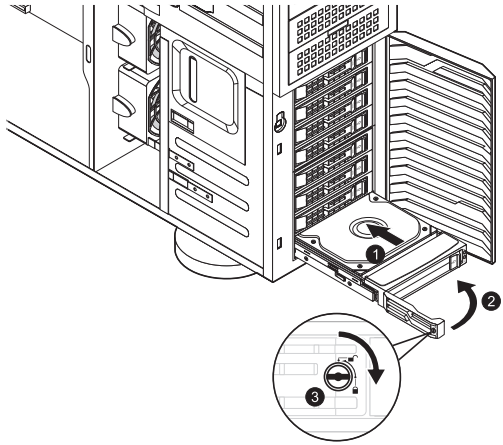
4 Install the hard disk drive with carrier.

(1) Use the lever to push the HDD carrier in the empty bay until it locks into place.

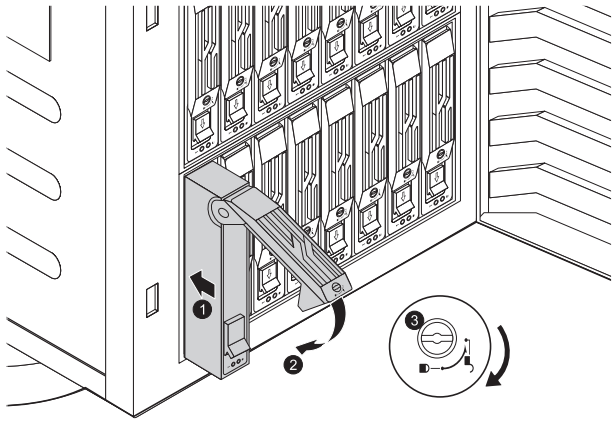
(2) Close the HDD carrier lever.

(3) Lock the HDD carrier.

3.5-inch HDD with carrier



2.5-inch HDD with carrier



5 Close the bezel door.

6 Observe the post-installation instructions on page 27.

Installing additional hard disk drives with carriers in the optional bay cage

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 26.

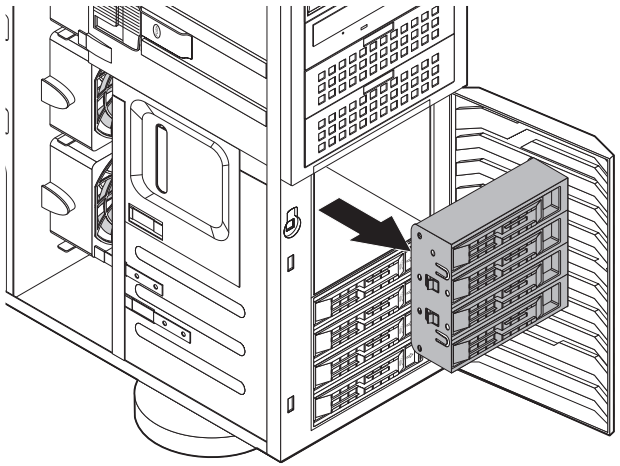
2 Observe the pre-installation instructions described on page 26.

3 Remove the side panel described on page 28.

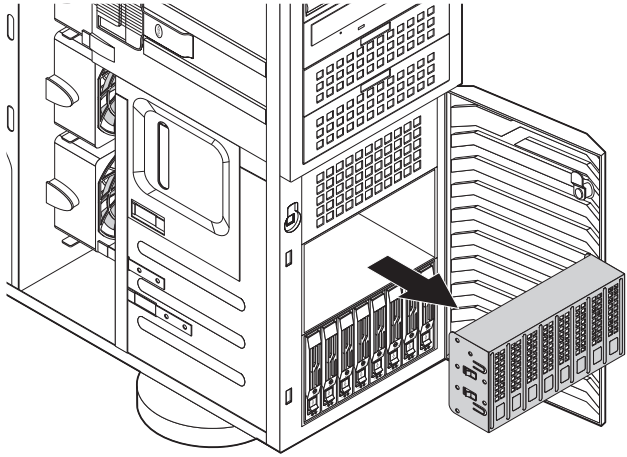
4 Unlock the bezel door then pull it open.

5 Pull the HDD cover straight out of the drive bay.

3.5-inch HDD bays

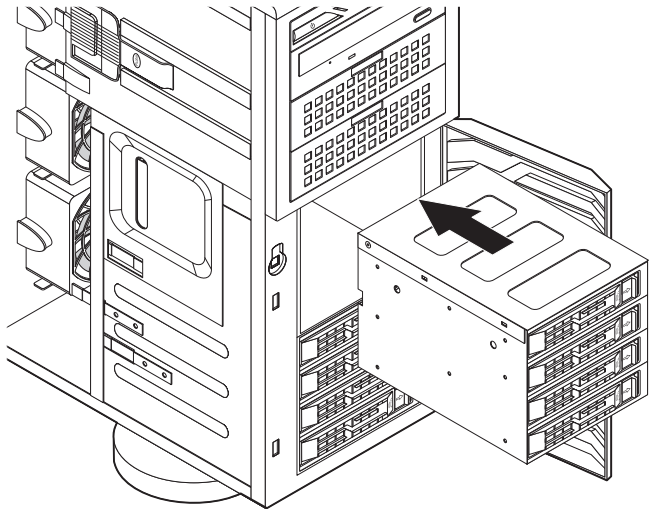


2.5-inch HDD bays

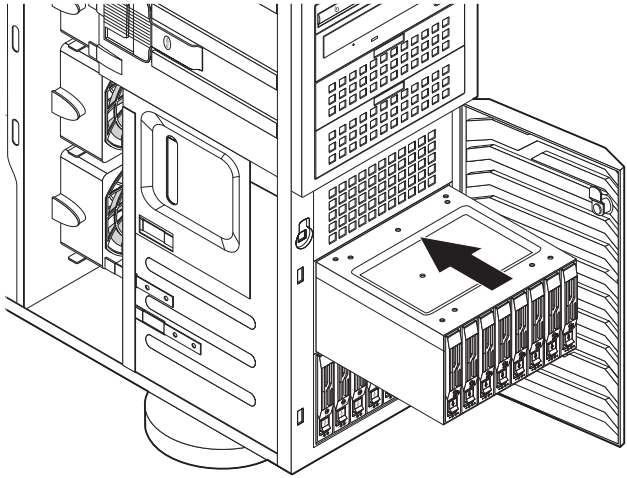


6 Install the optional hard disk drive bay cage by pushing it until it locks into place.

3.5-inch HDD bays



2.5-inch HDD bays



7 Install a hard disk with carrier into the optional hard disk drive bay (refer to the procedures in **"Installing a hard disk drive with carrier" on page 36**).

8 Plug the power and data cables of the carrier hard drives.

9 Re-install the side panel and close the bezel door.

10 Observe the post-installation instructions on page 27.

Configuring a 5.25-inch storage device

The three 5.25-inch device bays support a variety of storage devices for additional storage capacity and scalability.

By default, the system ships with a DVD-ROM 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.

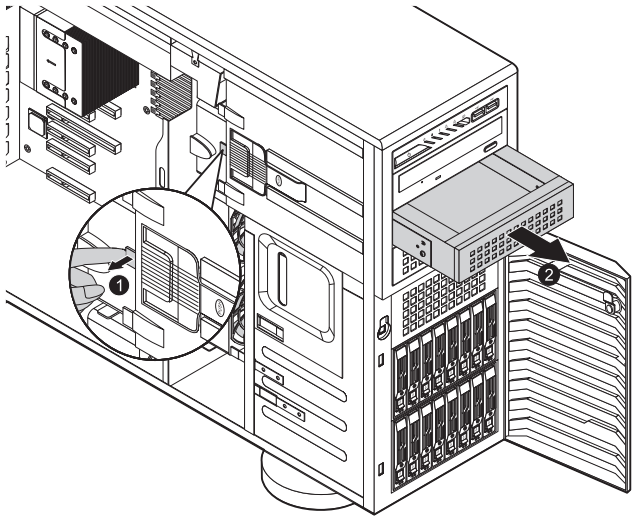
Installing an optional 5.25-inch storage device

1 Perform the pre-installation instructions described on page 26.

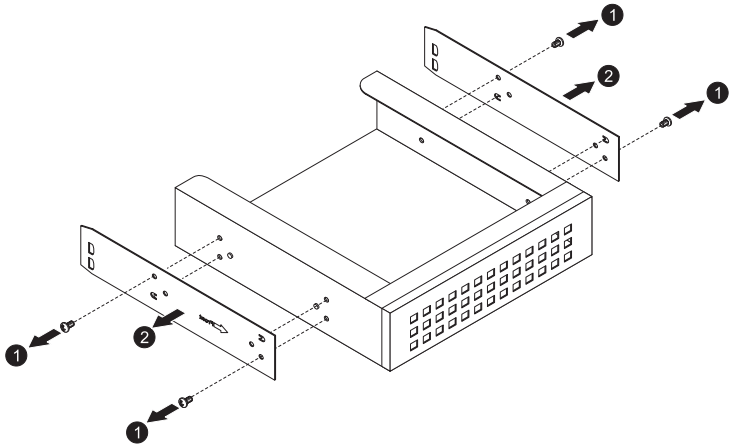
2 Remove the side panel described on page 28.

3 Pull the locking tab (**1**) to release the empty 5.25-inch drive cage.

4 Pull out the empty 5.25-inch drive cage (**2**).

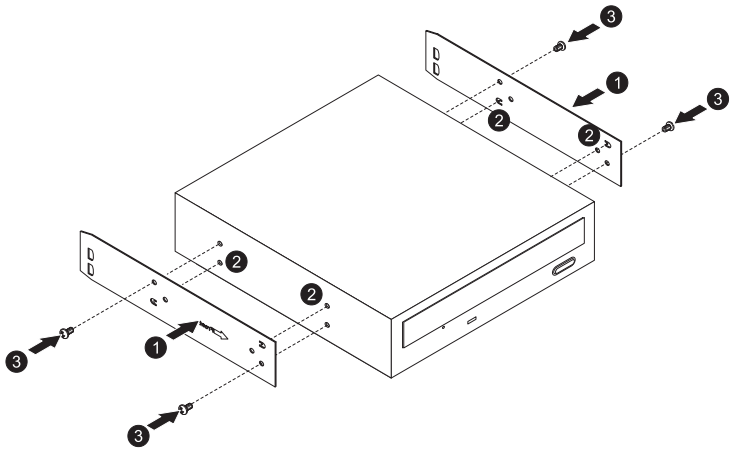


5 Remove the four screws (**1**) that attach the metal brackets to the empty 5.25-inch drive cage. Detach the metal brackets (**2**).



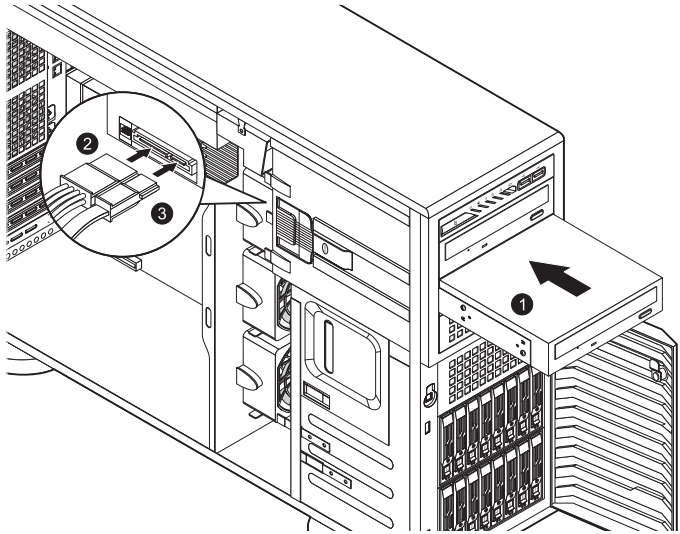
6 Align the metal brackets with the new storage device and make sure the arrow (**1**) is pointing to the front. Align the notches on the brackets with the holes (**2**) on the device.

7 Use four screws to secure the metal brackets to the new 5.25-inch storage device.



8 Insert the new 5.25-inch storage device with brackets into the bay (**1**). The drive is properly inserted if you hear a click and the locking tab locks into place.

9 Connect the power (**2**) and SATA cables (**3**) to their connectors on the main board.



10 Re-install the side panel and close the bezel door.

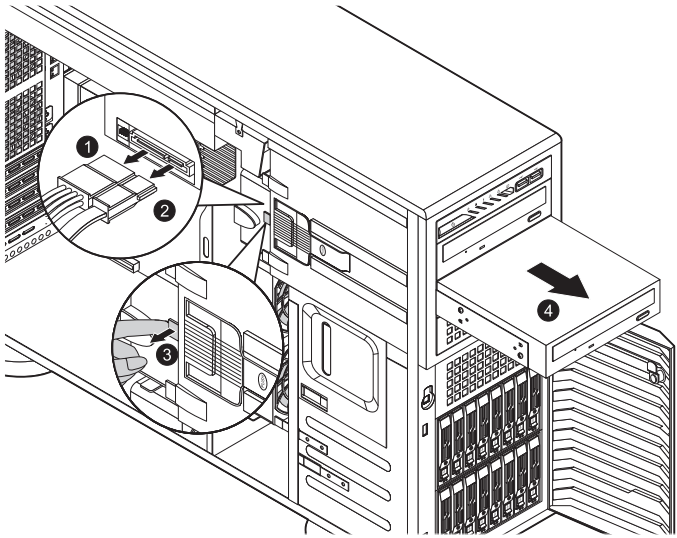
11 Observe the post-installation instructions described on page 27.

Removing a 5.25-inch storage device

1 Perform the pre-installation instructions described on page 26.

2 Remove the side panel described on page 28.

3 Disconnect the SATA (2) and power (1) cables connected to the storage device. Pull out the tab (**3**) and pull out the device from the drive bay (**4**).



4 If you intend to install a new storage device, refer to the previous section.

5 Re-install the side panel and close the bezel door.

6 Observe the post-installation instructions described on page 27.

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

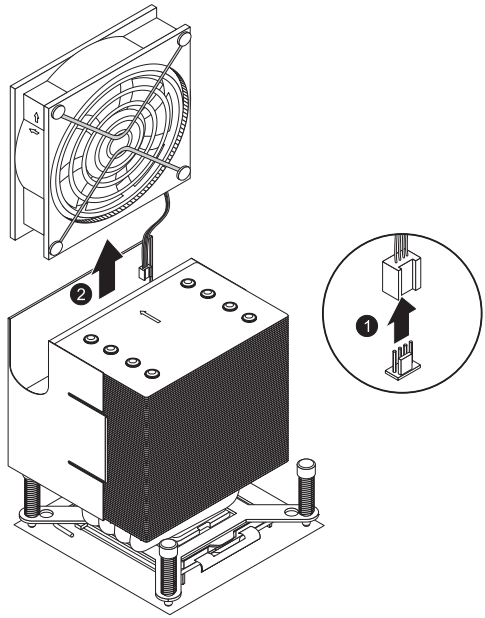
Warning! We do not recommend that the processor or the heatsink assembly be removed. However, if you do need to uninstall the heatsink fan assembly, please follow the instructions below to prevent damage to the processor or the CPU socket.

1 Observe the pre-installation instructions on page 26.

2 Remove the side panel described on page 28.

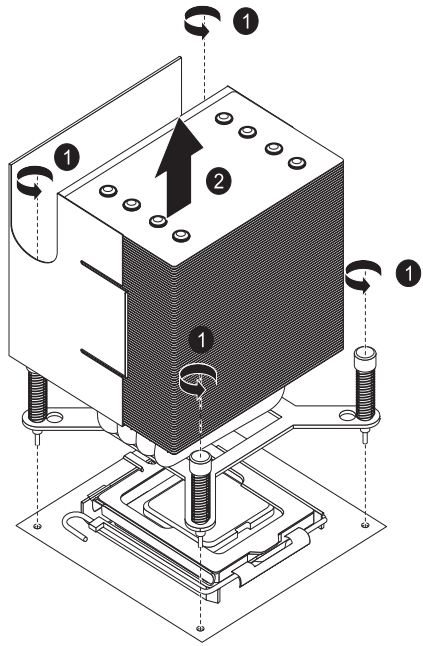
3 Lay the server on its side (components showing).

4 Disconnect the heatsink fan cable (**1**) from its mainboard connector and lift the heatsink fan (**2**).



5 Use a screwdriver to loosen the four heatsink screws from the mainboard by turning it counter-clockwise (**1**).

6 Lift the heatsink (**2**) away from the processor.



7 Lay down the heatsink in an upright position — with the thermal patch facing upward. Do not let the thermal patch touch the work surface.

8 Observe the post-installation instructions described on page 27.

Installing the heatsink and 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 26.

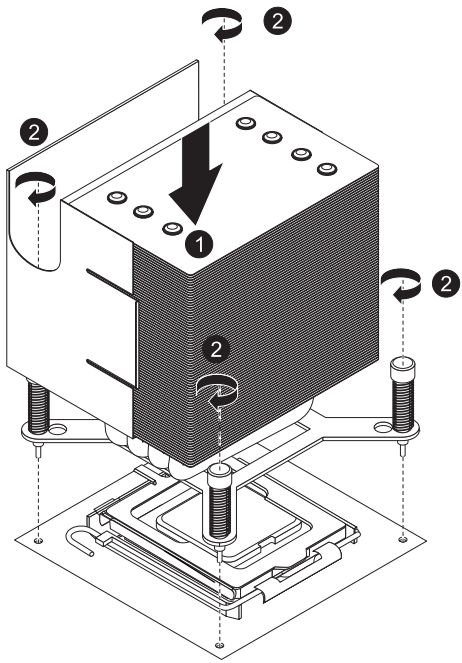
2 Remove the side panel described on page 28.

3 Lay the server on its side (components showing).

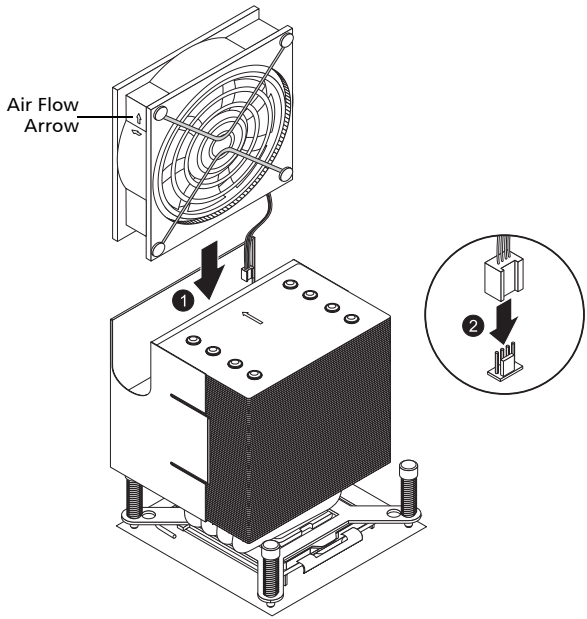
4 Do not apply any thermal grease to the heatsink or the processor die; the required amount has already been applied.

5 Place the heatsink on top of the processor (**1**) so that the four mounting holes are aligned with those on the (preinstalled) heatsink retention mechanism.

6 Use a screwdriver to tighten the four heatsink screws. Do not fully tighten the screws or you may damage the CPU.



7 Insert the heatsink fan (**1**) and connect the heatsink fan cable (**2**) to its connector on the mainboard.



Note: When inserting the heatsink fan, make sure the air flow arrow on the fan is pointing up.

8 Observe the post-installation instructions described on page 27.

Removing and installing the processor

Processor configuration guidelines

This server has two LGA 1366 processor sockets for supporting Intel® Xeon® 5500 / 5600 series 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 26.

2 Remove the side panel described on page 28.

3 Lay the server on its side (components showing).

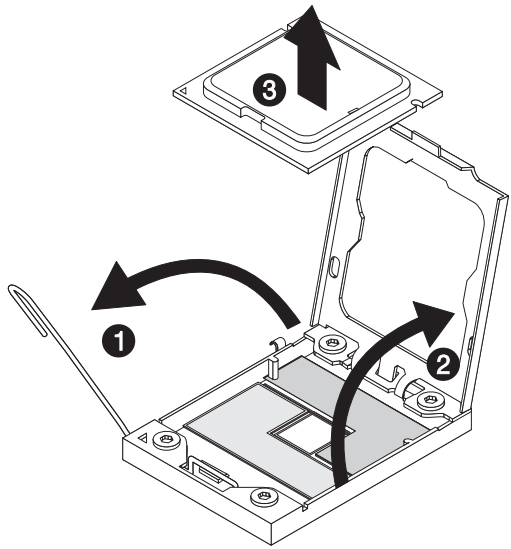
4 Remove the heatsink fan assembly (see **"Removing and installing the heatsink fan assembly" on page 45**).

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.



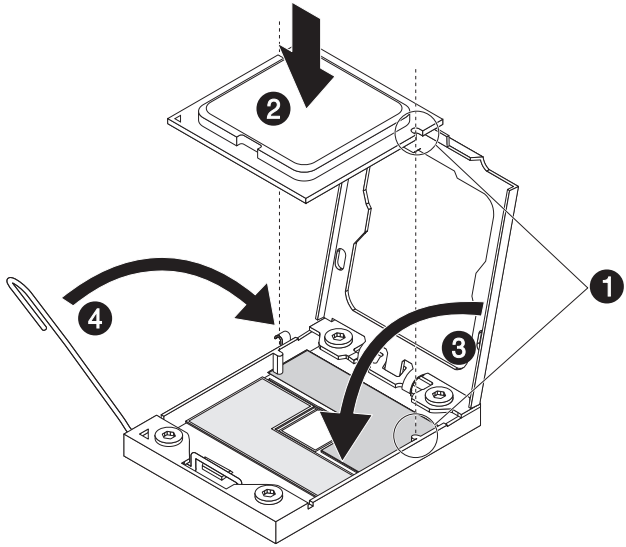
(4) Store the old processor inside an anti-static bag.

6 Remove the new processor from its protective packaging.

7 Install the new processor.

(1) 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) Hold the processor by its edges then insert it in the socket.

(3) Close the retention plate.

(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.

(a) Use an alcohol pad to wipe off the old thermal grease from both the HSF assembly and the processor socket retention plate.

(b) Apply a thin layer of thermal interface material before installing the HSF.

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 and fan assembly" on page 48**).

10 Observe the post-installation instructions described on page 27.

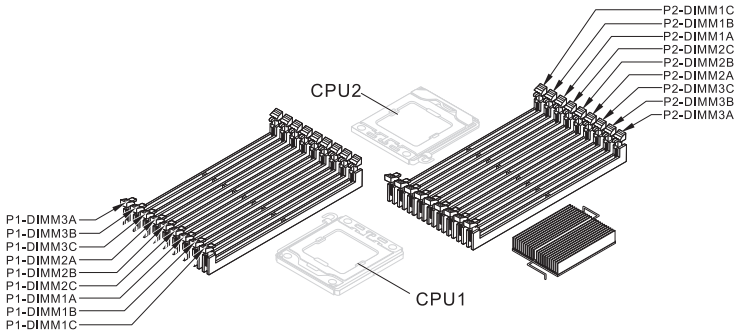
Upgrading the system memory

System memory interface

The server has a total of eighteen DIMM slots. Each CPU controls three channels and each channel has three slots. The DIMM slots support DDR3-1333 registered/unbuffered ECC memory modules.

For single rank and dual rank RDIMM, a maximum of three DIMMs per channel or a total of 18 DIMMs can be supported. For UDIMM and quad rank RDIMM, the server only supports two DIMMs per channel or a maximum of 12 DIMMs.

In each channel, the slot farthest from the CPU is slot A (1A, 2A and 3A in blue) while the nearest one is slot C (1C, 2C and 3C in black).



Independent mode

- 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.
- For a single-processor server configuration, install the processor in CPU1 socket and the memory modules in slots P1DIMM 1A to P1DIMM 3C.
- If there is a processor installed in CPU2 socket, the system will enable the slots P2DIMM 1A to P2DIMM 3C.

- It is recommended to install the DIMM modules in the following sequence:

  For single processor
  - Populate slot 1A first, followed by slots 2A, 3A,1B, 2B, 3B, 1C, 2C and 3C.
  - The memory slots for processor 2 are not available.

  For dual processors
  - Populate DIMM slots 1A of each CPU first, followed by slots 2A, 3A,1B, 2B, 3B, 1C, 2C and 3C.
- 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

Single processor configuration

	Channel 1 DIMM slots			Channel 2 DIMM slots			Channel 3 DIMM slots			Notes
Configuration	1C	1B	1A	2C	2B	2A	3C	3B	3A	
A			X							
B			X			X				
C			X			X			X	
D		X	X		X	X				
E		X	X		X	X		X	X	
F	X	X	X	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 and 16 GB DIMMs (support depends on availability).
5. Do not mix UDIMMs with RDIMMs.
6. Use single rank and dual rank RDIMMs only for Configuration F.

Dual processors configuration

	CPU 1									CPU 2								
Config	1C	1B	1A	2C	2B	2A	3C	3B	3A	1C	1B	1A	2C	2B	2A	3C	3B	3A
A			X									X						
B			X			X			X									
C			X			X						X			X			
D			X			X			X			X			X			X
E		X	X		X	X					X	X		X	X			
F		X	X		X	X		X	X			X			X			X
G		X	X		X	X		X	X		X	X		X	X		X	X
H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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 and 16 GB DIMMs (support depends on availability).
5. Do not mix UDIMMs with RDIMMs.
6. 3-DIMM per channel configuration is only available for single/dual rank RDIMM.

Mirroring mode

- For mirroring mode, the memory contains a primary image and a copy of the primary image. Therefore, the effective size of the memory is reduced by at least one-half.
- Channel 3 has no function and cannot be populated under this mode.
- Follow the population rules described in independent mode.
- DIMM modules installed in channels 1 and 2 must be identical — memory modules in slots 1A and 2A should be the same type, size and manufacturer. The same applies to slots 1B and 2B, 1C and 2C. However, it is not necessary for slot A to have the same memory module as slot B or C within a channel.
- The same rule applies to the processor 2.

Memory population for mirroring mode

Single processor configuration

	Channel 1 DIMM slots			Channel 2 DIMM slots			Channel 3 DIMM slots			Notes
Configuration	1C	1B	1A	2C	2B	2A	3C	3B	3A	
A			X			X	NA	NA	NA	
B		X	X		X	X	NA	NA	NA	
C	X	X	X	X	X	X	NA	NA	NA	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 and 16 GB DIMMs (support depends on availability).
5. Do not mix UDIMMs with RDIMMs.
6. 3-DIMM per channel configuration is only available for single/dual rank RDIMM.

Dual processors configuration

	CPU 1									CPU 2								
Config	1C	1B	1A	2C	2B	2A	3C	3B	3A	1C	1B	1A	2C	2B	2A	3C	3B	3A
A			X			X	NA	NA	NA							NA	NA	NA
B			X			X	NA	NA	NA			X			X	NA	NA	NA
C		X	X		X	X	NA	NA	NA			X			X	NA	NA	NA
D		X	X		X	X	NA	NA	NA		X	X		X	X	NA	NA	NA
E	X	X	X	X	X	X	NA	NA	NA		X	X		X	X	NA	NA	NA
F	X	X	X	X	X	X	NA	NA	NA	X	X	X	X	X	X	NA	NA	NA

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 and 16 GB DIMMs (support depends on availability).
5. Do not mix UDIMMs with RDIMMs.
6. 3-DIMM per channel configuration is only available for single/dual rank RDIMM.

Lockstep mode

- In Lockstep Channel Mode, each memory access is a 128-bit data access that spans Channel 1 and Channel 2. This is done to support SDDC for DRAM devices with 8-bit wide data ports. The same address is used on both channels such that an address error on any channel is detectable by ECC. Lockstep Channel mode is the only RAS mode that supports x8 SDDC.
- Channel 3 has no function and cannot be populated in this mode.
- Follow the population rules described in independent mode.
- DIMM modules installed in channels 1 and 2 must be identical — 1A and 2A should be the same type, size and manufacturer. 1B and 2B memory should be the same type, size and manufacturer. However, it is not necessary for slot A to have the same memory module as slot B within a channel.
- The same rule applies to processor 2.

Memory population for lockstep mode

Single processor configuration

	Channel 1 DIMM slots			Channel 2 DIMM slots			Channel 3 DIMM slots			Notes
Configuration	1C	1B	1A	2C	2B	2A	3C	3B	3A	
A			X			X	NA	NA	NA	
B		X	X		X	X	NA	NA	NA	
C	X	X	X	X	X	X	NA	NA	NA	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 and 16 GB DIMMs (support depends on availability).
5. Do not mix UDIMMs with RDIMMs.
6. 3-DIMM per channel configuration is only available for single/dual rank RDIMM.

Dual processors configuration

	CPU 1									CPU 2								
Config	1C	1B	1A	2C	2B	2A	3C	3B	3A	1C	1B	1A	2C	2B	2A	3C	3B	3A
A			X			X	NA	NA	NA							NA	NA	NA
B			X			X	NA	NA	NA			X			X	NA	NA	NA
C		X	X		X	X	NA	NA	NA			X			X	NA	NA	NA
D		X	X		X	X	NA	NA	NA		X	X		X	X	NA	NA	NA
E	X	X	X	X	X	X	NA	NA	NA		X	X		X	X	NA	NA	NA
F	X	X	X	X	X	X	NA	NA	NA	X	X	X	X	X	X	NA	NA	NA

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 and 16 GB DIMMs (support depends on availability).
5. Do not mix UDIMMs with RDIMMs.
6. 3-DIMM per channel configuration is only available for single/dual rank RDIMM.

Sparing mode

- In this mode, if the system detects degrading memory and did not crash, the data in the failed channel will be copied to the spare channel. The failed channel is then isolated and the spare channel becomes active. However, any uncorrectable error that happens before the isolation will still cause the system to stop normal operation.
- Channel 3 is the spare channel. Therefore, the effective size will be reduced by one-third.
- Follow the population rules described in the independent mode.
- Sparing mode requires that all three channels use identical DIMMs. 1A, 2A and 3A should be the same type, size and manufacturer, likewise for 1B, 2B and 3B. The same rule applies to processor 2.
- Intel® Xeon® Processor 5500 Series CPUs do **NOT** support the memory sparing mode.

Memory population for sparing mode

Single processor configuration

	Channel 1 DIMM slots			Channel 2 DIMM slots			Channel 3 DIMM slots			Notes
Configuration	1C	1B	1A	2C	2B	2A	3C	3B	3A	
A			X			X			X	
B		X	X		X	X		X	X	
C	X	X	X	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 and 16 GB DIMMs (support depends on availability).
5. Do not mix UDIMMs with RDIMMs.
6. 3-DIMM per channel configuration is only available for single/dual rank RDIMM.

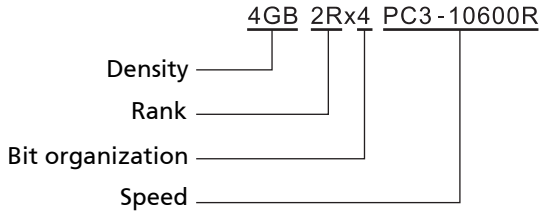
Dual processors configuration

	CPU 1									CPU 2								
Config	1C	1B	1A	2C	2B	2A	3C	3B	3A	1C	1B	1A	2C	2B	2A	3C	3B	3A
A			X			X			X									
B			X			X			X			X			X			X
C		X	X		X	X		X	X			X			X			X
D		X	X		X	X		X	X		X	X		X	X		X	X
E	X	X	X	X	X	X	X	X	X		X	X		X	X		X	X
F	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

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 and 16 GB DIMMs (support depends on availability).
5. Do not mix UDIMMs with RDIMMs.
6. 3-DIMM per channel configuration is only available for single/dual rank RDIMM.

Memory identification

Generally, there are some 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. • Intel Xeon 5500 series processor supports DIMM organized by 1Gb or 2Gb DRAM chips. • Intel Xeon 5600 series processor supports DIMM organized by 1Gb, 2Gb or 4Gb DRAM chips.
Rank	1R = Single Rank 2R = Dual Rank 4R = Quad Rank **Note:** If quad rank DIMM is used, a maximum of only two DIMMs per channel can be supported.
Bit Organization	This platform supports x4 and x8. **Note:** It is not recommended to mix DIMMs with different ranks in one system.
Speed	PC3 - 6400 => DDR3- 800 PC3 - 8500 => DDR3- 1066 PC3 - 10600 => DDR3- 1333 PC3 - 12800 => DDR3- 1600

Installing a memory module

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

1 Observe the pre-installation instructions on page 26.

2 Remove the side panel described on page 28.

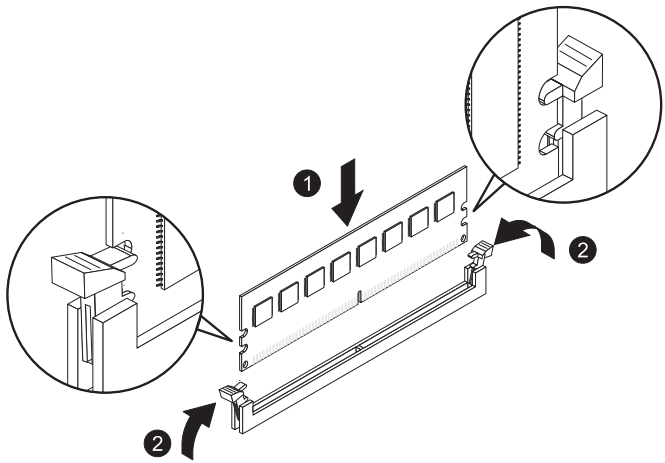
3 Lay the server on its side (components showing).

4 Locate the DIMM slot on the mainboard.

5 Install the memory module.

(a) Align then insert the DIMM into the socket (**1**).

(b) Push the DIMM to the socket until the retaining clips snap inward (**2**).



Note: The DIMM slot is slotted to ensure proper installation. If you insert a DIMM but it does not fit easily into the socket, you may have inserted it incorrectly. Reverse the orientation of the DIMM and insert it again.

6 Observe the post-installation instructions described on page 27.

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

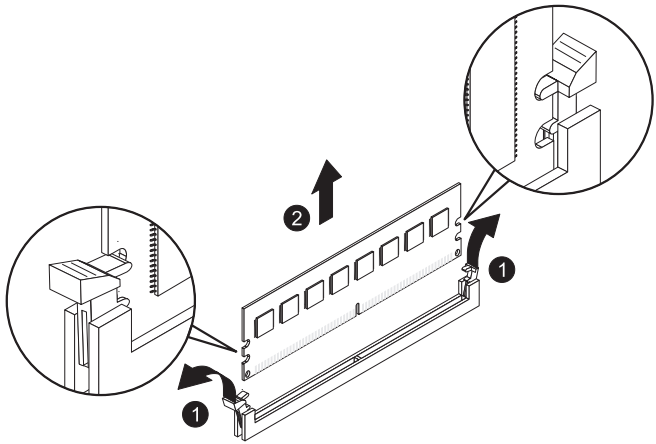
Important: Before removing any DIMM from the mainboard, make sure to create a backup file of all important data.

1 Perform steps 1 through 3 of the previous section.

2 Remove the memory module.

(a) Press the holding clips on both sides of the slot outward to release the DIMM (**1**).

(b) Gently pull the DIMM upward to remove it from the slot (**2**).



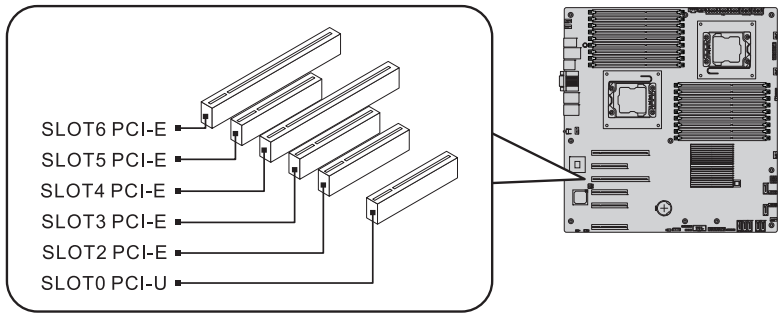
3 If you intend to install a new DIMM, refer to the previous section, otherwise observe the post-installation instructions described on page 27.

Installing an expansion card

I/O interface

The AT350 F1 has six PCI bus slots with separate bus segments, namely:

- Two PCI Express® 2.0 x8 in x16 (slots 4 and 6)
- Two PCI Express® 2.0 x4 in x8 (slots 2 and 3)
- One PCI Express® 1.0 x4 in x8 (slot 5)
- One PCI Express® 2.0 x8 (slot 0 - Flex IO)



Installing a SAS card

1 Observe the pre-installation instructions on page 26.

2 Remove the side panel described on page 28.

3 If necessary, remove any cables that prevent access to the PCI slot.

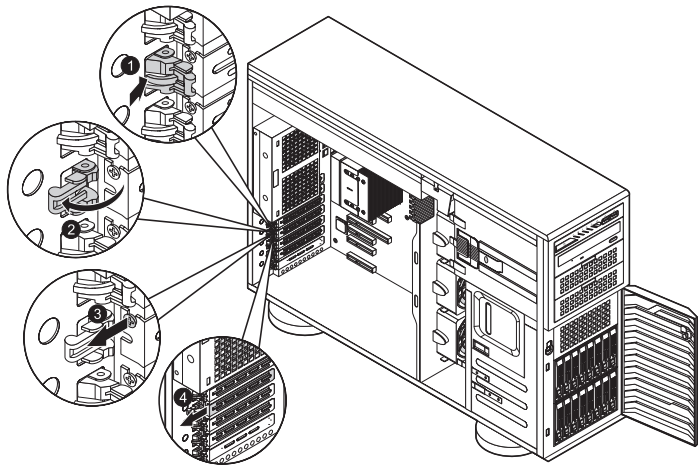
4 Locate an empty expansion slot that is compatible with the specification of the card you intend to install.

5 Unclip the restraining latch (**1**) and open in the direction (**2**) shown below .

6 Remove the screw holding the slot in place (**3**).

7 Slide out the slot shield (**4**).

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.

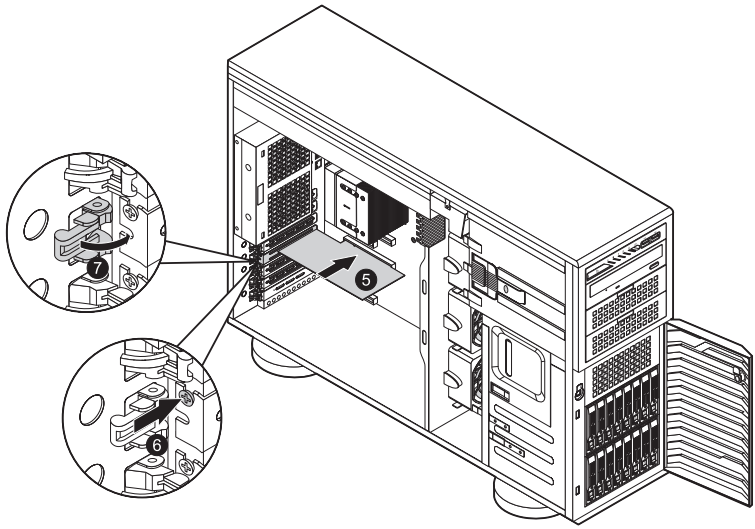


Remove the expansion card from its protective packaging, handling it by the edges.

8 Insert the card in the selected slot (**5**) making sure that the card is properly seated.

9 Insert the screw holding the card in place (6).

10 Close the restraining latch (7).



11 Connect the appropriate cables to the card.

12 Observe the post-installation instructions described on page 27.

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

Note: AMI 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.

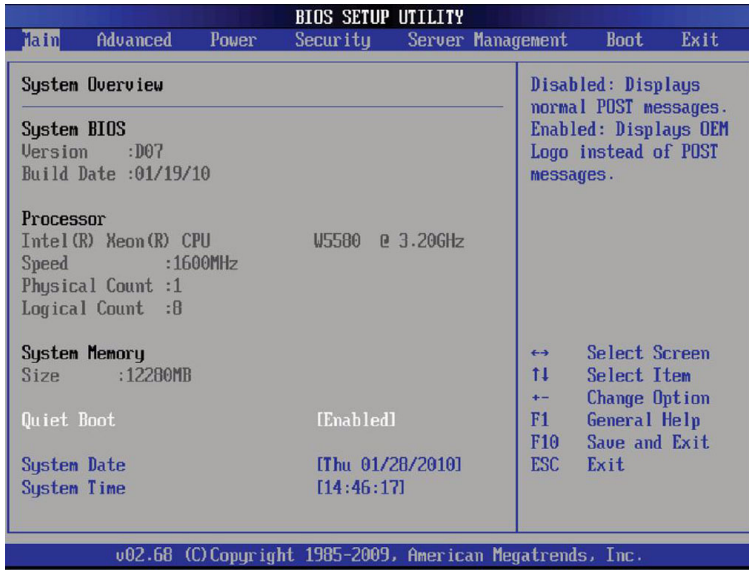
  Note: Grayed-out fields are not user-configurable.

- **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

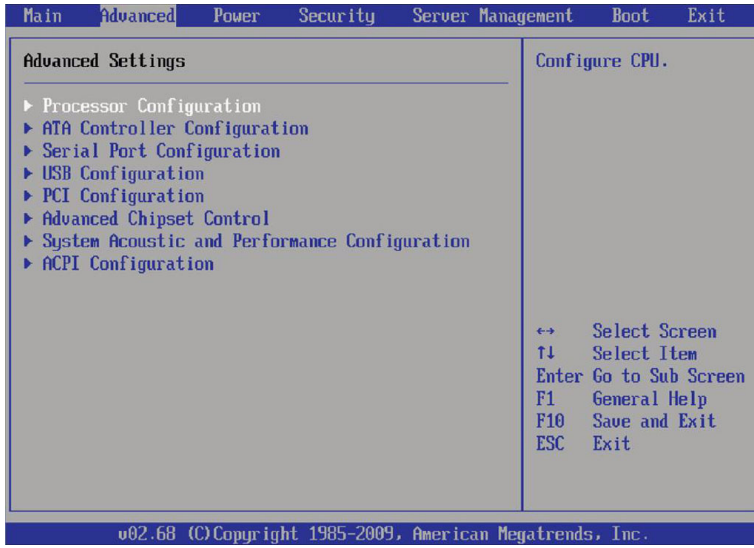


Parameter	Description	Option
System Overview		
System BIOS		
Version	Version of the BIOS used in your system.	
Build Date	Date when the BIOS Setup Utility was created.	
Processor		
CPU Type	Displays the type of CPU detected by the BIOS.	
Speed	Displays the speed of the CPU detected by the BIOS.	
Physical Count	Displays the number of processors detected by the BIOS.	
Logical Count	Displays the number of CPU cores detected by the BIOS.	
System Memory		
Size	Displays the amount of memory detected by the BIOS.	

Parameter	Description	Option
Quiet Boot	Modifies the bootup screen options between POST messages or the OEM logo. Select **Disabled** to display the POST messages. Select **Enabled** to display the OEM logo instead of the normal POST messages.	**Enabled** Disabled
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.



Processor Configuration

This submenu displays the status of the processor as detected by the BIOS, including items such as the processor's type, frequency, and Cache L1, L2, L3 settings.

Parameter	Description	Options
Ratio CMOS Setting	This option allows the user to set the ratio between the CPU Core Clock and the FSB Frequency.	
C1E Support	Select **Enabled** to enable Enhanced Halt State support. C1E significantly reduces the CPU's power consumption by reducing the CPU's clock cycle and voltage during a Halt State.	**Enabled** Disabled
Hardware Prefetcher (Available when supported by the CPU)	If set to E**nabled**, the hardware prefetcher will prefetch streams of data and instructions from the main memory to the L2 cache to improve CPU performance.	**Enabled** Disabled
Adjacent Cache Line Prefetch (Available when supported by the CPU)	The CPU prefetches the cache line for 64 bytes if this feature is set to Disabled. The CPU will prefetch both cache lines for 128 bytes as comprised if this feature is set to **Enabled**.	**Enabled** Disabled
MPS and ACPI MADT Ordering	This feature allows the user to configure the MPS (Multi-Processor Specifi cations) and ACPI settings for the main board. Select Modern Ordering if you are using XP or a newer version of the Windows OS. Select Legacy Ordering if you are using 2000 or an earlier version of the Windows OS.	**Modern Ordering** Legacy Ordering

Parameter	Description	Options
Intel® Virtualization Technology (Available when supported by the CPU)	Select **Enabled** to enable Intel Virtualization Technology support, which will allow one platform to run multiple operating systems and applications in independent partitions, creating multiple "virtual" systems in one physical computer.	**Enabled** Disabled
Execute-Disable Bit Capability (Available if supported by the OS & the CPU)	Select **Enabled** to enable the Execute Disable Bit which will allow the processor to designate areas in the system memory where an application code can execute and where it cannot, thus preventing a worm or a virus from flooding illegal codes to overwhelm the processor or damage the system during an attack.	**Enabled** Disabled
Simultaneous Multi-Threading (Available when supported by the CPU)	Set to Enabled to use the Simultaneous Multi-Threading Technology, which will result in increased CPU performance.	**Enabled** Disabled
Active Processor Cores	Set to Enabled to use a processor's Second Core and above. (Please refer to Intel's web site for more information.)	**All** 1 2
Intel® EIST Technology	EIST (Enhanced Intel SpeedStep Technology) allows the system to automatically adjust processor voltage and core frequency to reduce power consumption and heat dissipation.	**Enabled** Disabled
Intel® Turbo Boost (Available when Intel® EIST Technology is enabled)	Select Enabled to use the Turbo Mode to boost system performance.	**Enabled** Disabled

Parameter	Description	Options
Performance/Watt Select	Power Optimized: Turbo Boost engages after P0 state is sustained for more than 2 seconds. Traditional: Turbo Boost engages even for P0 state for less than 2 seconds.	Power Optimized **Traditional**
Intel® C-State Tech	When this item is set to enabled, the system will automatically set C-State to C2, C3, or C4 state.	**Enabled** Disabled
C3 State	This feature allows the user to decide how the onboard 5500 Series processor will act at C3 State.	**ACPI 2** ACPI 3 Disabled
C6 State	This feature allows the user to decide how the onboard 5500 Series processor will act at C6 State.	**Enabled** Disabled
C-State package limit setting	If set to Auto, the AMI BIOS will automatically set the limit on the C-State package register.	**Auto**, C1, C3, C6, and C7
C1 Auto Demotion	When this feature is enabled, the CPU will conditionally demote C3, C6 or C7 requests to C1 based on un-core auto-demote information.	**Enabled** Disabled
C3 Auto Demotion	When this feature is enabled, the CPU will conditionally demote C6 or C7 requests to C3 based on un-core auto-demote information.	**Enabled** Disabled
ACPI T State	When this feature is enabled, CPU Throttling state will be reported in the ACPI (Advanced Confi guration and Power Interface) protocol.	**Enabled** Disabled
Intel AES-NI	Select Enabled to enable CPU new instructions for AES. These instructions can be utilized by software to accelarate performance of AES applications.	Enabled **Disabled**

Parameter	Description	Options
Clock Spread Spectrum	Select Enable to enable Clock Spectrum support, which will allow the BIOS to monitor and attempt to reduce the level of Electromagnetic Interference caused by the components whenever needed.	**Enabled** Disabled

ATA Controller Configuration

When this submenu is selected, the AMI BIOS automatically detects the presence of IDE or SATA devices and displays the following items.

Parameter	Description	Options
SATA#1 Configuration	Select **Compatible** to set SATA#1 to legacy compatibility mode. Select **Enhanced** to set SATA#1 to native SATA mode.	**Compatible** Disabled, Enhanced
Configure SATA#1 as	This feature allows the user to select the drive type for SATA#1.	**IDE** RAID AHCI
ICH RAID CodeBase (Available when the option-RAID is selected.)	Select Intel to enable Intel's SATA RAID fi rmware to confi gure Intel's SATA RAID settings. Select Adaptec to enable Adaptec's SATA RAID firmware to configure Adaptec's SATA RAID settings.	**Intel** Adaptec
SATA#2 Configuration (Available when the option IDE is selected.)	Select Enhanced to set SATA#2 to native SATA mode.	**Enhanced** Disabled
SATA PORT0~ SATA PORT5	These settings allow the user to set the parameters of the slots indicated above. Press <**Enter**> to activate the following submenu. Set the correct confi gurations accordingly. The items included in the submenu are listed below.	

Parameter	Description	Options
Type	This feature allows the user to select the type of device connected to the system.	**Auto**, Not Installed, CD/DVD, ARMD
LBA/Large Mode	LBA (Logical Block Addressing) is a method of addressing data on a disk drive In the LBA mode. The maximum drive capacity is 137 GB. For drive capacities over 137 GB, your system must support 48-bit LBA mode If not, contact your manufacturer or install an ATA/133 IDE controller card that supports 48-bit LBA mode.	**Auto** Disabled
Block (Multi-Sector Transfer)	Block Mode boosts the performance of the IDE drive by increasing the amount of data transferred. Only 512 bytes of data can be transferred per interrupt if Block Mode is not used. Block Mode allows transfers of up to 64 KB per interrupt. Select Disabled to allow data to be transferred from and to the device one sector at a time. Select Auto to allow data transfer from and to the device multiple sectors at a time if the device supports it.	**Auto** Disabled

Parameter	Description	Options
PIO Mode	The IDE PIO (Programmable I/O) Mode programs timing cycles between the IDE drive and the programmable IDE controller. As the PIO mode increases, the cycle time decreases.	**Auto**, 0, 1, 2, 3, 4
	Select Auto to allow the AMI BIOS to automatically detect the PIO mode. Use this value if the IDE disk drive support cannot be determined. Select 0 to allow the AMI BIOS to use PIO mode 0. It has a data transfer rate of 3.3 MB/s. Select 1 to allow the AMI BIOS to use PIO mode 1. It has a data transfer rate of 5.2 MB/s. Select 2 to allow the AMI BIOS to use PIO mode 2. It has a data transfer rate of 8.3 MB/s. Select 3 to allow the AMI BIOS to use PIO mode 3. It has a data transfer rate of 11.1 MB/s. Select 4 to allow the AMI BIOS to use PIO mode 4. It has a data transfer bandwidth of 32 Bits. Select Enabled to enable 32-Bit data transfer.	

Parameter	Description	Options
DMA Mode		**Auto**, SWDMAn, MWDMAn, UDMAn
	Select Auto to allow the BIOS to automatically detect IDE DMA mode when the IDE disk drive support cannot be determined. Select SWDMA0 to allow the BIOS to use Single-Word DMA mode 0. It has a data transfer rate of 2.1 MB/s. Select SWDMA1 to allow the BIOS to use Single-Word DMA mode 1. It has a data transfer rate of 4.2 MB/s. Select SWDMA2 to allow the BIOS to use Single-Word DMA mode 2. It has a data transfer rate of 8.3 MB/s. Select MWDMA0 to allow the BIOS to use Multi-Word DMA mode 0. It has a data transfer rate of 4.2 MB/s. Select MWDMA1 to allow the BIOS to use Multi-Word DMA mode 1. It has a data transfer rate of 13.3 MB/s. Select MWDMA2 to allow the BIOS to use Multi-Word DMA mode 2. It has a data transfer rate of 16.6 MB/s. Select UDMA0 to allow the BIOS to use Ultra DMA mode 0. It has a data transfer rate of 16.6 MB/s. It has the same transfer rate as PIO mode 4 and Multi-Word DMA mode 2. Select UDMA1 to allow the BIOS to use Ultra DMA mode 1. It has a data transfer rate of 25 MB/s. Select UDMA2 to allow the BIOS to use Ultra DMA mode 2. It has a data transfer rate of 33.3 MB/s. Select UDMA3 to allow the BIOS to use Ultra DMA mode 3. It has a data transfer rate of 66.6 MB/s. Select UDMA4 to allow the BIOS to use Ultra DMA mode 4. It has a data transfer rate of 100 MB/s. Select UDMA5 to allow the BIOS to use Ultra DMA mode 5. It has a data transfer rate of 133 MB/s. Select UDMA6 to allow the BIOS to use Ultra DMA mode 6. It has a data transfer rate of 133 MB/s.	

Parameter	Description	Options
S.M.A.R.T.	Self-Monitoring Analysis and Reporting Technology (SMART) can help predict impending drive failures. Select Auto to allow the AMI BIOS to automatically detect hard disk drive support. Select Disabled to prevent the AMI BIOS from using S.M.A.R.T. Select Enabled to allow the AMI BIOS to use S.M.A.R.T. to support the hard-drive disk.	**Auto**, Disabled, Enabled,
32Bit Data Transfer	Select Enable to enable the function of 32-bit IDE data transfer.	**Enabled** Disabled
IDE Detect Timeout (sec)	Use this feature to set the timeout value for the BIOS to detect the ATA, ATAPI devices installed in the system.	0 (sec), 5, 10, 15, 20, 25, 30, **35**

Serial Port Configuration

Parameter	Description	Options
Serial Port 1 Address	This feature allows the user to specify the base I/O port address and the Interrupt Request address for Serial Port 1 or Serial Port 2. Select Disabled to prevent the serial port from accessing system resources. When this option is set to Disabled, the serial port will become physically unavailable. Select 3F8/ IRQ4 to allow the serial port to use 3F8 as its I/O port address and IRQ 4 for the interrupt address.	Disabled, 3F8/IRQ4, **3E8/IRQ4**, 2E8/IRQ3, 2F8/IRQ3
Serial Port 2 Address		Disabled, **2F8/IRQ3**, 3E8/IRQ4, 2E8/IRQ3, 3F8/IRQ4
Serial Port 2 Attribute	Select COM to configure the onboard COM 2 port as a normal serial port. Select SOL (Serial Over_LAN) to confi gure the onboard COM 2 port as a virtual COM port for SOL use.	**SOL** COM

USB Configuration

Parameter	Description	Options
USB Controller	Select Enabled to enable the onboard USB controller.	**Enabled** Disabled
Legacy USB Support (Available when USB Functions is not Disabled)	Select Enabled to use Legacy USB devices. If this item is set to Auto, Legacy USB support will be automatically enabled if a legacy USB device is installed on the motherboard.	**Enabled** Disabled Auto
USB 2.0 Controller	This item indicates if the onboard USB 2.0 controller is activated.	**Enabled** Disabled
USB 2.0 Controller Mode	This setting allows you to select USB 2.0 Controller mode.	**Hi-Speed (480 Mbps)** Full Speed (12 Mbps)

USB Mass Storage Device Configuration

This feature allows the user to configure the USB Mass Storage Device Settings.

Parameter	Description	Options
USB Mass Storage Reset Delay	This setting allows you to decide how long the system should wait in an attempt to detect the presence of a USB Mass Storage Device before it issues a start command the system to proceed with the next operation during POST.	10 seconds **20 seconds** 30 seconds 40 seconds
Device#1	This setting allows the BIOS to display the USB Device#1 detected in the system.	

Parameter	Description	Options
Emulation Type	If set to Auto, USB devices that are smaller than 530MB will be emulated as floppy and the remaining will be emulated as an HDD. The Forced FDD option will allow you to confi gure an HDD formatted drive to boot as an FDD (eg. Zip Drive).	**Auto** Floppy Forced FDD Hard Disk CD ROM

PCI/PnP Configuration

Parameter	Description	Options
Plug & Play OS	Select Yes to allow the OS to configure Plug & Play devices. (This is not required for system boot if your OS supports Plug & Play.) Select No to allow the AMI BIOS to confi gure all devices in the system.	Yes **No**
SR-IOV Supported	Select Enabled to enable Single-Root I/O Virtualization (SR-IOV) support, which works in conjunction with the Intel Virtualization Technology to allow multiple operating systems to run simultaneously within a single computer via natively shared PCI-Express devices in order to enhance network connectivity and performance.	**Enabled** Disabled
PCI-U Slot0 Option ROM/ PCI-E Slot2 Option ROM~PCI-E Slot6 Option ROM	Select Enabled to enable Option ROM support for the user to boot computer using a network interface from the slots specified above.	**Enabled** Disabled
Load Onboard LAN1 Option ROM/Load Onboard LAN2 Option ROM	Select Enabled to enable the onboard LAN1 or LAN2 Option ROM. This is to boot the computer using a network interface.	**Enabled** Disabled

Parameter	Description	Options
Onboard LAN Option ROM Select	Select iSCSI to use iSCSI Option ROMs to boot the computer using a network device. Select iSCSI to use PXE Option ROMs to boot the computer using a network device.	**PXE** iSCSI
Boots Graphic Adapter Boot Priority	This feature allows the user to select the graphics adapter to be used as the primary boot device.	Onboard VGA **Add-on VGA**

Advanced Chipset Control

This submenu is used to configure the following sub-items:

CPU Bridge Configuration

Parameter	Description	Options
QPI Links Speed	This feature selects QPI's data transfer speed.	Slow-mode **Full Speed**
QPI Frequency (Available if QPI Links Speed is set to Full Speed)	This feature is used to select the desired QPI frequency.	**Auto** 4.800 GT 5.866GT 6.400 GT
QPI L0s and L1	Select Enabled to lower the QPI power state. L0s and L1 are automatically selected by the motherboard.	Enabled **Disabled**
Memory Frequency	Use this feature to force a DDR3 memory module to run at a frequency other than what the system has detected.	**Auto**, Force DDR-800, Force DDR-1066, Force DDR-1333, and Force SPD

Parameter	Description	Options
Memory Mode	If Independent is selected, all DIMMs are available to the operating system. If Channel Mirror is selected, the motherboard maintains two identical copies of all data in memory for data backup. If Lockstep is selected, the motherboard uses two areas of memory to run the same set of operations in parallel.	**Independent** Channel Mirror Lockstep Sparing
Demand Scrubbing	This is a memory error-correction scheme in which the processor writes corrected data back into the memory block from where it was read by the processor.	Enabled **Disabled**
Patrol Scrubbing	This is a memory error-correction scheme that works in the background, looking for and correcting resident errors.	**Enabled** Disabled

NorthBridge Chipset Control

Parameter	Description	Options
Intel I/OAT	The Intel I/OAT (I/O Acceleration Technology) significantly reduces CPU overhead by leveraging CPU architectural improvements, freeing resources for other tasks.	**Enabled** Disabled
DCA Technology	Select Enabled to use Intel's DCA (Direct Cache Access) Technology to enhance data transfer efficiency.	**Enabled** Disabled

Parameter	Description	Options
DCA Prefetch Delay	A DCA Prefetch is used with TOE components to prefetch data in order to shorten execution cycles and maximize data processing effi ciency. A TOE device is a specialized, dedicated processor that is installed on an add-on card or a network card to handle some or all packet processing of this add-on card. Prefetching too frequently can saturate the cache directory and delay necessary cache accesses. This feature reduces or increases the frequency the system prefetches data.	8, 6, **32**, 40, 48, 56 64, 72, 80 88, 96,104 112, 120
Intel VT-d	Select Enabled to enable Intel Virtualization Technology support for Direct I/O VT-d by reporting the I/O device assignments to the VMM (Virtual Working Memory) through the DMAR ACPI Tables. This feature offers fully-protected I/O resource sharing across Intel platforms, providing greater reliability, security and availability in networking and data-sharing.	**Enabled** Disabled
Active State Power-Management	Select Enabled to use the power management for signal transactions between the PCI Express L0 and L1 Links. Select Enabled to configure PCI-Exp. L0 and L1 Link power states.	Enabled **Disabled**
IOH PCI-E Max Payload Size	Some add-on cards perform faster with the coalesce feature, which limits the payload size to 128B; while others, with a payload size of 256B which inhibits the coalesce feature. Please refer to your add-on card user guide for the desired setting.	**256B** 128B

ME Subsystem Configuration

Parameter	Description	Options
ME-HECI Support	Select Enabled to enable ME-HECI (Host Embedded Controller Interface) support, which will allow the Host OS to communicate directly with the Management Engine (ME) in a standard method for system management, effectively replacing the SMbus.	Enabled **Disabled**

System Acoustic & Performance Configuration

Parameter	Description	Options
Throttling - Closed Loop	Throttling improves reliability and reduces power consumption in the processor by automatic voltage control during processor idle states.	**Enabled** Disabled
Hysteresis Temperature (Available when Closed Loop is enabled.)	Temperature Hysteresis is the temperature lag (in degrees Celsius) after the predefi ned DIMM temperature threshold is reached before Closed Loop Throttling begins.	Disabled **1.5°C** 3.0°C 6.0°C
Guardband Temperature (Available when Closed Loop is enabled.)	This is the temperature that applies to the DIMM temperature threshold. Each step is in 0.5°C increments. The default is [006]. Press <+> or <-> on your keyboard to change this value.	
Inlet Temperature	This is the temperature detected at the chassis inlet. Each step is in 0.5°C increments. The default is [070].	
Temperature Rise	This is the temperature rise to the DIMM thermal zone. Each step is in 0.5°C increments. The default is [020].	
Air Flow	This is the air fl ow speed to the DIMM modules. Each step is one mm/sec. The default is [1500].	

Parameter	Description	Options
Altitude	This feature defi nes how many meters above or below sea level the system is located.	**Sea Level or Below,** 1~300, 301~600, 601~900, 901~1200, 1201~1500, 1501~1800, 1801~2100, 2101~2400, 2401~2700, 2701~3000.
DIMM Pitch	This is the physical space between two DIMM modules. Each step is in 1/1000 of an inch. The default is [400].	
Fan Speed Control Modes	This feature allows the user to decide how the system controls the speeds of the onboard fans. The CPU temperature and the fan speed are correlated. When the CPU on-die temperature increases, the fan speed will also increase for effective system cooling. Select "Full Speed/FS" to allow the onboard fans to run at full speed for maximum cooling. The FS setting is recommended for special system confi guration or debugging. Select "Performance/PF" for better system cooling. The PF setting is recommended for high-power-consuming and high-density systems. Select "Balanced/BL" for the onboard fans to run at a speed that will balance the needs between system cooling and power saving. The BL setting is recommended for regular systems with normal hardware configurations. Select "Energy Saving/ES" for best power efficiency and maximum quietness.	Full Speed/FS, Performance/ PF, Balanced/BL, **Energy Saving/ES**

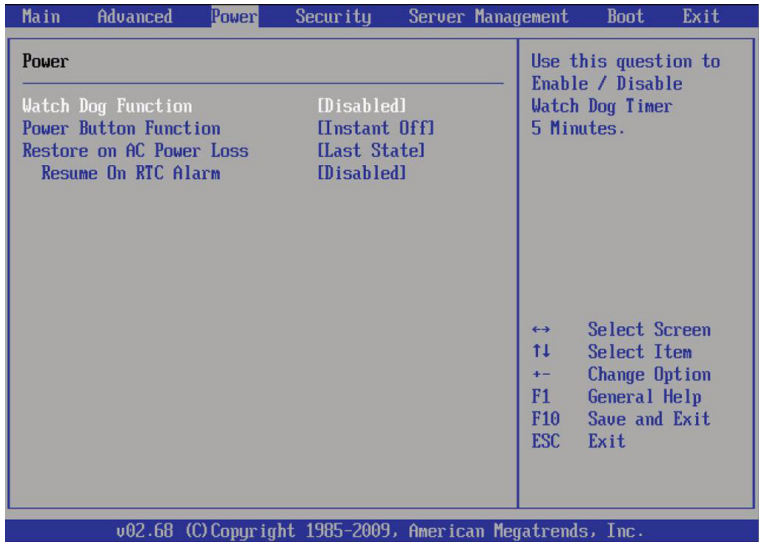
ACPI Configuration

Use this feature to confi gure Advanced Confi guration and Power Interface (ACPI) power management settings for your system.

Parameter	Description	Options
ACPI Aware O/S	Select Yes to enable ACPI support for an operating system that supports ACPI. Select No to disable ACPI support for an OS that does not support ACPI.	**Yes** No
ACPI Version Features (Available when ACPI Aware OS is set to Yes)	This feature is used to select the ACPI Version. The options are ACPI v1.0, ACPI v2.0, and ACPI v3.0. Refer to the website at http://www.acpi.info/ for details.	
ACPI APIC Support (Available when ACPI Aware OS is set to Yes)	Select Enabled to include the ACPI APIC Table Pointer in the RSDT (Root System Description Table) pointer list.	**Enabled** Disabled
APIC ACPI SCI IRQ	When this item is set to Enabled, APIC ACPI SCI IRQ is supported by the system.	Enabled **Disabled**
Headless Mode (Available when ACPI Aware OS is set to Yes)	When this feature is set to Enabled, a system will function without a keyboard, monitor, or mouse attached.	Enabled **Disabled**
NUMA Support	Select Enabled to use the feature of Non-Uniform Memory Access to improve CPU performance.	**Enabled** Disabled
High-Performance Event Timer	Select Enabled to activate the High-Performance Event Timer (HPET) which will produce periodic interrupts at a much higher frequency than a Real-time Clock (RTC) does in synchronizing multimedia streams, providing smooth playback and reducing the dependency on other timestamp calculation devices, such as an x86 RDTSC Instruction embedded in the CPU. The High Performance Event Timer is used to replace the 8254 Programmable Interval Timer.	**Enabled** Disabled

Parameter	Description	Options
WHEA Support	Select Enabled to enable Windows Hardware Error Architecture (WHEA) support which will provide a common infrastructure for the system to handle hardware errors on Windows platforms in order to reduce system crashes due to hardware errors and to enhance system recovery and health monitoring.	**Enabled** Disabled

Power Configuration

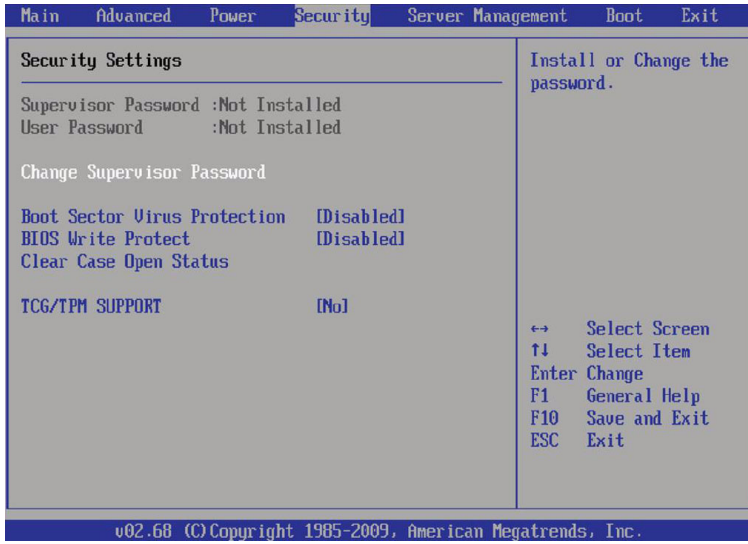


Parameter	Description	Options
Watch Dog Function	If the Watch Dog timer is set to enabled, the system will reboot when it is inactive for more than 5 minutes.	Enabled **Disabled**
Power Button Function	If this item is set to Instant_Off, the system will power off immediately when the user presses the power button. If this item is set to 4 Seconds Override, the system will power off when the user presses the power button for 4 seconds or longer.	**Instant_Off** 4 Seconds Override

Parameter	Description	Options
Restore on AC Power Loss	Use this feature to set the power state after a power outage. Select Power-Off for the system power to remain off after a power outage. Select Power-On for the system power to turn on after a power outage. Select Last State to allow the system to resume its last state before a power outage.	Power-On Power-Off **Last State**
Resume On RTC Alarm	Use this feature to set an event using the Real Time Clock (RTC) to wake up the system at a specifi ed time. If this item is set to Enabled, the following items will display. **RTC Alarm Date (Days)** Use this feature to set the date settings for the Real Time Clock (RTC). You can choose between 1 to 31. The default setting is Every **day**. **RTC Alarm Time** Use this feature to set the time settings for the RTC in [00:00:00] format.	Enabled **Disabled**

Security Settings

The AMI BIOS provides a Supervisor and a User password. If you use both passwords, the Supervisor password must be set first.



Supervisor Password

This item indicates if a Supervisor password has been entered for the system. "Not Installed" means a Supervisor password has not been used.

User Password

This item indicates if a user password has been entered for the system. "Not Installed" means that a user password has not been used.

Change Supervisor Password

Select this item and press <Enter> to access the submenu. Then enter a new password for the supervisor and press <Enter> to install a new supervisor password.

If the User Password is installed, the following items will display.

Parameter	Description	Options
User Access Level (Available when a Supervisor Password is set)	Select Full Access to grant the user (supervisor) a full read and write access to the Setup Utility. Select View Only to allow the user (supervisor) to access the Setup Utility without making changes to the fi elds. Select Limited to allow the user (supervisor) to access and make changes to limited fi elds such as Date and Time. Select No Access to prevent the user (supervisor) from accessing the Setup Utility.	Full Access **View Only** No Access Limited
Change User Password	Select this feature and press <Enter> to access the submenu. Then enter a new user Password.	
Password Check	This item allows you to check a password after it has been entered. Select Setup for the system to check the password at Setup. Select Always for the system to check the password at bootup.	**Setup** Always

Boot Sector Virus Protection

When enabled, the AMI BIOS displays a warning when any program (or virus) issues a Disk Format command or attempts to write to the boot sector of the hard disk drive. The options are Enabled and **Disabled**.

BIOS Write Protect

Select Enabled to prevent the user from writing data into the BIOS Setup Utility. The options are Enabled and **Disabled**.

Clear Case Open Status

This feature will clear the status log which indicates "case-open."

TCG/TPM (Trusted Platform Module) Support

Select Yes on this item and enable the TPM jumper on the motherboard to enable TCG (TPM 1.1/1.2)/TPM support to improve data integrity and network security. The options are **No** and Yes.

If this item is set to Yes, the following items will display.

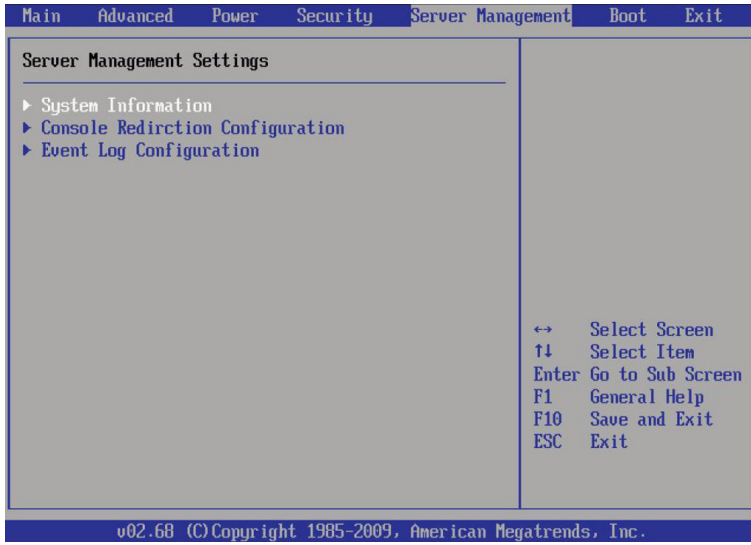
TPM Enabled/Disabled Status: No State

This feature indicates if TPM support is enabled or disabled.

TPM Owner Status: No State

This feature displays the TPM Owner status.

Server Management



System Information

This submenu displays the following system information:

- System Product Name
- System Serial Number
- Base Board Product Name
- Base Board Serial Name
- UUID
- NIC1 Mac Address
- NIC2 Mac Address
- IPMI Firmware Revision
- FRU Version

Parameter	Description	Options
IPMI LAN Selection	Select dedicated LAN or onboard LAN for server management.	Dedicated Onboard Failover

Parameter	Description	Options
IP Address Source	This features allows the user to select how an IP address is assigned to a client computer or network device. Select DHCP (Dynamic Host Confi guration Protocol) to allow a client (computer or device) to obtain an IP address from a DHCP server that manages a pool of IP addresses and network information on a "request and grant" basis. Upon timeout (or lease expiration), the IP address assigned to the client can be reassigned to a new client. Select Static (Static Allocation) to allow the host server to allocate an IP address based on a table containing MAC Address/IP Address pairs that are manually entered (such as by a network administrator). Only clients with a MAC address listed in the MAC/IP Address Table will be assigned an IP address. The IP Address allocated to the client is on a longer term basis than that assigned by the DHCP mentioned in the other option.	**DHCP** Static
IP Address	The BIOS will automatically enter the IP address of this machine; however, it may be overridden. This should be in decimal and in dotted quad form. The value of each three-digit number separated by dots should not exceed 255.	
Subnet Mask	This item displays the current subnet mask setting for your IPMI connection. This should be in decimal and in dotted quad form. The value of each three-digit number separated by dots should not exceed 255.	
Gateway Address	The BIOS will automatically enter the Gateway address of this machine; however it may be over-ridden. This should be in decimal and in dotted quad form. The value of each three-digit number separated by dots should not exceed 255.	
Mac Address	The BIOS will automatically enter the Mac address of this machine; however it may be over-ridden. Mac addresses are 6 two-digit hexadecimal numbers (Base 16, 0 ~ 9, A, B, C, D, E, F) separated by dots.	

Console Redirection

Parameter	Description	Options
Console Redirection	Select Enabled to use Console Redirection for remote access. If Remote Access is set to Enabled, the following items will display.	**Enabled** Disabled
Serial Port Number	This feature allows the user to decide which serial port to be used for Console Redirection.	COM1 **COM2**
Base Address, IRQ	This item displays the base address and IRQ of the serial port used for Console Redirection. The default setting is 2F8h, 3.	
Serial Port Mode	This feature allows the user to set the serial port mode for Console Redirection.	**115200 8, n 1** 57600 8, n, 1 38400 8, n, 1 9200 8, n, 1 9600 8, n, 1
Flow Control	This feature allows the user to set the flow control for Console Redirection.	**None** Hardware Software
Redirection After BIOS POST	Select Disabled to turn off Console Redirection after Power-On Self-Test (POST). Select Always to keep Console Redirection active all the time after POST. (Note: This setting may not be supported by some operating systems.) Select Boot Loader to keep Console Redirection active during POST and Boot up.	Disabled Boot Loader **Always**
Terminal Type	This feature allows the user to select the target terminal type for Console Redirection.	**ANSI** VT100 VT-UTF8
VT-UTF8 Combo Key Support	Select Enabled to enable VT-UTF8 Combination Key support for ANSI/ VT100 terminals.	**Enabled** Disabled

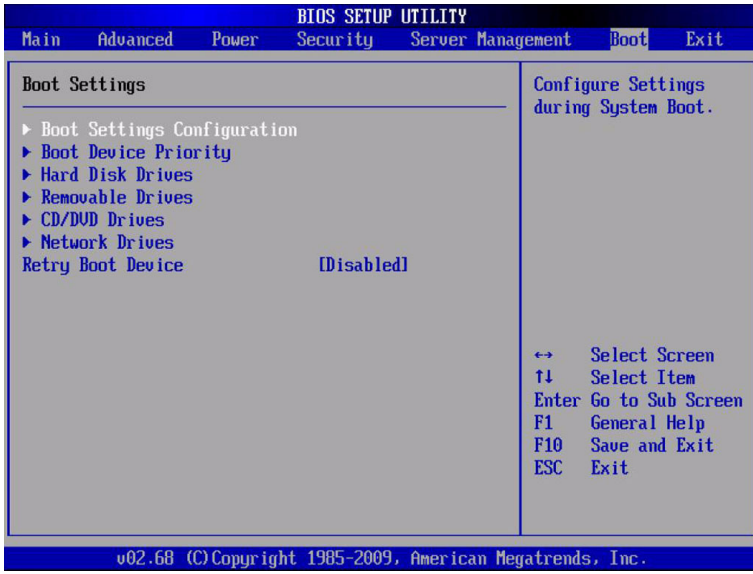
Parameter	Description	Options
Sredir Memory Display Delay	This feature defines the length of time in seconds to display memory information.	**No Delay** Delay 1 Sec Delay 2 Sec Delay 4 Sec

Event Log Configuration

Parameter	Description	Options
View Event Log	Use this option to view the System Event Log.	
Mark All Events as Read	This option marks all events as read.	**OK** Cancel
Clear Event Log	This option clears the Event Log memory of all messages.	**OK** Cancel

Boot Configuration

Use this feature to configure boot settings.



Boot Setting Configuration

Parameter	Description	Options
Quick Boot	Select Enabled to skip certain tests during POST to reduce the time needed for system boot.	**Enabled** Disabled
AddOn ROM Display Mode	This feature allows the user to set the display mode for the Option ROM.	**Force BIOS** Keep Current
Bootup Num-Lock	This feature allows the user to set the Power-on state for the Numlock key.	**On** Off
Wait For 'F1' If Error	Select Enabled to force the system to wait until the <F1> key is pressed if an error occurs.	**Enabled** Disabled

Parameter	Description	Options
Interrupt 19 Capture	Interrupt 19 is the software interrupt that handles the boot disk function. When this item is set to Enabled, the ROM BIOS of the host adaptors will "capture" Interrupt 19 at bootup and allow the drives attached to these host adaptors to function as bootable disks. If this item is set to Disabled, the ROM BIOS of the host adaptors will not capture Interrupt 19, and the drives attached to these adaptors will not function as bootable devices.	**Enabled** Disabled

Boot Device Priority

This feature allows the user to specify the sequence of priority for the Boot Device. The settings are **1st boot device**, 2nd boot device, 3rd boot device, and Disabled.

Hard Disk Drives

This feature allows the user to specify the boot sequence from all available hard disk drives. The settings are Disabled and a list of all hard disk drives that have been detected (e.g., 1st Drive, 2nd Drive, 3rd Drive, etc.)

Removable Drives

This feature allows the user to specify the boot sequence from all available removable drives (e.g., 1st Drive, 2nd Drive, 3rd Drive, etc.).

CD/DVD Drives

This feature allows the user to specify the boot sequence from all available CD/DVD drives.

Network Drives

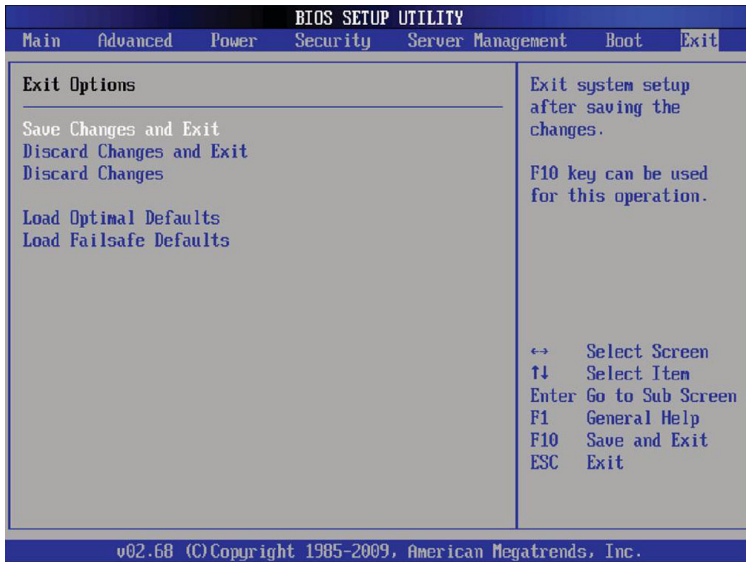
This feature allows the user to specify the boot sequence from all available network drives.

Retry Boot Devices

Select Enabled to enable Retry Boot Devices support to allow the system to attempt to boot from a specific boot device after a boot failure. The options are Enabled and **Disabled**.

Exit Options

Select the Exit tab from the AMI BIOS Setup Utility screen to enter the Exit BIOS Setup screen.



Parameter	Description	Options
Save Changes and Exit	Select this option and press <Enter> to leave the BIOS Setup Utility and reboot the computer for the new system configuration parameters to take effect.	**Ok** Cancel
Discard Changes and Exit	Select this option and press <Enter> to quit the BIOS Setup without making any permanent changes to the system confi guration, and reboot the computer.	**Ok** Cancel
Discard Changes	Select this option and press <Enter> to discard all changes and return to the AMI BIOS Utility Program.	**Ok** Cancel

Parameter	Description	Options
Load Optimal Defaults	To set this feature, select Load Optimal Defaults from the Exit menu and press <Enter>. Then select OK to allow the AMI BIOS to automatically load Optimal Defaults to the BIOS Settings. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications.	**Ok** Cancel
Load Fail-Safe Defaults	To set this feature, select Load Fail-Safe Defaults from the Exit menu and press <Enter>. The Fail-Safe settings are designed for maximum system stability, but not for maximum performance.	**Ok** Cancel

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 113**.

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 111**.

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), DVD-ROM 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 113**.

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 does 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
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, 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.
Acer Smart Console	Remotely manage the server via a UPnP tool or a Web browser. For detailed instructions on this utility, please refer to "Appendix C Acer Smart Console" on page 139.

RAID configuration utilities

Intel Onboard SATA RAID Creation

Configuring Intel onboard SATA RAID

This section briefly shows how to create RAID volume with Intel onboard SATA RAID.

Enabling onboard SATA RAID

1 Turn on the server and the display monitor. If the server is already turned on, please close all open applications and then restart the server.

2 During POST, press <**F2**> to access the BIOS Setup Utility.

3 Select the **Advanced** > **IDE/SATA** Configuration submenu.

4 Change the setting of the **Configure SATA#1 as** field from IDE to **RAID**.

5 Select **Intel** of **ICH Raid CodeBase** option.

6 Press <**F10**> and select **Ok** to save the setting and close the Setup Utility.

Entering onboard SATA RAID Configuration Utility

To start Intel onboard SATA RAID Configuration Utility, press CTRL-I when you see the RAID BIOS during POST. After POST finished, the Intel (R) Matrix Storage Manager option ROM will display on the screen.

Loading Factory Default Setting

1 In the Configuration menu, select third option Reset Disks to Non-RAID. The current adapter settings appear. Please click on Next to change the setting.

2 Select the hard disk drive that should be reset and press <**Enter**> to complete your selection.

3 Then press <**Y**> to reset RAID data on selected hard disks.

Creating a RAID 5 Volume

1 Select Create RAID Volume.

2 The **CREATE VOLUME MENU** displayed.

3 Type in the name of RAID volume.

4 Select RAID 5 level.

5 Select desired HDD to create the RAID.

6 Select **Create Volume**.

7 Press <**Y**> when "Are you sure you want to create the volume? (Y/N):" displayed.

8 Now the RAID volume is created, you can press <**Esc**> and select **Exit** to exit.

Initialing a RAID Volume

During Intel onboard SATA RAID volume creation process, the onboard SATA RAID volume will be automatically initiated once the onboard SATA RAID volume has been created.

Assigning a Hot Spare Drive

The Intel onboard SATA RAID Configuration Utility in POST does not provide the function to assign a hot spare driver. Please assign a hot spare driver with Intel onboard SATA RAID utility installed in operating system.

Adaptec Onboard SATA RAID Creation

Configuring Adaptec onboard SATA RAID

This section briefly shows how to create RAID volume with Adaptec onboard SATA RAID.

Enabling onboard SATA RAID

1 Turn on the server and the display monitor. If the server is already turned on, please close all open applications and then restart the server.

2 During POST, press <**F2**> to access the BIOS Setup Utility.

3 Select the **Advanced** > **IDE/SATA Configuration** submenu.

4 Change the setting of the **Configure SATA#1 as** field from IDE to **RAID**.

5 Select **Adaptec** of **ICH Raid CodeBase** option.

6 Press <**F10**>.

7 Select **Ok** to save the setting and close the Setup Utility.

Entering onboard SATA RAID Configuration Utility

To start Adaptec onboard SATA RAID Configuration Utility, please press <**Ctrl**> + <**A**> when you see the RAID BIOS during POST. After POST finished, the Adaptec RAID Configuration Utility will display on the screen.

Loading Factory Default Setting

Adaptec onboard SATA RAID utility does not provide an option for factory default setting. To reset onboard SATA RAID volume related configurations, please delete the existing onboard SATA RAID volumes.

Creating a RAID 1 Volume

1 Select Array Configuration Utility option.

2 Select **Create Array**.

3 The **Select drives to create Array** is displayed.

4 Select the desired hard drive disk and then press <**Ins**> to add it in the **Selected Drives** area.

5 Press <**Enter**> to complete the selection.

6 Select **Array Type**.

7 Configure the array properties.

8 Press **Done** when finish.

9 Press <**Y**> when "Do you want to create an array? (Yes/No):" displayed.

10 Press any key to continue.

11 The RAID volume is now created, you can press <**Esc**> to exit.

Initialing a RAID Volume

During Adaptec onboard SATA RAID volume creation process, the Adaptec onboard SATA RAID volume will be automatically initiated once the onboard SATA RAID volume has been created.

Assigning a Hot Spare Drive

A hot spare is a hard disk drive that automatically replaces any failed drive in a RAID volume, and can subsequently be used to rebuild the RAID volume.

1 Select Array Configuration Utility option.

2 Select **Add/Delete Hotspare**.

3 The **Select drives to assign Spare** is displayed.

4 Select the desired hard drive disk and then press <**Ins**> to add it in the **Assigned Hotspare drives** area.

5 Press <**Enter**> to complete the selection.

6 Press <**Y**> when "Do you want to create a spare? (Yes/No):" is displayed.

7 A hot spare drive is now created, you can press <**Esc**> to exit.

MegaRAID SAS 8204ELP Creation

Configuring MegaRAID SAS 8204ELP

This section briefly shows how to create 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 the RAID BIOS during POST.

Loading factory default setting

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 setting 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.

MegaRAID SAS 8708EM2 RAID Creation

Configuring MegaRAID SAS 8708EM2

This section briefly shows how to create RAID with MegaRAID SAS 8708EM2.

Entering MegaRAID SAS RAID Configuration Utility

To start MegaRAID SAS RAID Configuration Utility for MegaRAID SAS 8708EM2, press <**Ctrl**> + <**H**> when you see the RAID BIOS during POST. After POST finished, the Adapter Selection page will show on the screen. Click on **Start** to launch the configuration menu.

Loading Factory Default Setting

1 In the Configuration menu, select **Adapter Properties**. The current adapter settings appear. Click on **Next** to change the setting.

2 Change the setting of **Set Factory Defaults** from **No** to **Yes** then click on submit.

3 Press <**Ctrl**> + <**Alt**> + <**Del**> to reboot the server.

Creating a RAID Volume

1 Launch the configuration menu.

2 Select **Configuration Wizard**

3 Select **Add Configuration** (default) and click on **Next**.

4 Select **Custom Configuration** (default) and click on **Next**.

5 Press and hold the <**Ctrl**> key and select the drives that you want to add into the array. After selecting the drives, click on **Add to Array**.

6 Click on **Accept DG** then **Next**.

7 Select the array you just created, click on **Add to SPAN** and **Next**.

8 Select the **RAID Level** you want to use, create the logical volume by specify the size at **Select Size** and click on **Accept** to create the logical volume.

9 Click on **Next** after you creating the logical volume.

10 Click on **Accept** and **Yes** to save the configuration.

Initialing a RAID Volume

1 After creating the logical volumes on all RAID volumes, click on **Accept** and **Yes** to save the configuration.

2 Click on **Yes** to initialize the new logical drives. You will see all the logical drives listed.

3 Click on **Home** to go back to the configuration menu.

Assigning a Hot Spare Drive

1 Select a free disk marked as **UNCONF GOOD** and listed under **Physical Drives**.

2 Select **Make Global Dedicated HSP** or **Make Dedicated HSP** and click on **Go**.

3 Click on **Home** to go back to the configuration menu. You will see the disk marked as **Hotspare** in pink and listed under **Physical Drives**.

4 Now you can reboot the system and install the Operating System. Select **Exit**, click on Yes and press <**Ctrl**> + <**Alt**> + <**Del**> to reboot the system.

Flex IO SAS RAID Creation

Configuring Flex IO SAS RAID

This section briefly shows how to create RAID with Flex IO SAS RAID card.

Entering Flex IO SAS RAID Configuration Utility

To start Flex IO SAS RAID Configuration Utility for Flex IO SAS RAID card, press CTRL-H when you see the RAID BIOS during POST. After POST finished, the Adapter Selection page will show on the screen. Please click on Start to launch the configuration menu.

Loading Factory Default Setting

1 In the Configuration menu, select **Adapter Properties**. The current adapter settings appear. Click on **Next** to change the setting.

2 Change the setting of **Set Factory Defaults** from **No** to **Yes** then click on submit.

3 Press <**Ctrl**> + <**Alt**> + <**Del**> to reboot the server.

Creating and Initialing a RAID Volume

1 Launch the configuration menu.

2 Select **Configuration Wizard**.

3 Select **Add Configuration** (default) and click on **Next**.

4 Select **Custom Configuration** (default) and click on **Next**.

5 Press and hold the <**Ctrl**> key and select the drives that you want to add into the array. After you selecting the drives, click on **Add to Array**.

6 Click on **Accept DG** then **Next**.

7 Select the array you just created, click on **Add to SPAN** and **Next**.

8 Select the **RAID Level** you want to use, create the logical volume by specify the size at **Select Size** and click on **Accept** to create the logical volume.

9 Click on **Next** after you creating the logical volume.

10 Click on **Accept** and **Yes** to save the configuration.

Initialing a RAID Volume

1 After you create the logical volumes on all of the RAID volume, click on **Accept** and **Yes** to save the configuration.

2 Click on **Yes** to initialize the new logical drives. You will see all the logical drives listed.

3 Click on **Home** to go back to the configuration menu.

Assigning a Hot Spare Drive

1 Select a free disk marked as **UNCONF GOOD** and listed under **Physical Drives**.

2 Select **Make Global Dedicated HSP** or **Make Dedicated HSP** and click on **Go**.

3 Click on **Home** to go back to the configuration menu. You will see the disk marked as **Hotspare** in pink and listed under Physical Drives.

4 Now you can reboot the system and install the operating system. Select **Exit**, click on **Yes** and press <**Ctrl**> + <**Alt**> + <**Del**> to reboot the 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.

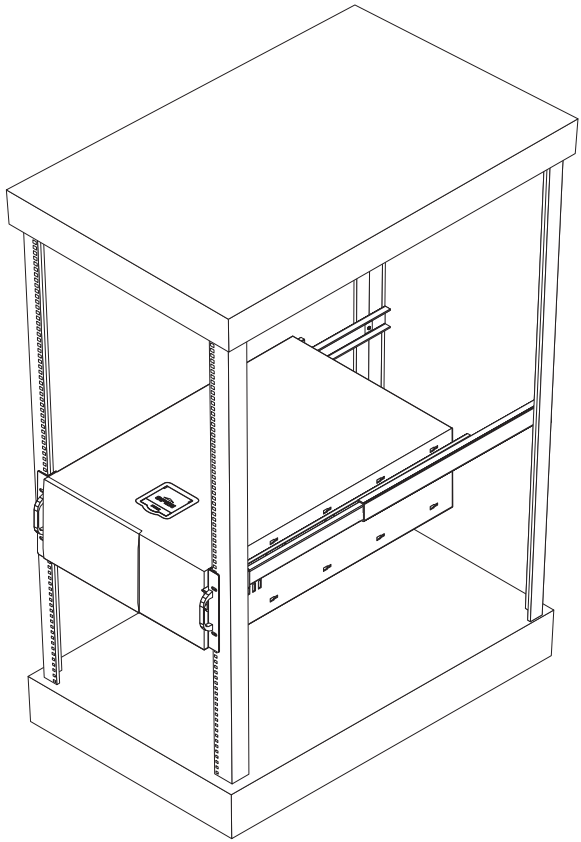
- Circuit overloading

  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

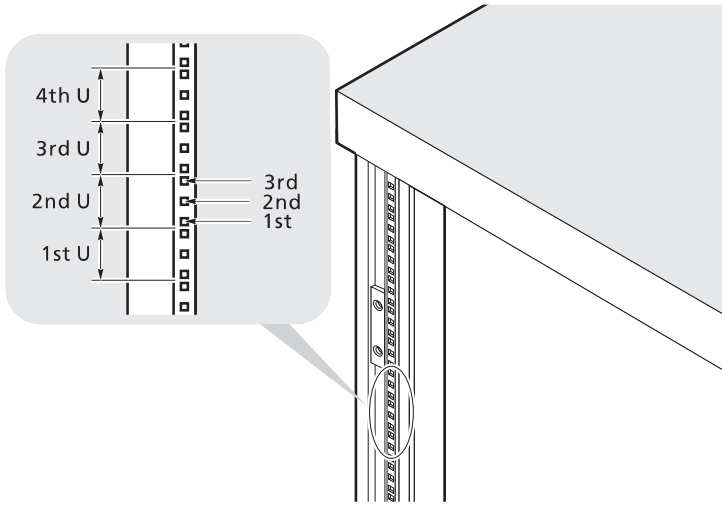
The server should be mounted into a rack. A tool-less rack rail kit is available for installing system to a rack cabinet.

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

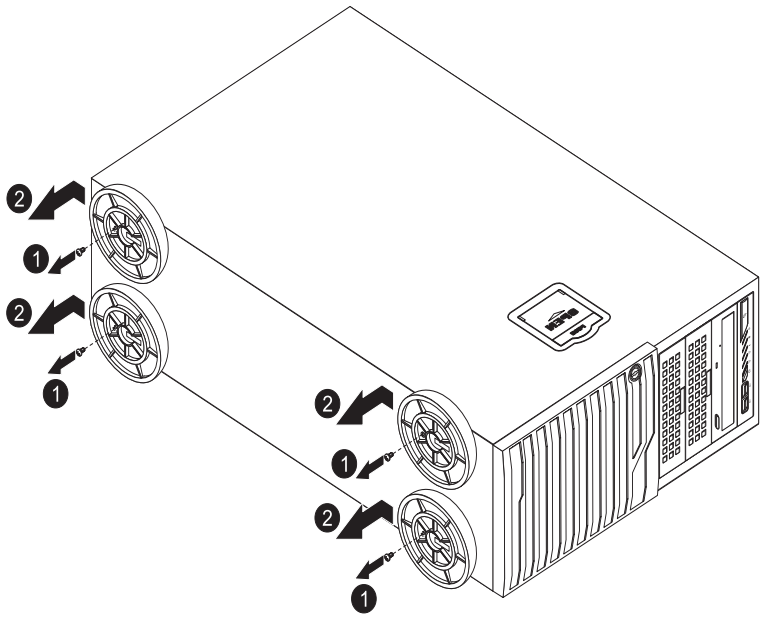
Caution! To minimize the chances of injuries, make sure that two or more people help in installing the server.

1 Confirm that the left and right inner rails have been correctly identified.

2 Remove the footstands from the server.

(1) Remove the screw from each footstand.

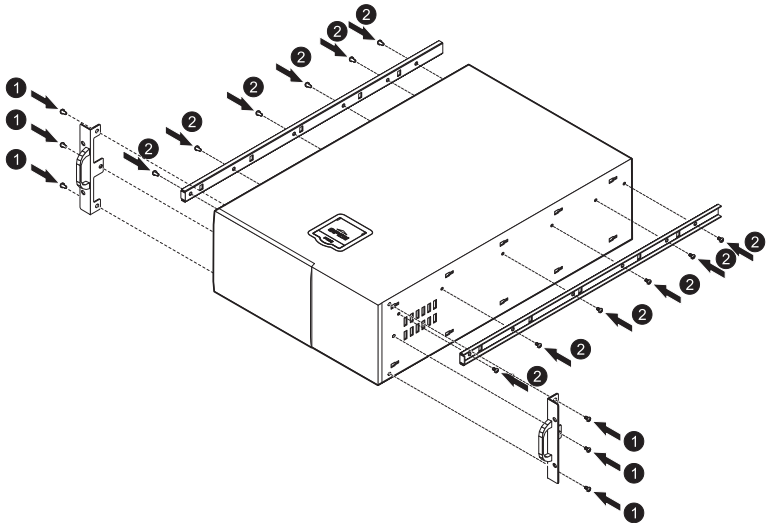
(2) Push the footstands in the direction indicated and remove from the server.



3 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.

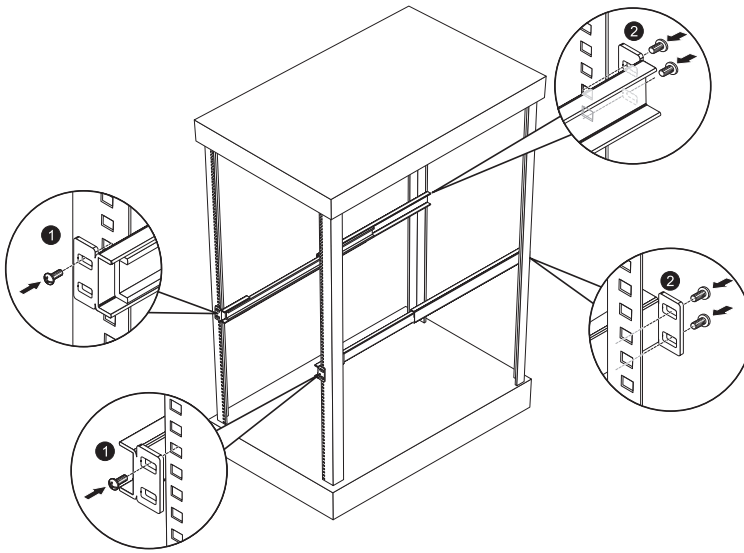
(2) Align the screw holes on the left and right front inner rails and use the screws from the rack mount kit to secure both rails to the server.



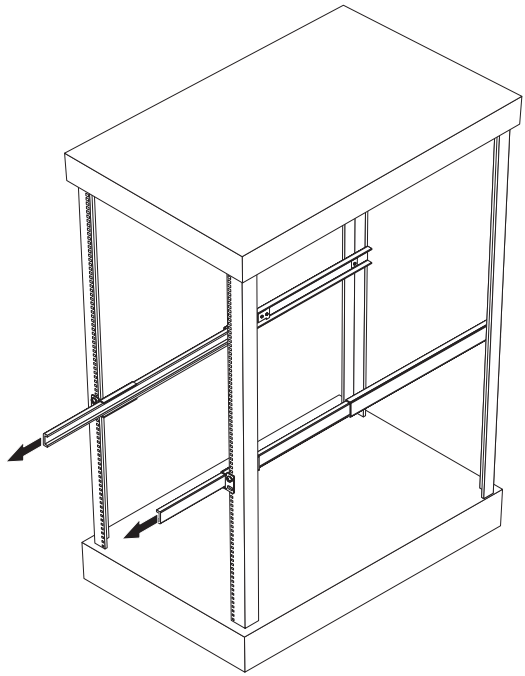
4 Install the mounting rails to the rack posts.

(1) Align the left and right mounting rails to the front rack post mounting holes. Secure each mounting rail to the front rack post with one screw.

(2) Align the left and right mounting rails to the rear rack post mounting holes. Secure each mounting rail to the rear rack post with two screws.



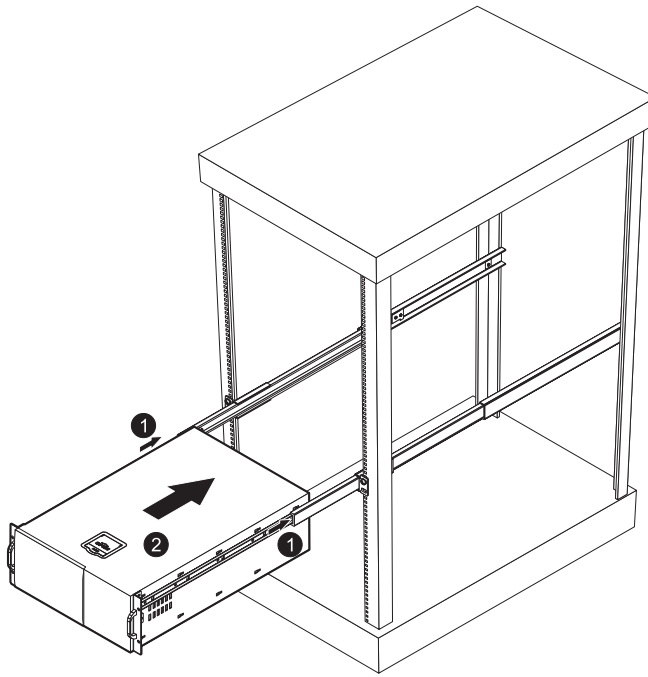
5 Extend the middle sliding piece of each mounting rail forward until you hear an audible click.



6 Install the server in the system rack.

(1) Insert the inner rails attached to the server into the mounting rails.

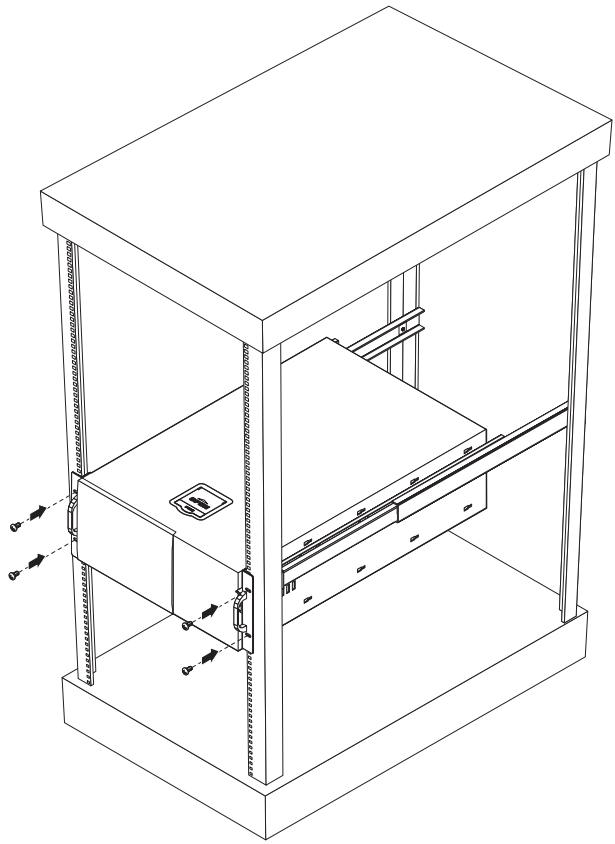
(2) Push the server into the rack until you hear a click sound.



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

7 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

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, sensor 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 CD/DVD ROM drive and floppy drive. This feature enables remote installation of the operating system or applications.

Notification: Via SNMP trap and email to inform a person or management software when system status changes.

Platform neutrality: Acer Smart Console uses the 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 RADIUS and LDAP Client Support.

Software requirements

Supported environments: Microsoft Windows Vista, XP, Windows 2000, 2003 and Server 2008.

JAVA: Version 6, update 12 or higher

Note: KVM Remote Console Redirection needs to run in a JAVA environment. Ensure the JAVA Runtime Environment Tool is installed.

Accessing Acer Smart Console

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 username and password in the login screen.
- Username: root
- Password: superuser

3 Click **Login**. The Acer Smart Console page appears.

Note: The default username is **root** and the default password is **superuser**. Both the username 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 you 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.

System status

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.

- **Normal**: The system is in good health and no alerts were detected on the sensors.
- **Warning**: At least one sensor has a warning alert.
- **Critical**: At least one sensor has a critical alert.

System Information

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

System Information

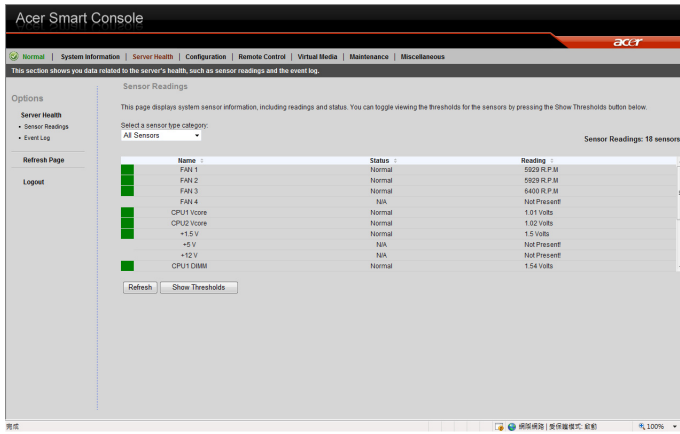
Displays general server information, such as the power status, management network IP and management controller MAC address, BMC firmware version and build time, FRU revision and SDR revision and allows you to manage the chassis LED indicator.

FRU Reading

Provides information about major system components, including chassis, main board and other product information.

Server Health

Displays data related to the server's health, such as sensor readings and the event log. This menu has 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 Display Color

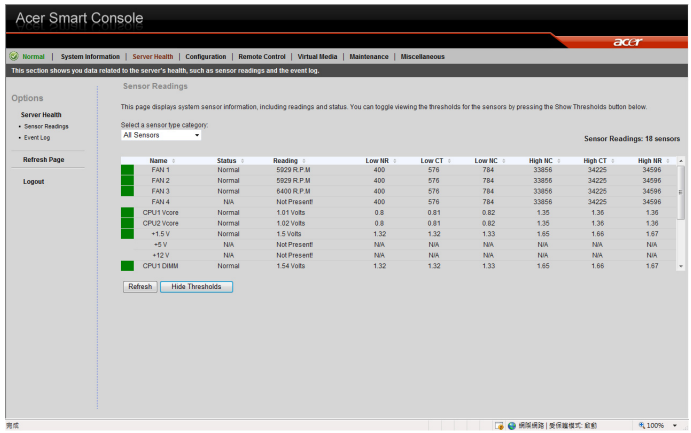
Indicates the health of the system processor, fan, temperature and voltage in a box displayed before each sensor category.

- **Green**: Indicates the system is in good health and no alerts were detected on the sensors.
- **Amber**: Indicates at least one sensor has a warning alert.
- **Red**: Indicates at least on sensor has a critical alert.

Threshold

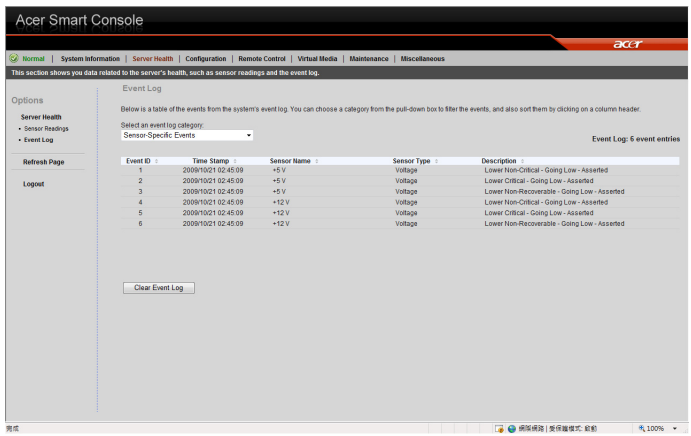
Click **Show Thresholds** to view the threshold parameters of each sensor. It displays the Low Non-Critical (NC), High Non-Critical (NC), High Critical Threshold (CT) threshold information, and these items can not be modified. When each threshold matches alert level, system will send the alert to the specified destinations. To configure the specified

destination, please go to Alert section. To refresh the sensor status, just click **Refresh**.



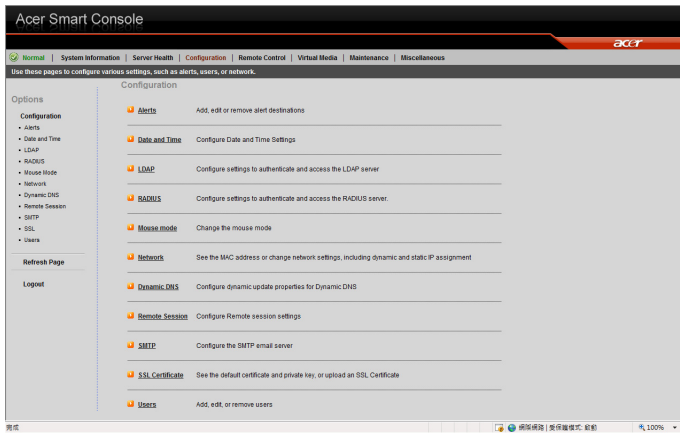
Event Log

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 a notification automatically if pre-configured.



Configuration

Allows you to designate email recipients for notification of system alerts, configure the Date and Time, configure the LDAP (Lightweight Directory Access Protocol) and RADIUS settings, configure the mouse mode settings, configure the network settings, configure the Dynamic DNS, configure the remote session settings, configure the SMTP email server settings, create an SSL certificate and manage users.

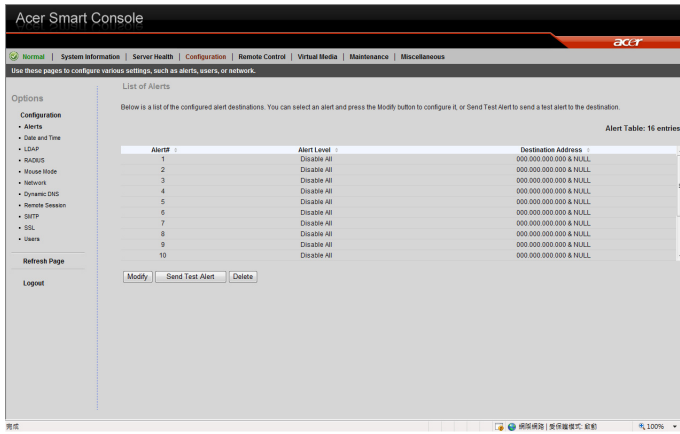


The Configuration menu has the following options:

- Alerts
- Date and Time
- LDAP
- RADIUS
- Mouse mode
- Network
- Dynamic DNS
- Remote Session
- SMTP
- SSL Certificate
- Users

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.



The Alerts page allows you to do the following:

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

Setting up alerts

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

Setting up SNMP traps

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

2 Specify the event severity, such as Critical or Warning.

3 Enter the IP information.

4 Click **Save**.

Setting up email notifications

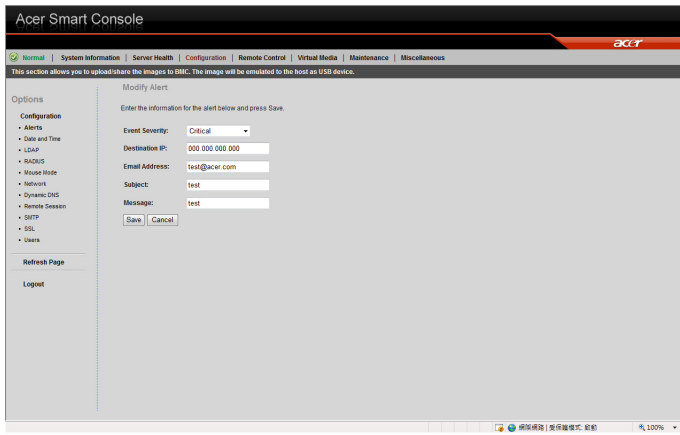
1 On the Alerts page click **Modify**.

2 Specify the event severity, such as Critical or Warning.

3 Enter the recipient's email address.

4 Enter a subject and message.

5 Click **Save**.

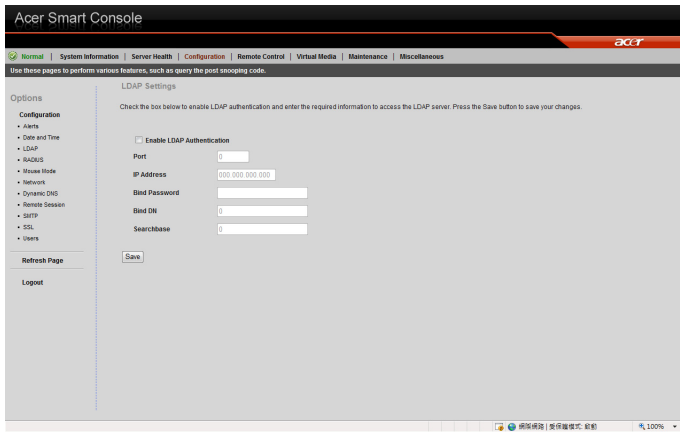


Date and Time

The Date and Time option allows you to set the BMC date and time.

LDAP (if available)

The LDAP option allows you to download the user account list and authentication from the LDAP server and create Acer Smart Console user accounts from this list.



Configuring LDAP settings

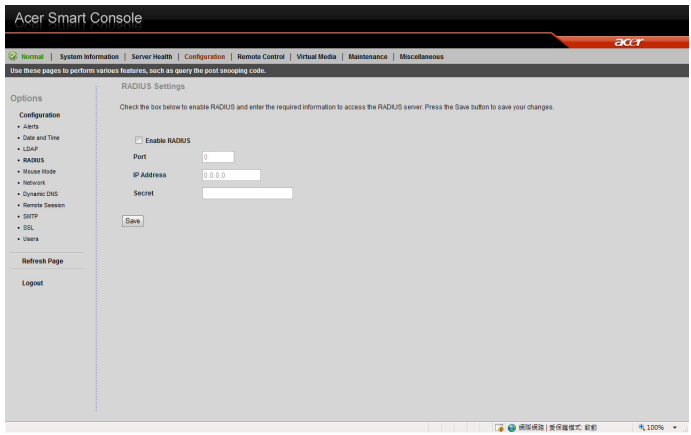
1 On the LDAP Settings page and check **Enable LDAP Authentication**.

2 Enter the required information to access the LDAP server.

3 Click **Save**.

RADIUS

The RADIUS option allows you to configure the RADIUS option.



Configuring RADIUS

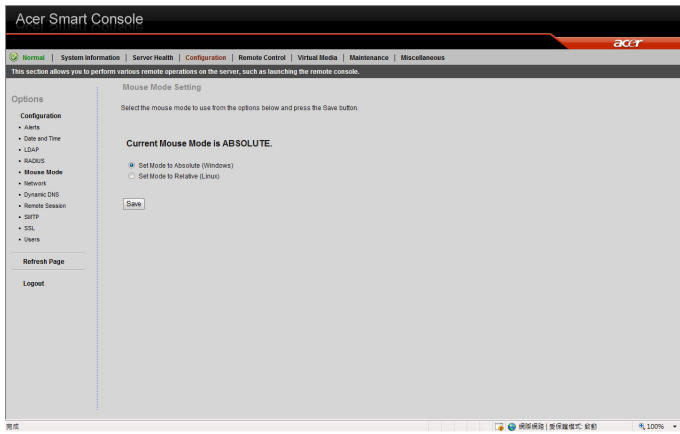
1 On the RADIUS Settings page check **Enable RADIUS**.

2 Enter the required information to access the RADIUS 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

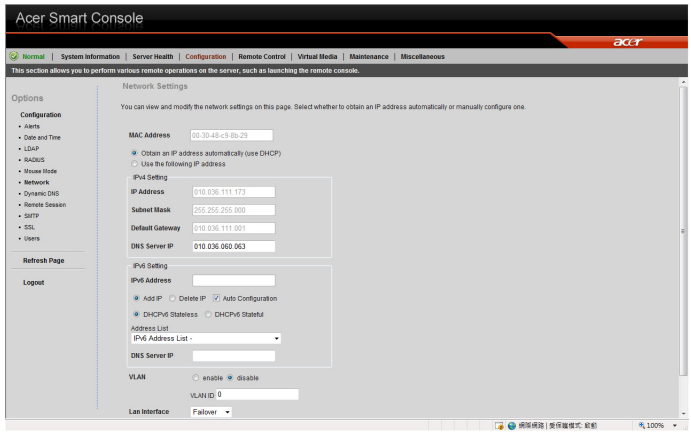
1 Select a mouse mode from the Mouse Mode page.
   - **Absolute**: Select this setting when using a Microsoft Windows operating system.
   - **Relative**: Select this setting when using a Linux operating system.

2 Click **Save**.

Network

The Network option allows you to configure and change the management network parameters. You can configure the network

settings by using DHCP (Dynamic Host Configuration Protocol) or manually.



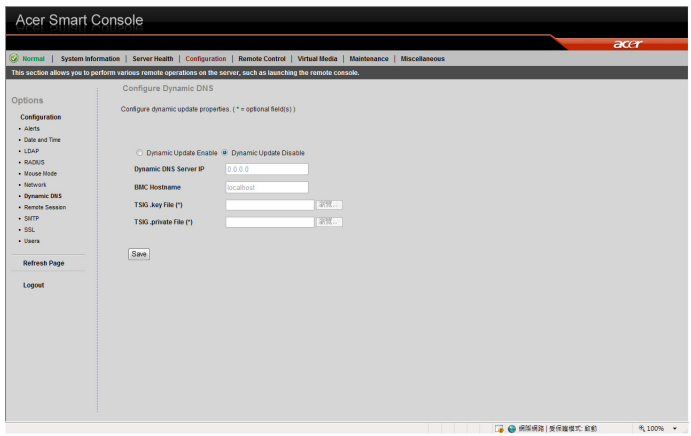
Configuring network settings

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

2 Click **Save**.

Dynamic DNS

The Dynamic DNS option allows you to configure and change the management network parameters.



Configuring Dynamic DNS

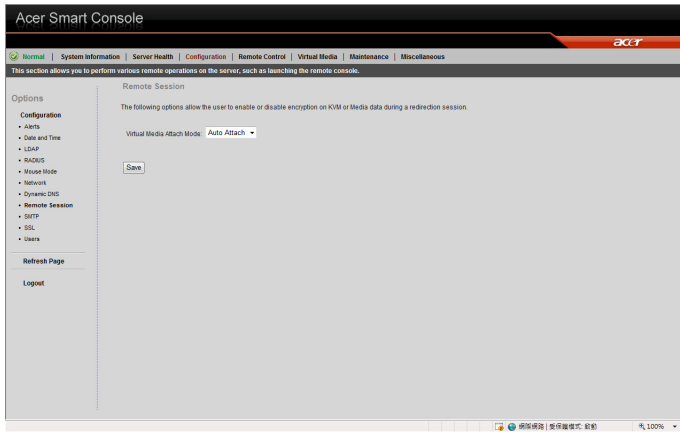
1 On the Dynamic DNS Settings page, check **Enable Dynamic DNS**.

2 Enter the required information to access the Dynamic DNS server.

3 Click **Save**.

Remote Session

The following options allow you to enable or disable encryption on KVM or Media data during a redirection session. Select the remote session then press **Save**.



Configuring Remote Session settings

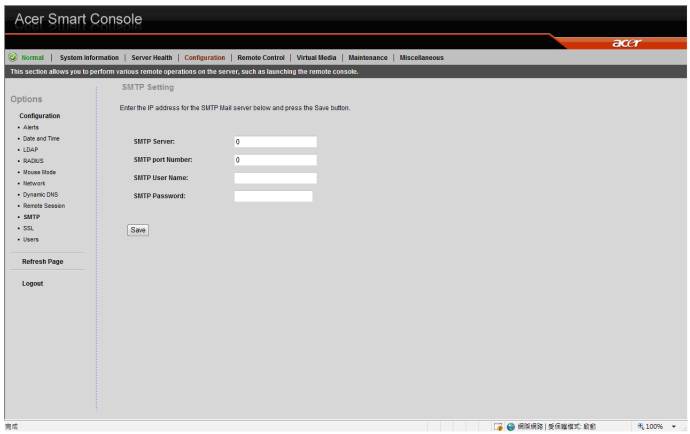
1 On the Remote Session page, select whether to enable KVM or Media Encryption.

2 Select a Virtual Media Attach Mode.

3 Click **Save**.

SMTP

The SMTP option allows you to configure the SMTP (Simple Mail Transfer Protocol) mail server settings.



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.

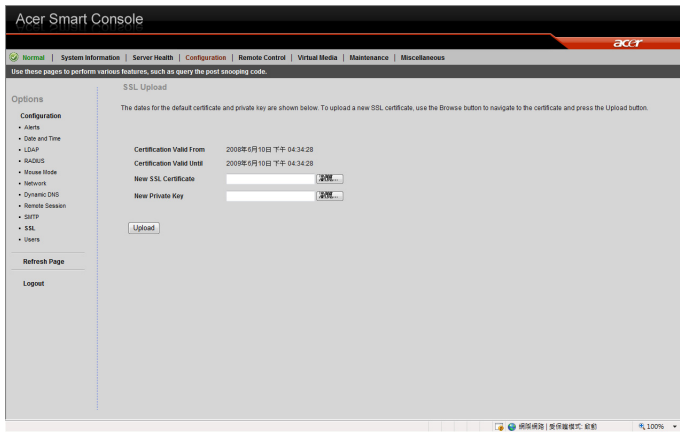
4 Enter the email address for sending email notifications.

5 Enter the machine name.

6 Click **Save**.

SSL Upload

The SSL Certificate option allows you to upload a SSL certificate manually.



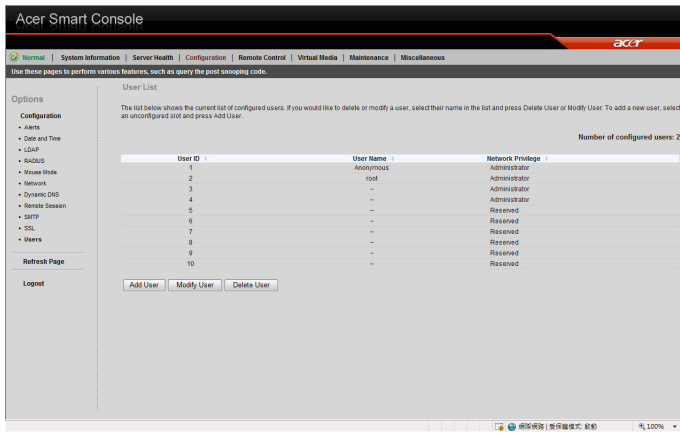
Uploading an SSL certificate

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

2 Click **Upload**.

Users

The Users option 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**: Remove the user from the list.
- **Modify User**: Edit the user profile.
- **Add User**: Create 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.

- **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 On the Users page click **Modify User**.

2 Enter the username.

3 Enter the password.

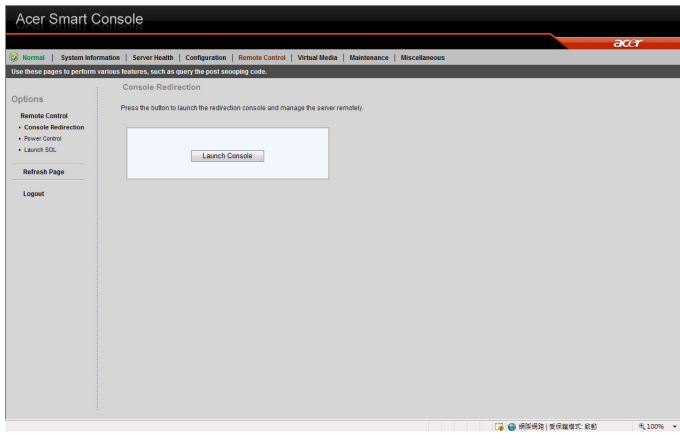
4 Re-enter the password.

5 Select a privilege level from the drop-down menu.

6 Click **Modify**.

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

The KVM Remote Console Redirection option 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.

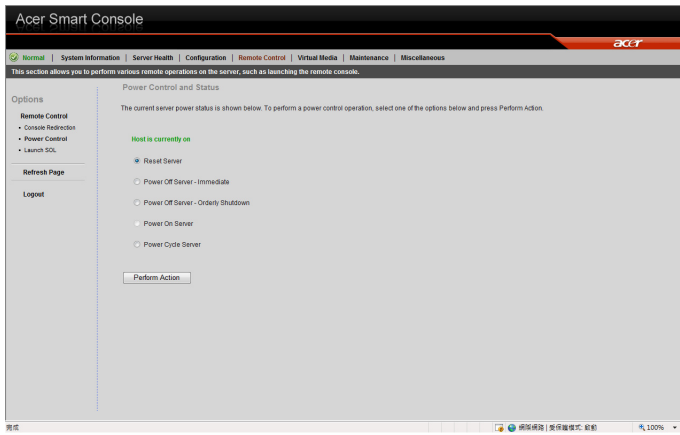
Launching the KVM Remote Console utility

On the KVM Remote Console Redirection page, click **Launch Console**. The web browser downloads and automatically launches the remote console application. The KVM Remote Console screen appears.

For more information about the KVM Remote Console application, refer to **"KVM function description" on page 161**.

Server Power Control

The Server Power Control option allows you to perform a remote power on, power off, power cycle and reset your server.

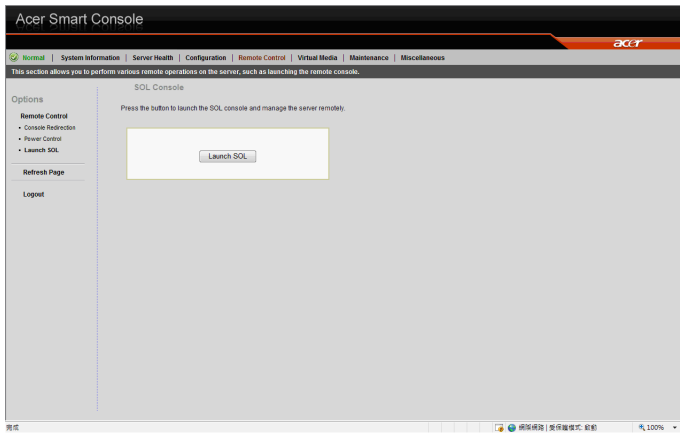


Performing a remote power control operation

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

Launch SOL

SOL allows you to launch the remote console by using Serial over LAN.



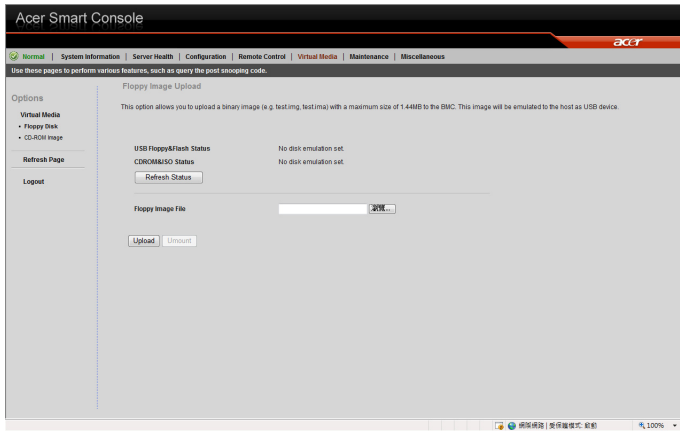
Click **Launch SOL**. Select the Baud rate from the pull-down menu as your SOL transfer rate. Make sure that the Baud rate selected here matches the Baud Rate set in the BIOS.

Once you have selected the Baud rate, and press **Start** to start the session. You can also press Stop to stop the SOL connection.

Virtual Media

Floppy disk

This floppy disk option allows you to upload and share images via the BMC. These images will then be emulated to the host server as USB applications.

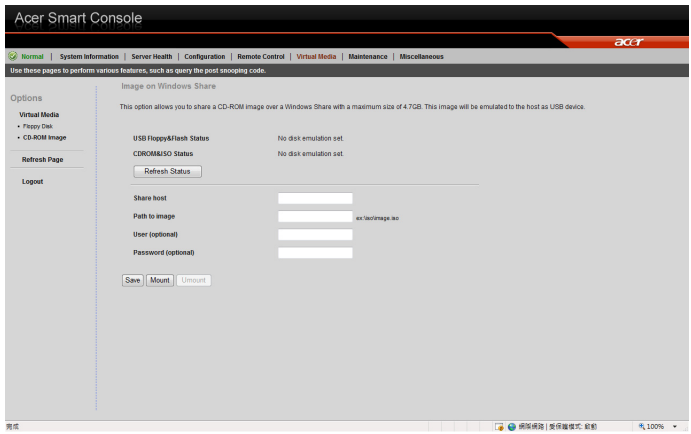


Perform the floppy disk operation

On the floppy disk page select an image file, then click **Upload** to upload your image file to the server.

CD-ROM image

This option allows you to upload and share images via the BMC. These images will then be emulated to the host server as USB applications.



Perform the CD-ROM operation

1 On the CD-ROM Setting page, enter the share host server.

2 Enter the path to the CD-ROM image file.

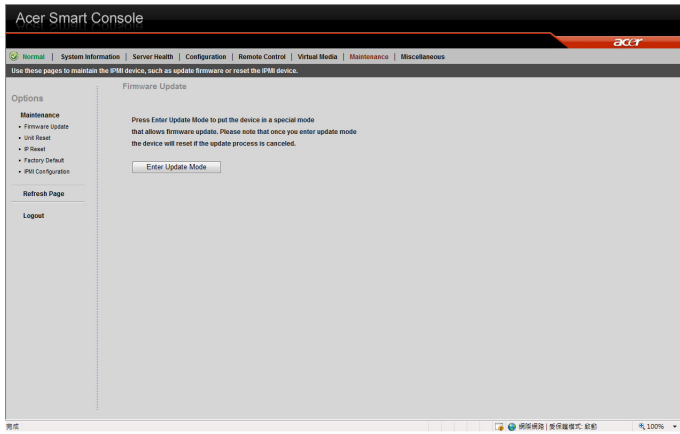
3 Enter the user name (optional) and password (optional).

4 Click **Save**.

Maintenance

Firmware Update

Maintenance allows you to upgrade the BMC firmware (including Acer Smart Console and FRU information).



Upgrading firmware

1 On the Maintenance page click **Enter Update Mode**. The Firmware Upload page appears.

2 Click **Browse** to locate the firmware image file.

3 Click **Upload** to upload the image file to the server.

Unite reset

Unite reset allows you to reboot the BMC (IPMI) Controller.

IP reset

IP reset allows you to reset the settings for virtual media, keyboard and mouse on the host server.

Factory default

Factory Default allows you to reset IPMI to the factory default settings.

IPMI configuration

IPMI Configuration allows you to save the current configuration settings or to restore the settings to a previously-saved state.

Miscellaneous

POST snooping

POST snooping allows you to query the POST (Power-On Self Test) Snooping code for BIOS LPC Port80.

KVM function description

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

Virtual media

Virtual storage

Click this item to select a virtual storage device for your console redirection.

- **USB Floppy & Flash Devices**: Click this item to use a USB floppy device or a flash device for your console redirection.
- **CDROM & ISO**: Click this item to use a CDROM or an ISO device for your console redirection.
- **Logical Drive Type**: Click this item to select a logical drive type from the pull down menu for your console redirection.
- **Image Filename and Full Path**: Enter the Image Filename and the path for your console redirection.
- **Plug In**: After you've entered the correct information, click **Plug In** > **OK** to launch console redirection.

Virtual keyboard

Click this item to configure the virtual keyboard settings for your console redirection.

- **Virtual Keyboard**: Click the item to activate the Virtual Keyboard.

- **English Keyboard**: The screen above shows the Virtual Keyboard in English. Click any key on the keyboard for your BMC connection.

Record

This feature allows you to record media displays for your console redirection.

Start recording: Click this item to start video recording on your remote server.

Stop Recording:Click this item to stop video recording on your remote server.

Playback

This feature allows you to playback the media displays that you have recorded.

- **Open**: Click this item to open your media recording files.
- **Close**: Click this item to close your media recording files.
- **Stop**: Click this item to stop media recording playback.
- **Play/Pause**: Click this item to continue with media recording playback or to stop media recording playback.

Macro

This feature allows you to configure Macro settings for your console redirection.

- **Hold Right ALT Key**: This item performs the same function as you holding down the <Right Alt> key.
- **Hold Left ALT Key**: This item performs the same function as you holding down the <Left Alt> key.
- **Right Windows Key**: This item performs the same function as pressing the <Right Windows> key. Right click this item to select **Hold Down** or **Press & Release** for the <Right Windows> key function.
- **Left Windows Key**: This item performs the same function as pressing the <Left Windows> key. Right click this item to select **Press Down** or **Press & Release** for the <Left Windows> key function.
- **Macro**: Click this item to activate a pull-down submenu displaying

Macro hotkeys.

- **Macro Hotkeys**: Click this item to display the macro hotkey pop-up submenu. The hotkeys include the following:
  - <**Ctrl**> + <**Alt**> + <**Del**>
  - <**Alt**> + <**Tab**>
  - <**Alt**> + <**Esc**>
  - <**Ctrl**> + <**Esc**>
  - <**Alt**> + <**Space**>
  - <**Alt**> + <**Enter**>
  - <**Alt**> + <**Hyphen**>
  - <**Alt**> + <**F4**>
  - <**Alt**> + <**Prnt Scrn**>
  - <**Prnt Scrn**>
  - <**F1**>
  - <**Alt**> + <**F1**>
  - <**Pause**>

Options

The options menu allows you to configure the settings for Hotkey, Preferences, Full-Screen Mode, OSD UI Style and Keyboard_Mouse_Hotplug for your console redirection.

Hotkey settings

This feature allows you to configure Hotkey settings for your console redirection.

- **Set Hotkey**: Click this item to configure your hotkey settings for your console redirection.
- The Hotkey Settings screen displays the following information:
  - **Hotkeys**: Hotkeys: <**Ctrl**> + <**1**> to <**Ctrl**> + <**7**> are displayed on the right side of the screen.
  - **Actions**: Click a hotkey to show the action corresponding to this hotkey on the left of the screen.
- **Keyboard Monitor**: Click this item to enable keyboard monitor support.
- **Assign**: Click a hotkey and select an action from the actions menu, and then click **Assign** to assign the action to the hotkey.
- **Start**: After an action is assigned to a hotkey, click **Start** to execute the command and complete the assignment.
- **Stop**: After an action is assigned to a hot key, click **Stop** to cancel

the selection.

- **Close**: After configuring the hotkey settings, click **Close** to close this submenu.

Preferences

Display

Recording Time: Check this box if you want video recording to be automatically turned off at a certain time. Once the automatic stop is selected, enter the number of minutes before your video recording will be automatically shut-off.

Display Scale: Use the handle on the slider to set the appropriate scale setting for your video display (from 25 to 100).

Image Quality: Check the High Color box for a network connection with heavier traffic. Check the Low Color box for a network connection with lighter traffic. Click **OK** to use the settings set up by you.

Input

Mouse Settings: Click **Input** to configure mouse settings, including the following.

Enable Mouse Input: Check this box to use your mouse as an input device for your console redirection. Once mouse support is enabled, select **Absolute Mouse Mode** if you use Windows; select **Relative Mouse** for Linux.

Keyboard Settings: Check this box to use the keyboard as an input device for your console redirection. Once keyboard support is enabled, you can configure repeat key timeout settings.

Repeat Key Timeout: Use the handle on the slider to select the appropriate timeout settings for repeat keystrokes from 0 ms (millisecond) to 1000 ms (millisecond).

Language

From the Preferences submenu, select **Language settings**.

From the language settings pop-up menu select the language you want to use for console redirection. The language options are: English, Japanese, German, French, Spanish, Korean, and Italian.

Once you have selected a language to use, click **OK**.

Window

From the Preference submenu, click **Window** to display the submenu. The Window pop-up menu will open.

Check this box to allow the display window to be automatically resized for best video display.

Click **OK** to keep the selection.

Video Stream Control

From the Preference submenu, click **Video Stream Control** to display the submenu. The Window pop-up menu will display.

Check this box to enable Video Stream Flow Control support.

Select the correct speed setting. After setting the speed click **OK**.

Full-screen mode

This feature allows you to set the video display to the full-screen mode for your console redirection.

OSD UI style

This feature allows you to configure the OSD UI style settings for console redirection.

The OSD UI Style Screen: This screen provides shortcuts to the main features provided by the firmware for console redirection. Click an OSD UI Style icon to change the settings.

Move OSD UI Screen: Click this icon to move the UI to a new location on the display.

Hotkey Settings: Click this icon to access the Hotkeys submenu and change the settings.

Virtual Media: Click this item to access the Virtual Media submenu and configure the settings.

Virtual Keyboard: Click this item to access the Virtual Keyboard submenu and use your virtual keyboard.

Preferences submenu: Click this item to access the Preferences submenu.

Full-screen Mode: Click this item to change the display window to the full-screen.

Exit Remote Console: Click on this item to exit from the remote connection.

User List: Click on this item to display the user list.

Change Tool Bar Display: Click this item to change the tool bar display format.

Hotplug Keyboard/Mouse: Click this item to use hotplug keyboard and mouse.

Macro: Click this item to enable Macro support and use the Macro settings features.

Video Recording: Click this item to access the Video Recording submenu and to use video recording.

Video Playback: Click this item for video playback.

Hotplug Keyboard/Mouse

Hotplug Keyboard/Mouse: Click the item enable keyboard/mouse hotplug support for your console redirection.

User List

This feature allows you to access the user list.

Session ID: This item displays the current session ID#.

User Name: This item displays the name(s) of the user(s).

IP Address: This item displays the IP Address of the host server.

Capture

This feature allows you to capture the screen display on your remote console.

Full Screen Capture: Click this item to capture the full screen video display.

Exit

Yes: At the prompt, click **Yes** to exit from remote redirection.

No: Click **No** to return to the current session.

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