

# Acer Altos R5250 Series

## User's Guide

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Acer Altos R5250 Series  
User's Guide

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Record the model number, serial number, purchase date, and place of purchase information in the space provided below. The serial number and model number are recorded on the label affixed to your server. All correspondence concerning your unit should include the serial number, model number, and purchase information.

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Model Name : Acer Altos R5250 Series

Part Number: MU.R2800.004

Purchase Date:

Place of Purchase:

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# Notices

## FCC declaration of conformity

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.

The following local manufacturer/importer is responsible for this declaration:

Product:	Server
Model number:	R5250
Name of responsible party:	Acer America Corporation
Address of responsible party:	333 West San Carlos St., San Jose, CA 95110, U. S. A.
Contact person:	Acer Representative
Phone number:	1-254-298-4000
Fax number:	1-254-298-4147

## FCC notice

Class A devices do not have an FCC logo or FCC IDE on the label. Class B devices have an FCC logo or FCC IDE on the label. Once the class of the device is determined, refer to the following corresponding statement.

## Class A equipment

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 when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at personal expense.

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.

## 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 noncertified 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 server.

## Use conditions

This part 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 meets all requirements of the Canadian Interference-Causing Equipment Regulations.



## Remarque à l'intention des utilisateurs canadiens

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

## 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 A LASER DE CLASSE 1 PRODUIT

**LASERATTENTION:** RADIATION DU FAISCEAU LASER INVISIBLE EN CAS D'OUVERTURE. EVITER TOUTE EXPOSITION AUX RAYONS.

### LUOKAN 1 LASERLAITE LASER KLASSE 1

**VORSICHT:** UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET NICHT DEM STRAHLL AUSSETZEN.

### PRODUCTO LÁSER DE LA CLASE I

**ADVERTENCIA:** RADIACIÓN LÁSER INVISIBLE AL SER ABIERTO. EVITE EXPONERSE A LOS RAYOS.

**ADVARSEL:** LASERSTRÅLING VEDÅBNING SE IKKE IND I STRÅLEN.

**VARO:** LAVATTAESSA OLET ALTTINA LASERSÄTEILYLLE.

**VARNING:** LASERSTRÅLNING NÅR DENNA DEL ÄR ÖPPNAD ÅLÅ TUIJOTA SÄTTEESENSTIRRA EJ IN I STRÅLEN.

**VARNING:** LASERSTRÅLNING NAR DENNA DEL ÄR ÖPPNADSTIRRA EJ IN I STRÅLEN.

**ADVARSEL:** LASERSTRÅLING NAR DEKSEL ÅPNESSTIRR IKKE INN I STRÅLEN.

## Macrovision copyright protection notice

"U.S Patent Nos. 4,631,603; 4,819,098; 4,907,093; 5,315,448; and 6,516,132."

This product incorporates copyright protection technology that is protected by U.S. patents and other intellectual property rights. Use of this copyright protection technology must be authorized by Macrovision, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision. Reverse engineering or disassembly is prohibited.

## CE Declaration of conformity

**We,**

**Acer Computer (Shanghai) Limited**

3F, No. 168 Xizang Medium Road, Huangpu District,  
Shanghai, China

Contact Person: Mr. Easy Lai

Tel: 886-2-8691-3089

Fax: 886-2-8691-3120

E-mail: easy\_lai@acer.com.tw

Hereby declare that:

Product:	Server
Trade name:	Acer
Model number:	R5250
SKU number:	R525xx ("x" = 0~9, a~z, A~Z or blank)

Is compliant with the essential requirements and other relevant provisions of the following EC directives, and that all the necessary steps have been taken and are in force to assure that production units of the same product will continue to comply with these requirements.

- **EMC Directive 2004/108/EC, amended by conformity with the following harmonized standards:**
  - EN55022:1998 + A1:2000 + A2:2003, AS/NZS CISPR22:2002, Class A
  - EN55024:1998 + A1:2001 + A2:2003
  - EN61000-3-2:2000 + A2:2005, Class D
  - EN61000-3-3:1995 + A1:2001
- **Low Voltage Directive 2006/95/EC as attested by conformity with the following harmonized standard:**
  - EN60950-1:2001 + A11:2004
- **RoHS Directive 2002/95/EC on the Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment**

*Easy Lai*

Director, Acer Computer (Shanghai) Limited

## Declaration of conformity for EU countries

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

## Russian regulatory certification compliance



ME61

# 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 server.
- 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.

### Usage warnings

- Do not use this product near water. Never spill liquid of any kind onto or into the product.
- 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.
- 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, hard drives, optical drives, and even exposure risk from lithium battery pack.

## Using electrical power

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



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**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.**



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**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, type SPT-2, rated 7 A 125 V minimum, VDE approved or its equivalent, 4.6 meters (15 feet) maximum length.

## Safe listening

Follow these instructions, suggested by hearing experts, to protect your hearing.

- Gradually increase the volume until you can hear it clearly and comfortably and without distortion.
- After setting the volume level, do not increase it after your ears adjust.
- Limit the amount of time listening to music at high volume.
- Avoid turning up the volume to block out noisy surroundings.
- Turn the volume down if you can't hear people speaking near you.

## 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 <http://global.acer.com/about/sustainability.htm>.



## Mercury advisory

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



## Tips and information for comfortable use

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

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

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

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

The following sections provide tips for more comfortable computer use.

### Finding your comfort zone

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

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



## Taking care of your vision

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

- Eyes
  - Rest your eyes frequently.
  - Give your eyes regular breaks by looking away from the monitor and focusing on a distant point.
  - Blink frequently to keep your eyes from drying out.
- Display
  - Keep your display clean.
  - Keep your head at a higher level than the top edge of the display so your eyes point downward when looking at the middle of the display.
  - Adjust the display brightness and/or contrast to a comfortable level for enhanced text readability and graphics clarity.
  - Eliminate glare and reflections by:
    - placing your display in such a way that the side faces the window or any light source
    - minimizing room light by using drapes, shades or blinds
    - using a task light
    - changing the display's viewing angle
    - using a glare-reduction filter
    - using a display visor, such as a piece of cardboard extended from the display's top front edge
  - Avoid adjusting your display to an awkward viewing angle.
  - Avoid looking at bright light sources, such as open windows, for extended periods of time.

## Developing good work habits

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

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



.....  
**Warning! We do not recommend using the computer on a couch or bed. If this is unavoidable, work for only short periods, take breaks regularly, and do some stretching exercises.**

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# 1 System tour

The Altos R5250 is a feature-rich server equipped with numerous high performance features to provide easy server set up, remote management, highly reliable shared storage, and handle more demanding database or high transaction applications.



# System features

Listed below are the key features of the Acer Altos R5250 server.

## Performance

### Processor

- Two socket F (1207-pin) AMD processor sockets supporting dual-core/quad-core AMD Opteron™ 2000 series processors
- Up to 2x 512 KB L2 cache and 2 MB/6 MB L3<sup>1</sup> cache for dual-core processor
- Up to 4x 512 KB L2 cache and 2 MB/6 MB L3<sup>1</sup> cache for quad-core processor
- Support for the following AMD technologies:<sup>2</sup>
  - Direct Connect Architecture
  - Hyper-Transport™ Technology
  - AMD64 Technology
  - AMD Virtualization™ Technology (AMD-V)
  - AMD PowerNow™ Technology
  - Enhanced virus protection
  - AMD CoolCore™ Technology
  - Dual Dynamic Power Management (DDPM)

### Chipset

- NVIDIA nForce Professional 3600 media and communication processors (MCPs)

### Memory

- Supports up to sixteen DDR2-667 registered ECC modules
- Eight DIMM slots per processor
  - Single-processor supports memory capacity of 32 GB

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1 The 6 MB L3 cache will be available upon release of the AMD Opteron "Shanghai" processors.

2 For more information on these AMD technologies, visit the AMD web site at <http://www.amd.com>.

- Dual-processor supports memory capacity of 64 GB
- Supports dual-channel DDR2 memory per processor
- Supports memory sparing technology

#### PCI interface

- Full height riser slot
  - One PCI Express x16 bus slots
  - One PCI-X 133 slot (optional)
- One PCI Express x8 bus slot dedicated to the SAS RAID or SAS daughter board

#### Video controller

- Integrated XGI Z9s chipset with 16 MB DDR SDRAM
- Optional add-on graphic card support

#### Networking

- Two Gigabit Ethernet LAN ports (RJ-45)
- TCP Offload Engine (TOE) support

#### SATA controller

- Embedded SATA2 controller
  - Six SATA2 ports
  - Supports integrated SATA software RAID levels 0, 1, and 5

#### Integrated RAID support (optional)

- Supports RAID levels 0 and 1E with installation of a SAS daughter board
- Supports RAID levels 0, 1, 10, and 5 with installation of a SAS RAID daughter board (with iButton)

#### Media storage

- Slim-line IDE optical drive
- Up to three 3.5-inch hot-plug SAS/SATA2 hard disk drives

## I/O ports

- Two front USB 2.0 ports
- PS/2 keyboard port
- PS/2 mouse port
- Serial port
- Monitor port
- Two rear USB 2.0 ports
- Two Ethernet ports (RJ-45)

## Power supply and system fan

- 650-watts power supply
- Up to six dual rotor easy-swap system fans

## Hardware monitoring

- Winbond W83792D hardware monitoring IC for voltage, temperature, and fan speed detection
- LED indicators for constant monitoring of basic system function

## Server management

- Baseboard Management Controller (BMC) module
  - Intelligent Platform Management Interface (IPMI) 2.0 compliant
  - In-band and out-band server management

## Operating system and management utilities

- Operating system options:
  - Microsoft® Windows® Server 2003
  - Microsoft® Windows® Server 2003, x64 Edition
  - Red Hat® Enterprise Linux® 5.0
  - Red Hat® Enterprise Linux® 5.0, EM64T
  - SUSE Linux® Enterprise Server 10.0
  - SUSE Linux® Enterprise Server 10.0, EM64T
- Management utilities
  - Acer EasyBUILD<sup>3</sup>

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<sup>3</sup> For more information on how to install and use ASM and EasyBUILD utilities, refer to the manual on the EasyBUILD DVD.

- Acer Server Management (ASM) 8.0
- Acer eBusiness Value Pack (optional)
- Acer eBusiness ValueSTOR (optional)

## Mechanical

### Chassis

- Tool-less chassis design for easy hardware access and configuration
- Rack-mount (1U, tray-less) setup option
- Weight: 16.8 kg (37.04 lbs)
- Dimensions
  - Height: 43.2 mm (1.70 in)
  - Depth: 430.2 mm (16.94 in)
  - Width: 677.6 mm (26.68 in)

## Environmental

- Temperature
  - Operating: +10° to +35°C with the maximum rate of change not to exceed 10° per hour.
  - Non-operating: -40° to +70°C
- Humidity, non-operating : 90%, non-condensing @ 35°C
- Vibration, operating: Half sine, 2g peak, 11 m/sec
- System cooling: 2081.5 BTU/hour

# External and internal structure

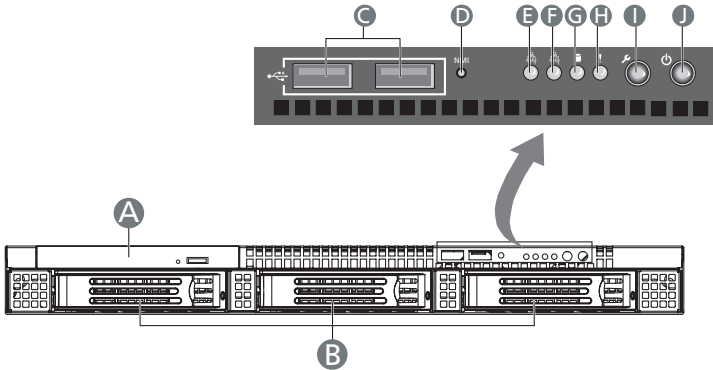
## Front bezel

The front bezel provides an interface for system management via status LED indicators. The light pipes on the backside of the front bezel allow the system status LEDs to be monitored when the front bezel is closed.



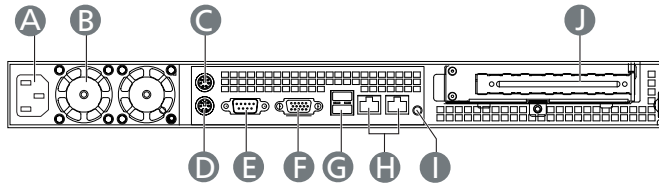
The front bezel is removable to allow access to the server's hard drives, peripheral device, and control panel. For details on how to remove the front bezel, see "To remove the front bezel" section on page 29.

Front panel



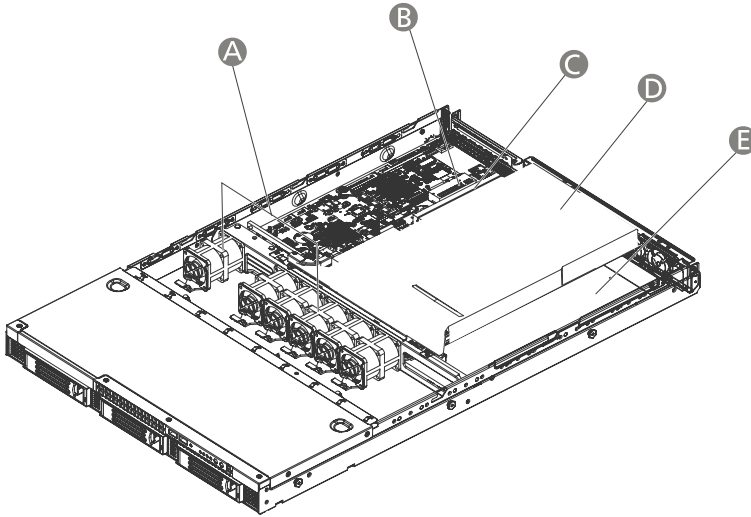
Item	Icon	Component
A		Slim-line optical drive
B		3.5" hot-plug HDD bays
C		USB ports
D	NMI	Non-maskable interrupt (NMI) button Puts the server in a halt-state for diagnostic purposes and allows you to issue a non-maskable interrupt.
E, F		LAN port 1 and 2 connection indicators
G		HDD activity indicator
H		Status/fault indicator
I		System ID button Toggles the front panel ID LED and the mainboard system ID LED on and off. The mainboard system ID LED is visible through the rear of the chassis and allows you to locate the server you're working on from behind a rack of servers.
J		Power/sleep button Toggles the system power on and off. This button also functions as a sleep button if enabled by an ACPI-compliant operating system.

## Rear panel



Item	Component
A	Power supply module
B	Power supply cooling fan
C	PS2 mouse port
D	PS2 keyboard port
E	Serial port
F	Monitor port
G	USB 2.0 ports
H	Gigabit LAN ports (10/100/1000 Mbps)
I	System ID button
J	PCI slot cover

# Internal components



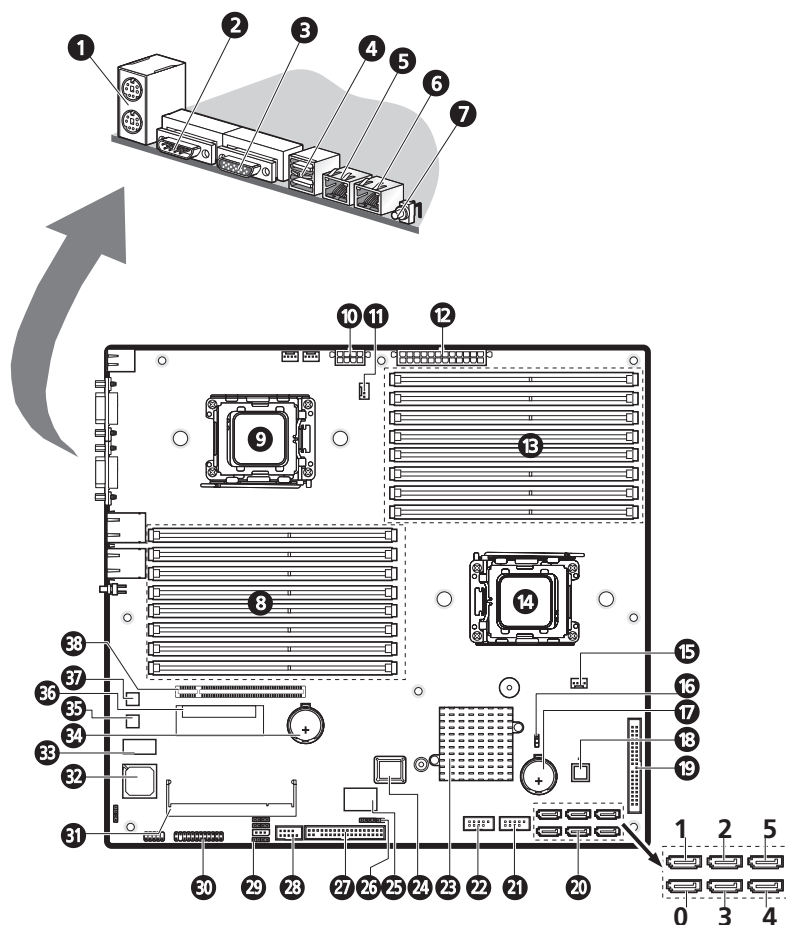
Item	Component
A	System fan modules
B	SAS RAID or SAS daughter board slot
C	PCI riser card
D	Air duct
E	Power supply



# System boards

## Mainboard

The mainboard becomes accessible once you open the system. It should look like the figure shown below.



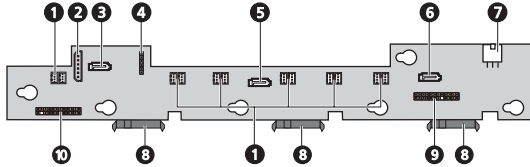
No.	Code	Description
1	KB_MS1	Top: PS/2 mouse port Bottom: PS/2 keyboard port
2	COMA1	Serial port
3	VGA1	Monitor port
4	R_USB1	USB 2.0 ports
5	GLAN1	Gigabit LAN port 1
6	GLAN2	Gigabit LAN port 2
7	SW1	ID switch
8	DIMM C1 - C4 DIMM D1 - D4	DDR2 sockets for processor 2
9	CPU2	Processor 2 socket
10	ATX, 12V1	8-pin ATX power connector
11	CPU2_FAN	Processor 2 HSF cable connector
12	ATX_L1	24-pin ATX power connector
13	DIMM A1 - A4 DIMM B1 - B4	DDR2 sockets for processor 1
14	CPU1	Processor 1 socket
15	CPU1_FAN	Processor 1 HSF cable connector
16	CLR_CMOS	Clear CMOS jumper Close 1-2 – Normal CMOS settings (default) Close 2-3 – Clear CMOS
17	BATTERY1	CMOS battery
18	U46	Winbond W83792D hardware monitoring IC
19	IDE1	IDE cable connector

No.	Code	Description
20	SATA 0-5	SATA2 data cable connector*
21	F-USB1	Front USB cable connector
22	F_USB2	Internal USB cable connector
23	U24	NVIDIA nForce Professional 3600
24	U5	BIOS flash ROM (Read-Only Memory)
25	U23	ITE ITE8716F-S I/O controller
26	BP2	SAS backplane sensor connector
27	FDD1	FDD cable connector
28	COMB1	Serial port (internal)
29	IPMB_1 I2C_1 IPMB_2 I2C_2	IPMB connector I2C connector
30	F_PANEL1	Front panel LED connector
31	IPMI1	BMC module slot
32	U41	XGI Volari Z9s VGA controller
33	U42	Video memory
34	iButton	RAID activation key (for SAS RAID daughter board)
35	U3	Gigabit LAN controller
36	PCIE_2	SAS RAID or SAS daughter board slot
37	U4	Gigabit LAN controller
38	PCIE_1	PCI riser slot

\* When connecting SATA devices, connect them sequentially following the port numbers (0 to 5). When connecting a SATA tape backup unit (TBU), it should be connected to SATA port 0 if there is no HDD connected; and SATA port 5 if there are HDDs connected to the mainboard.

## Backplane board

The backplane board installed on the rear side of the hot-plug drive bay provides support for both SAS and SATA2 hard drives.



No.	Description
1	System fan connectors
2	SAS backplane sensor connector
3, 5, 6	SAS/SATA2 data cable connectors
4	SGPIO (Serial General Purpose Input/Output) connector to SAS RAID or SAS daughter board
7	Power cable connector
8	SAS/SATA2 HDD connectors
9	Front panel board connector (to front panel board)
10	Front panel LED connector (to mainboard)

# System LED indicators

This section describes the different LED indicators located on the:

- Front panel
- Hot-plug HDD carrier
- LAN port

Knowing what each LED indicator signifies can aid in problem diagnosis and troubleshooting.

## Front panel LED indicators

The six LED indicators mounted on the front panel allow the constant monitoring of basic system functions. These indicators remain visible even when the bezel door is closed.

Indicator	Color	Status	Description
LAN port 1/2 connection	Green	On	Network connection is established.
		Blinking	Network connection is established and is running at supported speed.
		Off	Network connection is not established.
HDD activity	Green	On	HDD is installed and functioning correctly.
		Blinking	There is an ongoing HDD activity.
System ID	Blue	On	System identification is active
	—	Off	Identification is disabled.
Power	Green	On	The system has AC power and is powered on.
		Blinking	The system is in standby mode.
		Off	System is not powered on.

Indicator	Color	Status	Description
Status/fault*	Green	On	System in normal mode.
	Amber	On	Critical system threshold breach Access the Setup utility and view the system event log for details.

\* The status/fault LED indicator is only enabled when the optional BMC module is installed on the mainboard. To purchase this option, contact your local Acer representative.

## Hot-plug HDD LED indicator

A drive activity LED indicator is mounted on the hot-plug HDD carrier. The table below lists the possible drive states.

Status	Green	Amber	Description
HDD access	Blinking	—	Ongoing hot-plug HDD activity
HDD failure	—	On	Hot-plug HDD failure
HDD rebuild	Flashing green/amber		HDD is rebuilding data.

## LAN port LED indicators

Indicator	Color	Status	Description
Network speed (left)	Amber	On	GbE link network access
	Green	On	100 Mbps link network access
	—	Off	10 Mbps link network access
Network connection (right)	Green	On	Active network link
		Blinking	Ongoing network data activity
		Off	Off-line network

## 2 System setup

This chapter gives you instructions on how to set up the system. Procedures on how to connect peripherals are also explained.



# 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:

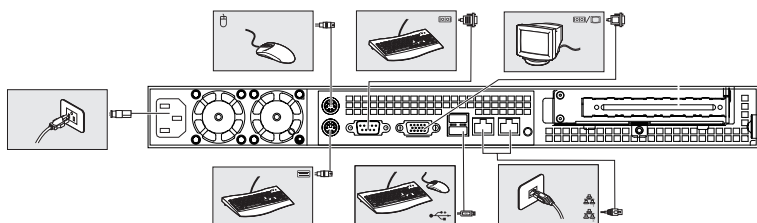
- Acer Altos R5250 server system
- Acer EasyBUILD™
- Acer Altos R5250 accessory box

If any of the above items are 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.



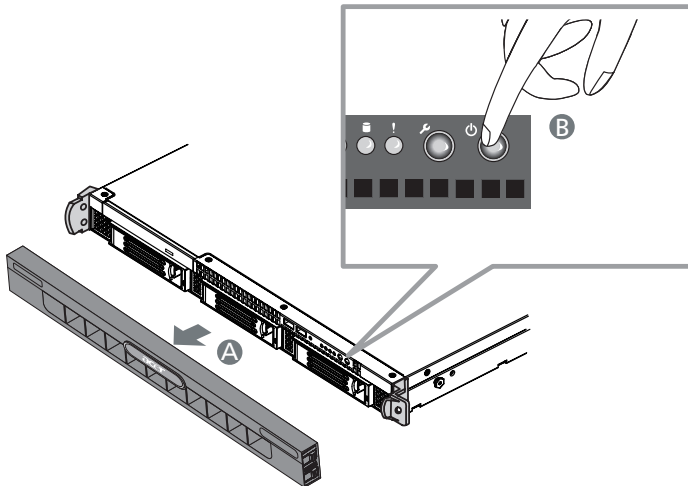
.....  
**Note:** Consult the operating system manual for information on how to configure the network setup.

# Turning on the system

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

To power on the system:

- 1 Remove the front bezel **(A)**.
- 2 Press the power button **(B)**.



The system starts up and displays a welcome message on the monitor. After that, a series of 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 indicator on the front panel lights up green.
- The Num Lock, Caps Lock, and Scroll Lock indicators on the keyboard light up

## Power-on problems

If the system does not 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 source to the power supply module AC input connector on the rear panel. Make sure that the power cord is properly connected to the power source and to the AC input connector.

- 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

The Acer Altos R5250 server comes with Acer EasyBUILD that allows you to conveniently install your choice of operating system. To start using EasyBUILD, follow the steps below.

- 1 Locate the EasyBUILD DVD included in the system package.
- 2 With the system turned on, gently press the optical drive's Stop/Eject button.
- 3 When the disc tray slides open, insert the EasyBUILD DVD with the label or title 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 Gently press the drive Stop/Eject button again to close the disc tray.
- 6 The Acer EasyBUILD sequence begins. Follow all onscreen instructions.

For more information, refer to the EasyBUILD Installation guide.



.....  
**Note:** Windows or Linux OS CD is needed when you install the OS with the EasyBUILD DVD.

## 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 Windows OS. For further OS shutdown procedures, refer to the related user documentation.

To turn off the system via software:

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

To turn off the system via hardware:

If you cannot shut down the server using the 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 upgrade

This chapter discusses the precautionary measures and installation procedures you need to know to upgrade the system.



# Installation precautions

Before you install any server component, we recommend that you read the following sections. These sections contain important ESD precautions along with pre-installation and post-installation instructions.

## ESD precautions

Electrostatic discharge (ESD) can damage the processor, disk drives, expansion boards, motherboard, memory modules and other server components. Always observe the following precautions before you install a server component:

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

## Pre-installation instructions

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



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**Warning! Failure to properly turn off the server before you start installing components may cause serious damage. Do not attempt the procedures described in the following sections unless you are a qualified service technician.**

- 1 Turn off the system and all the peripherals connected to it.
- 2 Unplug all cables from the power outlets.
- 3 Disconnect all telecommunication cables from their ports.
- 4 Place the system unit on a flat, stable surface.
- 5 Open the system according to the instructions on page 29.
- 6 Follow the ESD precautions described in this 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 all components or cable that have been previously removed.
- 3 Reinstall the top cover.
- 4 Reinstall the front bezel.
- 5 Reconnect the necessary cables.
- 6 Turn on the system.

# Opening the server



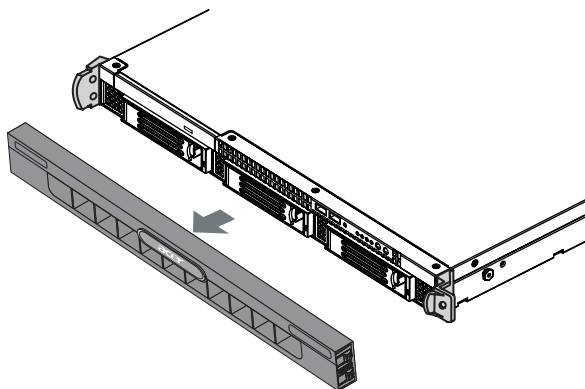
**Caution!** Before you proceed, make sure that you have turned off the system and all peripherals connected to it. Read the "Pre-installation instructions" on page 28.

You need to open the server before you can install additional components. The front bezel and top cover are removable to allow access to the system's internal components. Refer to the following sections for instructions.

## Removing and installing the front bezel

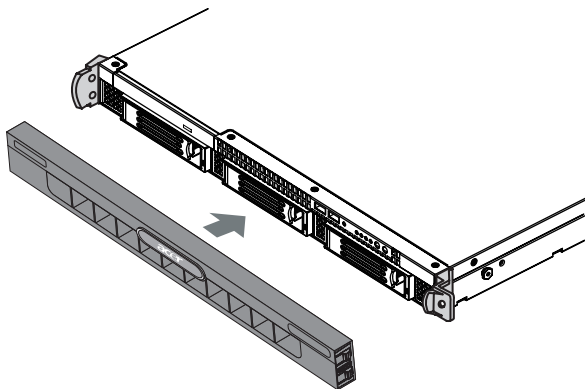
To remove the front bezel:

Grasp the front bezel at the outer edge and pull it straight out.



To install the front bezel:

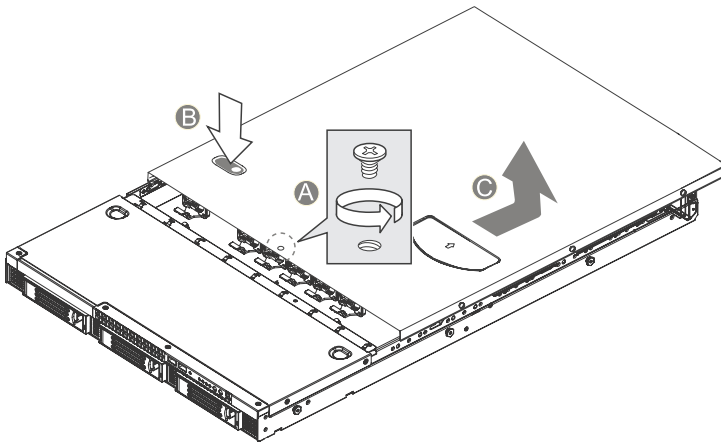
- 1 Line up the center notch on both ends of the bezel with the center guide on the rack handles.
- 2 Slide the front bezel onto the chassis until it clicks into place.



## Removing and installing the top cover

To remove the top cover:

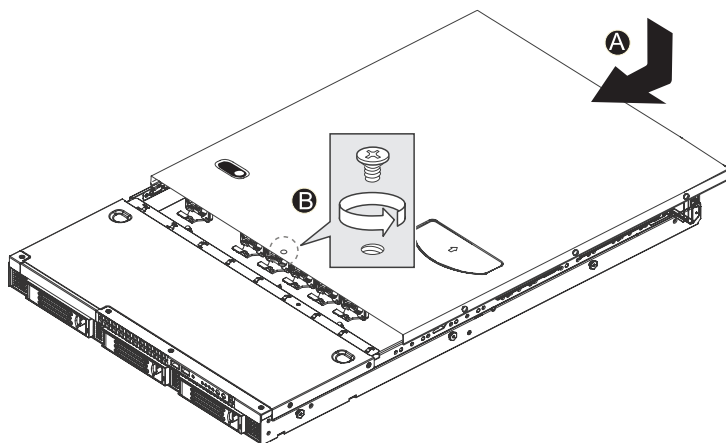
- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the screw located on the top cover **(A)**.
- 3 Press and hold the release button **(B)**, then slide the cover toward the back of the chassis and lift the top cover away from the server **(C)**.



- 4 Put the top cover aside for reinstallation later.

To install the top cover:

- 1 Perform the pre-installation instructions described on page 28.
- 2 Place the top cover on the chassis so that the tabs on the cover align with the slots on the chassis.
- 3 Slide the top cover toward the front of the chassis until it is fully closed **(A)**.
- 4 Replace the screw on the top cover **(B)**.



# Removing and installing the air duct

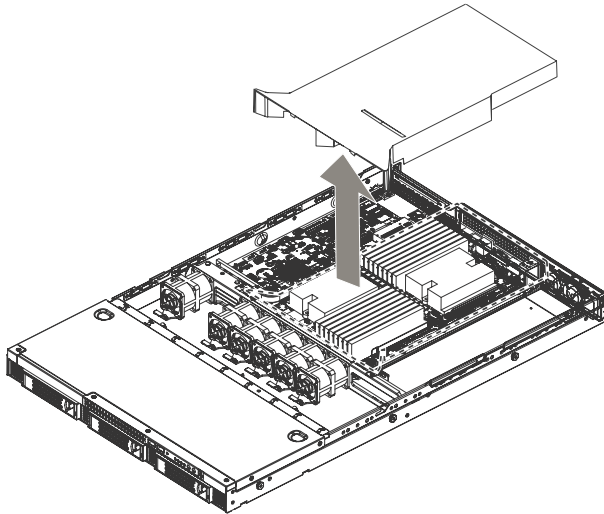


.....  
**Caution!** Always operate your server with the air duct installed to ensure reliable and continued operation.

To remove the air duct:

You will need to remove the air duct to perform the following procedures:

- Removing and installing a processor
  - Removing and installing the memory modules
- 1 Perform the pre-installation instructions described on page 28.
  - 2 Lift the air duct from the chassis.

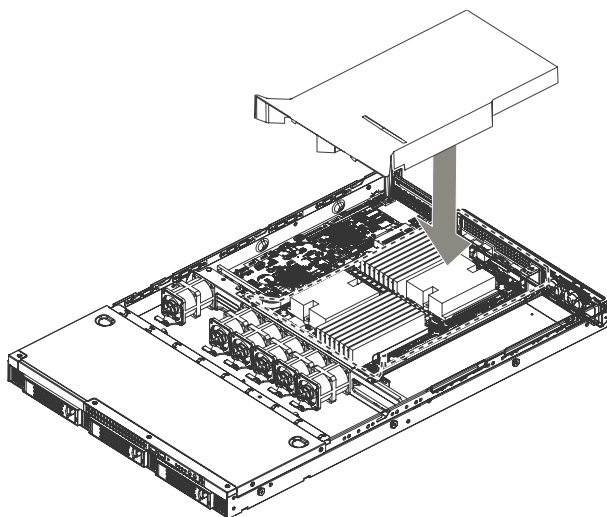


To install the air duct:

- 1 Perform the pre-installation instructions described on page 28.
- 2 Place the air duct over the two processor sockets. The front edge of the air duct should touch the front fan module and the top of the installed air duct should be flush with the top of the PCI riser assembly.



.....  
**Caution!** Do not pinch or unplug cables that may be near or under the air duct.



- 3 Observe the post-installation instructions described on page 28.



# Configuring the storage devices

The system accommodates slim-line optical drives and can support up to three 3.5-inch hot-plug SAS/SATA2 hard disk drives.

## Removing and installing a hard disk drive



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**Note:** Use only Acer-qualified SAS or SATA2 HDDs. To purchase a SAS or SATA2 HDD, contact your local Acer representative.



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**Caution!** To ensure proper airflow and server cooling, all drive bays must contain either a carrier with a hard drive installed in it or a hard disk carrier cover.

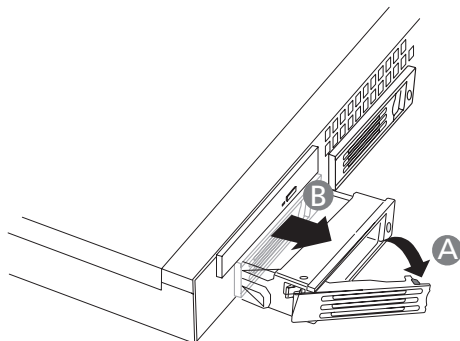
## Determining drive status

Each HDD carrier features two status LED indicators to display the hard drive status. If you are replacing a failed HDD, determine which drive has failed by checking the drive status LED. For more information on how to determine the drive status, refer to “Hot-plug HDD LED indicator” on page 16.

To remove an HDD:

- 1 Observe the ESD precautions described on page 28.
- 2 Remove the front bezel. Perform the instructions described in “To remove the front bezel” section on page 29.
- 3 If you are removing a failed HDD, determine which drive has failed by checking the drive status LEDs.

- 4 Press the HDD carrier latch **(A)**.
- 5 Pull the lever and slide the carrier from the chassis **(B)**.



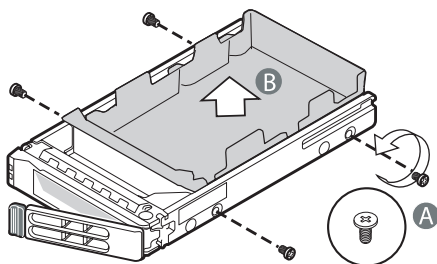
- 6 Observe the post-installation instructions described on page 28.  
For instructions on how to install a new hard disk, refer to the next section.

To install an HDD:



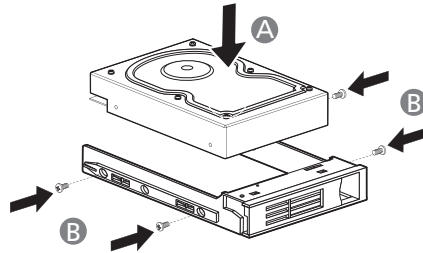
**Note:** To purchase a HDD carrier, contact your local Acer representative.

- 1 Perform steps 1 through 6 described in the “To remove an HDD” section on page 35.
- 2 If necessary, remove the air baffle from the HDD carrier.
  - (1) Remove the four screws that secure the air baffle to the HDD carrier **(A)**.
  - (2) Remove the air baffle from the HDD carrier **(B)**.

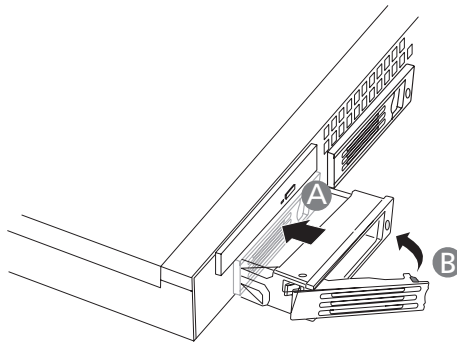


- (3) Save the air baffle and screws for later use.

- 3 Remove the new HDD from its protective packaging.
- 4 Install the new HDD to the HDD carrier.
  - (1) Install a hard disk on the HDD carrier **(A)**.
  - (2) Secure it with the four screws that came with the HDD carrier **(B)**.



- 5 With the lever still extended, slide the HDD carrier all the way into the drive bay **(A)**. Do not push on the lever until it begins to close by itself.
- 6 Use the lever to push the HDD carrier until it docks into place, then close the HDD carrier lever **(B)**.



- 7 Install the front bezel. Perform the instructions described in "To install the front bezel" section on page 29.
- 8 Setup the new hard drive's RAID configuration.

For related instructions, refer to "RAID configuration utilities" section on page 100.

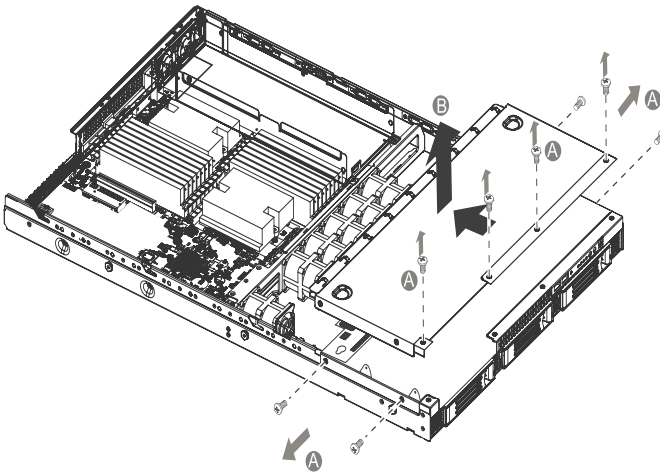
## Installing and removing a slim-line optical drive



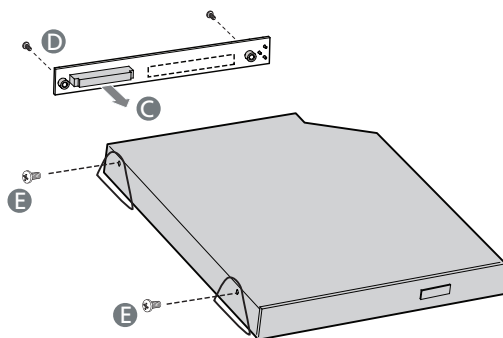
**Note:** The slim-line optical drive is not hot-pluggable. Before removing or replacing the drive, you must first power down the server, unplug the AC power cord from the system, and turn off all peripherals devices connected to the server.

To install a slim-line optical drive:

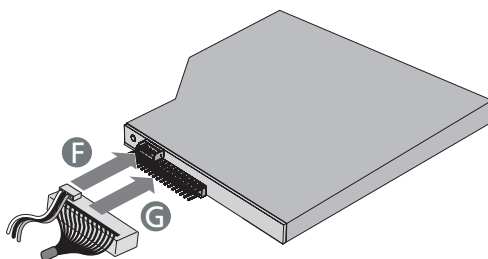
- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the access panel.
  - (1) Remove the eight screws that secure the access panel to the chassis **(A)**.
  - (2) Slide the access panel toward the back of the chassis, then pull the panel away from the chassis **(B)**.
  - (3) Put the access panel aside for reinstallation later.



- 3 Remove the new drive from its protective packaging.
- 4 Install the interposer board on the rear of the optical drive **(C)**, then secure it with the two screws **(D)**.
- 5 Align the two holes at the left edge of the optical drive with the cutouts in the chassis, then secure it with the two screws **(E)**.

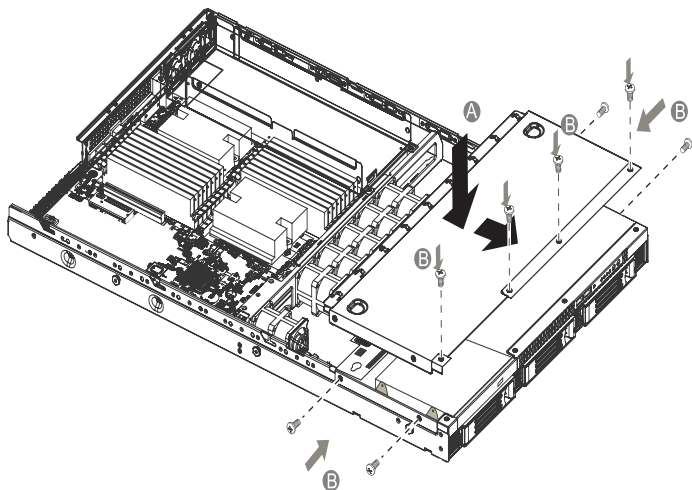


- 6 Connect the power **(F)** and data **(G)** cables to the interposer board.



7 Replace the access panel.

- (1) Place the access panel on the chassis, then slide the panel toward the front of the chassis until it is fully closed **(A)**.
- (2) Secure it with the eight screws you removed earlier **(B)**.



8 Observe the post-installation instructions described on page 28.

To remove a slim-line optical drive:

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the front bezel. Perform the instructions described in "To remove the front bezel" section on page 29.
- 3 Remove the access panel. Perform step 2 described in the "To install a slim-line optical drive" section on page 38.
- 4 Disconnect the data and power cables from the rear of the optical drive.
- 5 Remove the two screws that secure the optical drive to the chassis.
- 6 Lift the optical drive from the chassis.
- 7 Remove the two screws at the rear of the optical drive to detach the interposer board.
- 8 Observe the post-installation instructions described on page 28.

# Replacing a system fan

Altos R5250 system includes six dual-rotor easy-swap system fan modules to provide adequate airflow and keep system running cool.

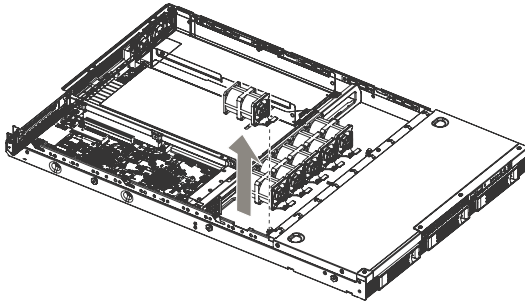
To replace the system fan:

- 1 Perform the pre-installation instructions described on page 28.

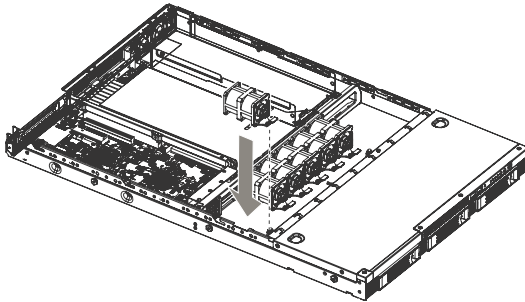


.....  
**Warning! The system fan becomes very hot when the system is on. Allow it to cool off first before handling.**

- 2 Identify the defective fan.
- 3 Disconnect the system fan cable from the backplane board.
- 4 Grasp the fan and pull it up and away from the chassis.



- 5 Install the new fan by sliding the new fan into the chassis.



- 6 Connect the system fan cable to the fan cable connector on the backplane board.
- 7 Observe the post-installation instructions described on page 28.



# Upgrading the processor

## Processor upgrading guidelines

The server supports two socket F (1207-pin) processor sockets supporting dual-core or quad-core AMD Opteron processors. You have the option to upgrade the default processor or install a second one for a dual-processor configuration.

Observe the following guidelines when replacing or installing a processor:

- Use only Acer-qualified CPUs.
- The processor 1 socket must always be populated. If no processor is installed in this socket, the system will fail to boot.
- Before removing a processor, make sure to back up all important system files.
- When installing a second processor, make sure it has same stepping and frequency specifications as the default processor.
- Handle the processor and the heat sink carefully. Damage to either may prevent the system from functioning properly.

To upgrade the default processor:

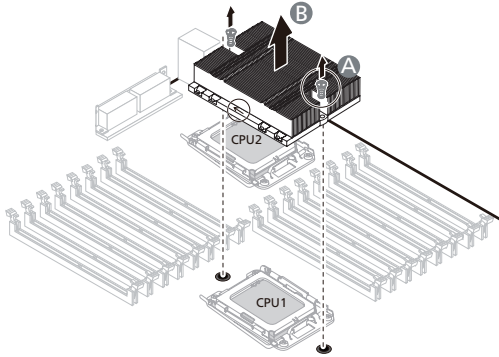
- 1 Perform the pre-installation instructions described on page 28.



.....  
**Warning! The heat sink becomes very hot when the system is on. NEVER touch the assembly with any metal or with your hands.**

- 2 Remove the air duct to access the processor socket. Perform the instructions described in "To remove the air duct" section on page 33.

- 3 Remove the heat sink.
  - (1) Loosen the two screws on the heat sink **(A)**.
  - (2) Pull the heat sink away from the CPU **(B)**.

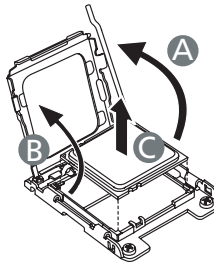


- (3) Lay down the heat sink in an upright position—with the thermal patch facing upward. Do not let the thermal patch touch the work surface.
  - (4) Use an alcohol pad to wipe off the thermal grease from both the heat sink and the processor socket retention plate.
- 4 Remove the default processor.



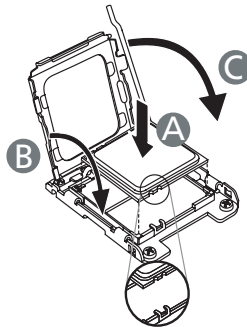
.....  
**Warning! The processor becomes very hot when the system is on. Allow it to cool off first before handling.**

- (1) Release then lift the load lever **(A)**.
  - (2) Open the retention plate to expose the socket body **(B)**.
  - (3) Grasp the processor by its edges and lift it out of its socket **(C)**.



- 5 Store the old processor inside an anti-static bag.

- 6 Remove the new processor from its protective packaging.
- 7 Install the new processor.
  - (1) Hold the processor by its edges, then insert it in the socket **(A)**.  
 Make sure the alignment tabs on the socket fit the two notch located on the edge of the processor. The pins are keyed in such a way that you cannot install the processor in the wrong orientation without bending the pins.
  - (2) Close the retention plate **(B)**.
  - (3) Engage the load lever back into place **(C)**.



- 8 Apply the thermal interface material.
  - (1) Use an alcohol pad to wipe off the old thermal grease from both the HSF assembly and the processor socket retention plate.
  - (2) Apply a thin layer of an Acer-approved 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 heat sink.



**Caution!** The heat sink has a thermal interface material (TIM) on the underside. Use caution so that you do not damage the TIM.

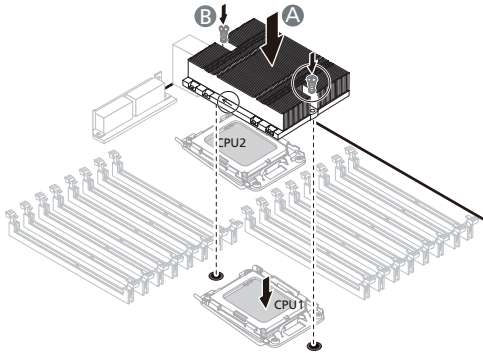
- (1) If a protective film is installed on the TIM, remove it.

- (2) Set the heat sink over the processor, aligning the two captive screws with the two screw posts surrounding the processor **(A)**.
- (3) Loosely screw in the captive screws on the heat sink **(B)**.



**Note:** Do not fully tighten one screw before tightening another.

- (4) Gradually and equally tighten each captive screw until each is firmly tightened.



10 Observe the post-installation instructions described on page 28.

To install a second processor:

- 1 Perform steps 1 through 3 of the previous section.
- 2 Prepare the processor 2 socket for installation.  
Refer to steps 4-1 and 4-2 of the previous section.
- 3 Install the new processor.  
Refer to steps 6 and 7 of the previous section.
- 4 Install the heat sink.  
Refer to steps 8 and 9 of the previous section.
- 5 Observe the post-installation instructions described on page 28.

# Upgrading the system memory

Acer Altos R5250 server supports sixteen DDR2 DIMM slots. The DIMM slots support dual channel DDR2-667 registered ECC memory modules.



## Important:

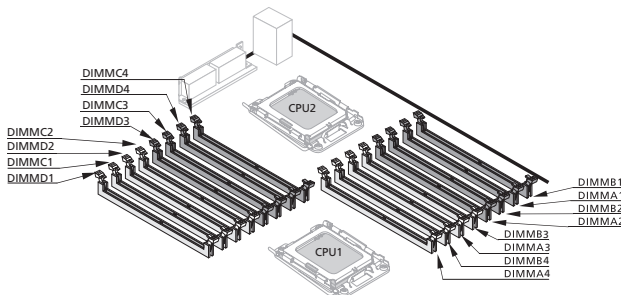
When you are using a single-processor server, you should install a pair of identical modules into the DIMM A1 and B1, DIMM A2 and B2, DIMM A3 and B3, or DIMM A4 and B4 slots.

The DIMM C1 to DIMM D4 slots are enabled when a second processor is installed on the mainboard. For instructions on how to install a second processor, see “To install a second processor” section on page 46.

When you are using a dual-processor server, you should employ a paired DIMM configuration by installing modules in the DIMM A, B and DIMM C, D slots.

## Memory module population guidelines

- Memory modules must be installed or removed in matched pairs, following the slot sequence listed below.
  - CPU 1 — Populate DIMM slots A1 and B1 first, followed by slots A2 and B2, A3 and B3, and A4 and B4
  - CPU 2 — Populate DIMM slots C1 and D1 first, followed by slots C2 and D2, C3 and D3, and C4 and D4



**Note:** Refer to “Mainboard layout” on page 11 for the location of the DIMM slots for each processor.

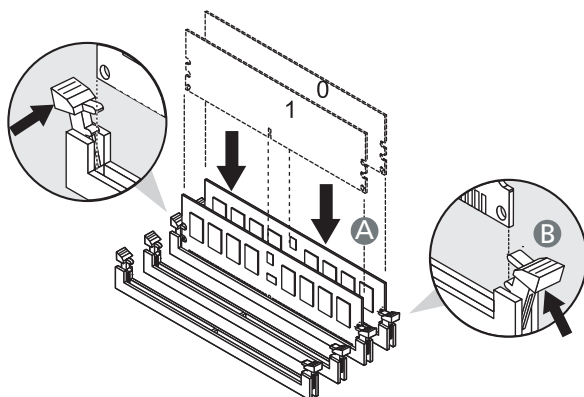


To install a DIMM:



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

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the air duct. Perform the instructions described in "To remove the air duct" section on page 33.
- 3 Locate the DIMM slots on the mainboard.
- 4 Align then insert the DIMMs into the sockets **(A)**.
- 5 Press the holding clips inward to lock the DIMM in place **(B)**.



**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.

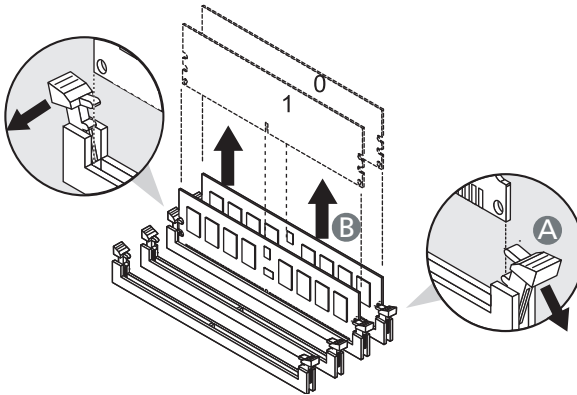
- 6 Observe the post-installation instructions described on page 28.
- 7 Reconfigure the system memory. See "To reconfigure the system memory" section on page 50 for more information.

To remove a DIMM:



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

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the air duct to access the DIMM slots. Perform the instructions described in "To remove the air duct" section on page 33.
- 3 Press the holding clips on both sides of the DIMM slot outward to release the DIMM **(A)**.
- 4 Gently pull the DIMM upward to remove it from the DIMM slot **(B)**.



- 5 If you intend to install a new DIMM, refer to previous section for related procedure, otherwise reinstall the air duct, then observe the post-installation instructions described on page 28.

To reconfigure the system memory:

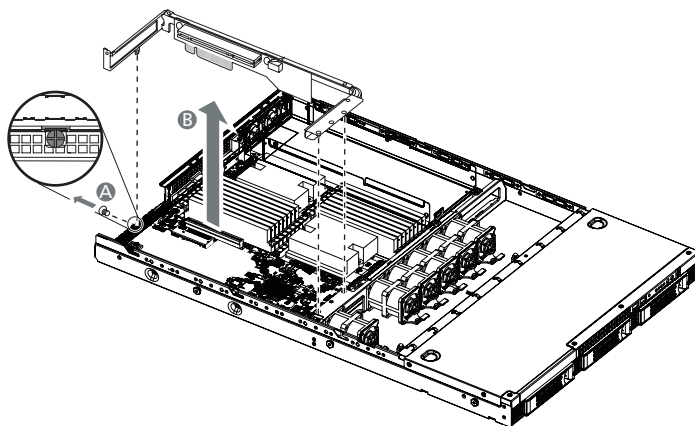
The system automatically detects the amount of memory installed. Run the BIOS setup to view the new value for total system memory and make a note of it.



# Installing an expansion card

To install an expansion card:

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the PCI riser assembly.
  - (1) Loosen the thumbscrew on the metal bracket **(A)**.
  - (2) Gently pull the riser assembly to disengage from the chassis, then lift the riser assembly from the chassis **(B)**.



- 3 Remove the new expansion card from its packaging, handling it by the edges.
- 4 Remove the screw that secures the slot cover to the metal bracket, then store it for reassembly later.

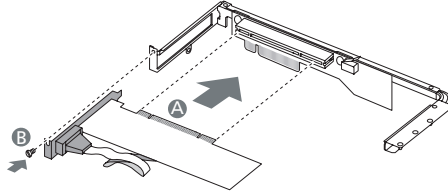


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**Caution:** Do not discard the slot cover. If the expansion card is removed in the future, the slot cover must be reinstalled to maintain proper system cooling.

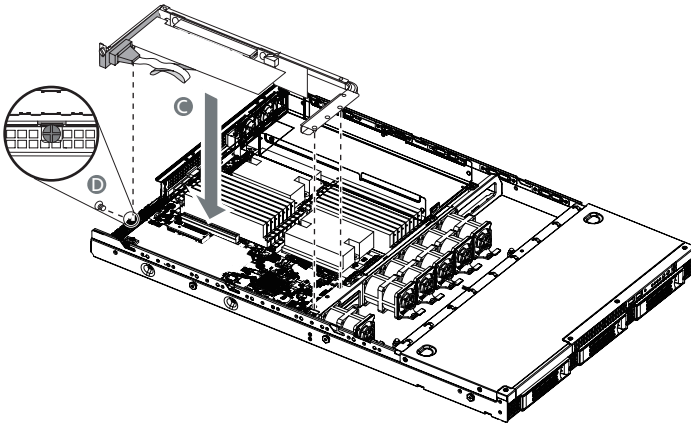
5 Install the expansion card.

- (1) Align and insert the PCI card until it seats in the slot bracket **(A)**. Make sure the card is properly seated.
- (2) Secure the card with the screw removed earlier **(B)**.



6 Install the PCI riser assembly.

- (1) Position the riser assembly over the PCI riser slot on the mainboard, then push the riser assembly down until the assembly is securely seated **(C)**.
- (2) Tighten the thumbscrew to secure the assembly to the chassis **(D)**.



7 Connect the necessary cables to the PCI card as required.

8 Observe the post-installation instructions described on page 28.

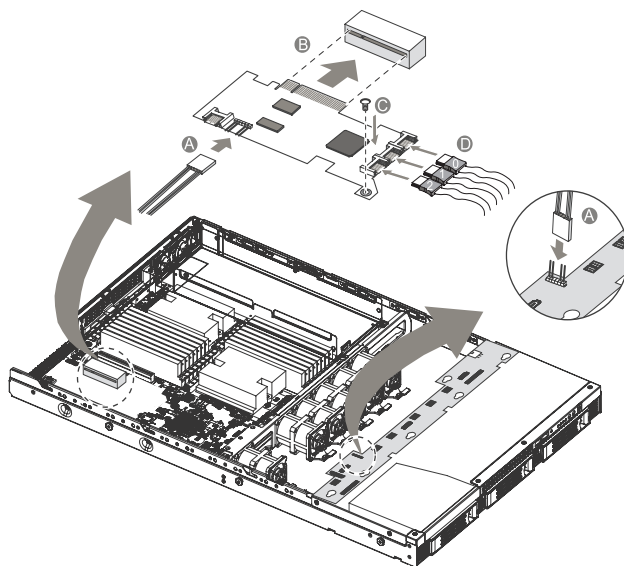
When you turn on the system, the BIOS setup automatically detects and assigns resources to the new device (applicable only to Plug-and-Play expansion card).

# Installing the SAS daughter board

This section includes instructions on how to install a SAS daughter board and a SAS RAID daughter board.

To install the SAS daughter board:

- 1 Perform the pre-installation instructions described on page 28.
- 2 Locate the SAS daughter board slot.
- 3 Remove the SAS daughter board from its protective packaging, handling it by the edges.
- 4 Connect one end of the SGPIO (Serial General Purpose Input/Output) cable to the backplane SGPIO connector and the other end to the SGPIO connector on the SAS daughter board **(A)**.
- 5 Align then insert the gold-lined edge of the board into the SAS daughter board slot **(B)**. Make sure the board properly seated.
- 6 Secure the SAS daughter board to the mainboard with the screw provided **(C)**.
- 7 Connect the necessary SAS data cables as required **(D)**.

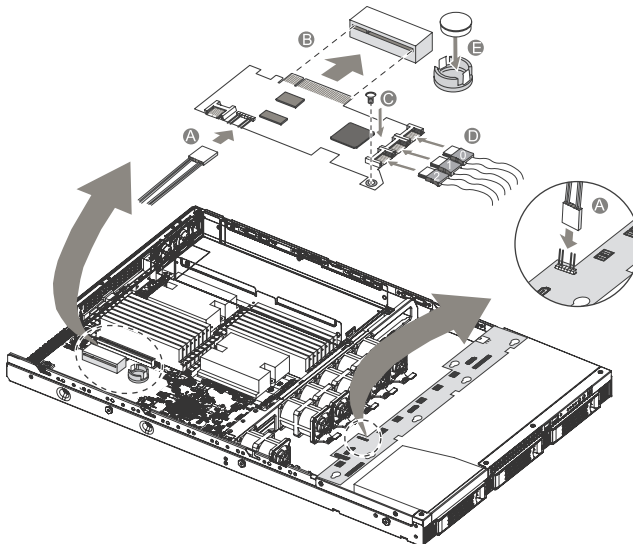


- 8 Observe the post-installation instructions described on page 28.

To install the SAS RAID daughter board:

Altos R5250 system supports SAS RAID through installation of a SAS RAID daughter board. With the addition of a RAID activation key to the SAS RAID daughter board is enabled.

- 1 Perform the pre-installation instructions described on page 28.
- 2 Locate the SAS daughter board slot. Perform the instructions described in "To remove the air duct" section on page 33.
- 3 Remove the SAS daughter board from its protective packaging, handling it by the edges.
- 4 Connect one end of the SGPIO (Serial General Purpose Input/Output) cable to the backplane SGPIO connector and the other end to the SGPIO connector on the SAS RAID daughter board **(A)**.
- 5 Align then insert the gold-lined edge of the board into the SAS daughter board slot **(B)**. Make sure the board properly seated.
- 6 Secure the SAS daughter board to the mainboard with the screw provided **(C)**.
- 7 Connect the necessary SAS data cables as required **(D)**.
- 8 Align then insert the RAID activation key into the connector on the SAS daughter board **(E)**.



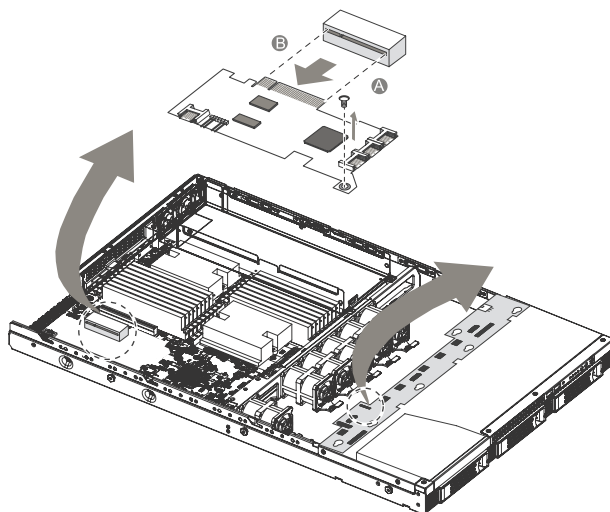
- 9 Observe the post-installation instructions described on page 28.

# Installing an BMC module

The optional BMC module allows system administrators to manage the Altos R5250 system remotely over a network.

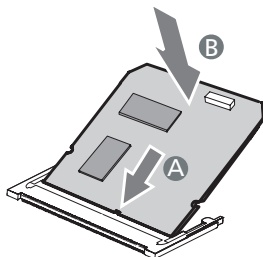
To install a BMC module:

- 1 Perform the pre-installation instructions described on page 28.
- 2 Remove the SAS daughter board.
  - (1) Detach any cables attached to the SAS daughter board.
  - (2) Remove the screw that secures the board to chassis **(A)**.
  - (3) Gently pull the SAS daughter board to remove it from the daughter board slot **(B)**.



- 3 Remove the BMC module from its protective packaging.
- 4 If necessary, install the two plastic standoffs to the holes on the mainboard.

- 5 Align the BMC module so that the notch on the slot fits the keyed edge of the module **(A)**, then press the module at both ends to snap the standoff into the matching hole on the module **(B)**.



- 6 Reinstall the SAS daughter board.
- 7 Observe the post-installation instructions described on page 28.

# 4 System BIOS

This chapter gives information about the system BIOS and discusses how to configure the system by changing the settings of the BIOS parameters.



# 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



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

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

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



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

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

## Entering BIOS setup

- 1 Turn on the server and the monitor.

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

- 2 During POST, press **F2**.

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

The Setup Main menu will be displayed showing the Setup's 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 six primary BIOS Setup menus, namely:

- Main
- Advanced
- Security
- Server
- 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.

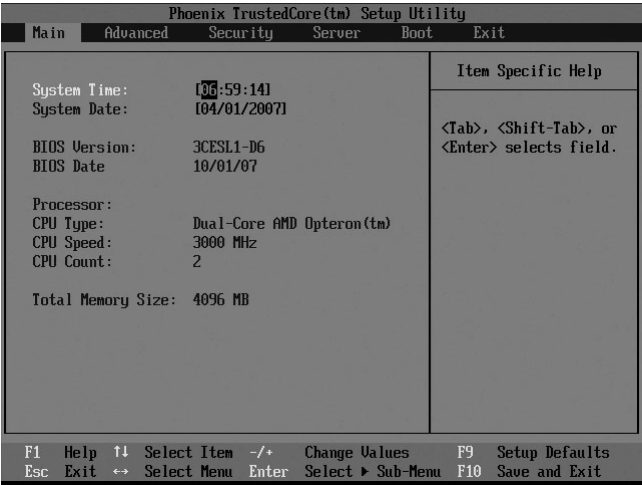
- **Enter** key – Display a submenu screen.



.....  
**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.

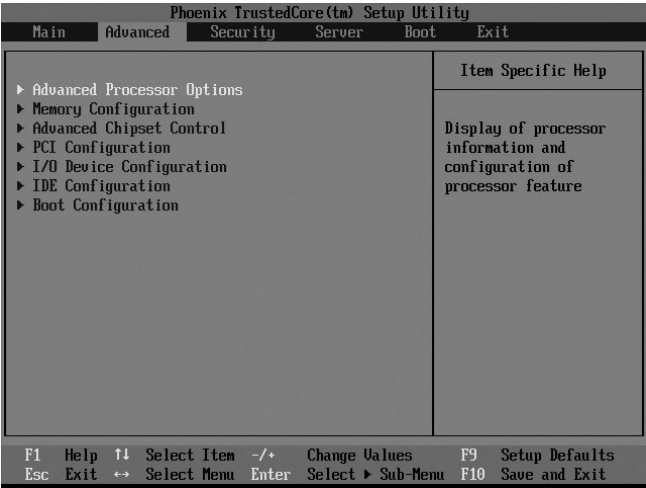
# Main menu



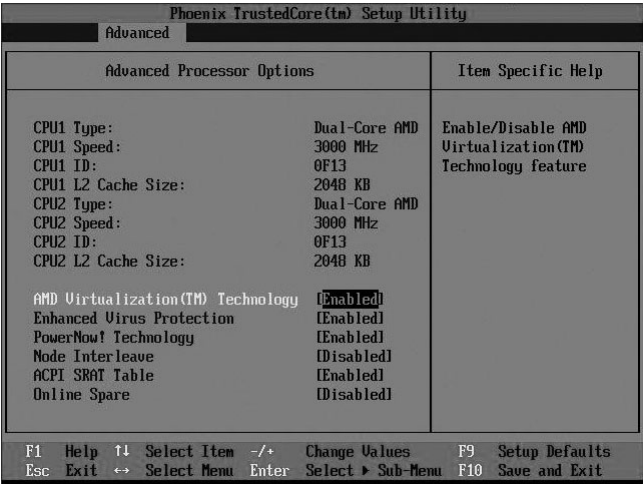
Parameter	Description
System Time	Set the system time following the hour-minute-second format.
System Date	Set the date following the weekday-month-day-year format.
BIOS Version	Version number of the BIOS setup utility
BIOS Date	Date when the BIOS setup utility was created
Processor	Technical specifications for the installed processor
CPU Type	
CPU Speed	
CPU Count	
Total Memory Size	Total size of system memory detected during POST

# 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.



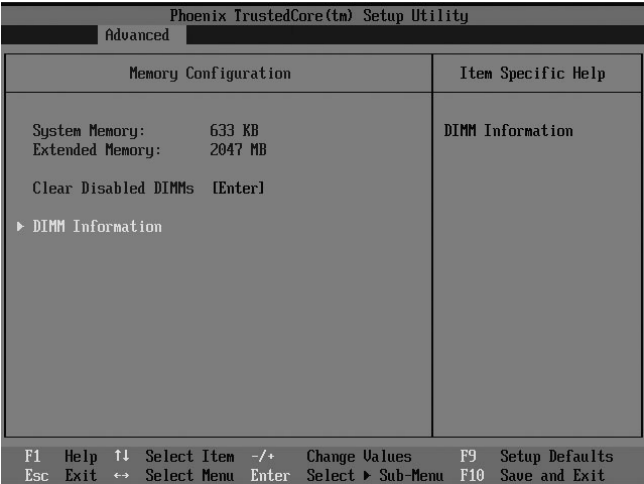
# Advanced Processor Options



Parameter	Description	Option
CPU1/2 Type	Processor model name	
CPU1/2 Speed	The processor speed is the speed at which a microprocessor executes instructions. Clock speeds are expressed in megahertz (MHz), with 1 MHz being equal to 1 million cycles per second. The faster the clock, the more instructions the CPU can execute per second.	
CPU1/2 ID	Processor ID number	
CPU1/2 L2 Cache Size	Processor second-level cache size detected during POST <b>Note:</b> This field is not shown on the above screenshot.	
AMD Virtualization Technology	Select whether to enable or disable the AMD Virtualization Technology (VT) function. VT allows a single platform to run multiple operating systems in independent partitions.	<b>Enabled</b> Disabled

Parameter	Description	Option
Enhanced Virus Protection	Select whether to enable the Enhanced Virus Protection function. Enhanced Virus Protection allows the processor to disable code execution when a worm attempts to insert a code in the buffer preventing damage and worm propagation.	<b>Enabled</b> Disabled
PowerNow! Technology	Select whether to enable the PowerNow! Technology function.	<b>Enabled</b> Disabled
Node Interleave	Select whether to enable the Node Interleave function.	Enabled <b>Disabled</b>
ACPI SRAT Table	Select whether to enable the ACPI SRAT Table function.	<b>Enabled</b> Disabled
Online Spare	Select whether to enable the Online Spare function.	Enabled <b>Disabled</b>

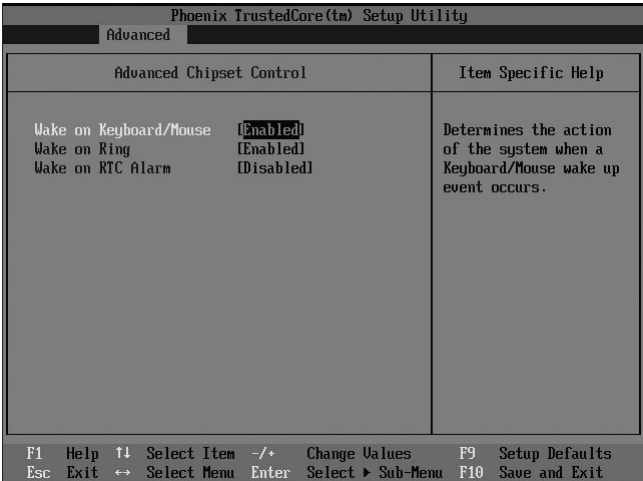
# Memory Configuration



Parameter	Description	Option
System Memory	Total size of system memory detected during POST	
Extended Memory	Total size of extended memory detected during POST	
Clear Disabled DIMMs	Press <b>Enter</b> to clear disabled DIMMs.	
DIMM Information	Displays information about the memory installed in the system.	

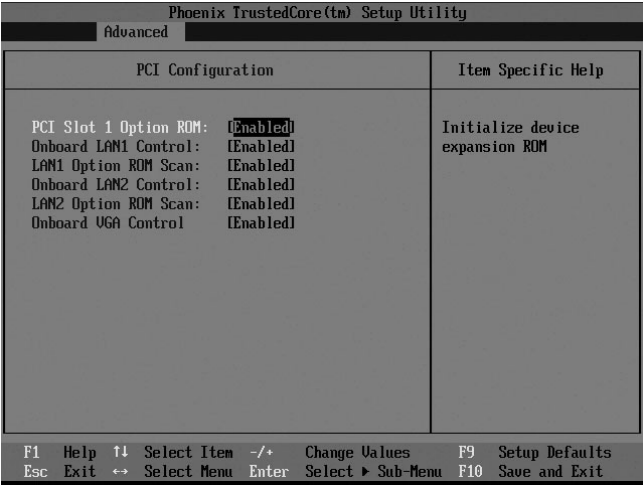


# Advanced Chipset Control



Parameter	Description	Option
Wake on Keyboard/ Mouse	Select whether to wake up the system using keyboard or mouse.	<b>Enabled</b> Disabled
Wake On Ring	Select whether to wake up the system when an incoming call is detected on the modem.	<b>Enabled</b> Disabled
Wake On RTC Alarm	Select whether to wake up the system when an RTC alarm is detected.	Enabled <b>Disabled</b>

# PCI Configuration



Parameter	Description	Option
PCI Slot 1 Option ROM	When enabled, this setting will initialize the device expansion ROM for the related PCI slot.	<b>Enabled</b> Disabled
Onboard LAN1/2 Control	Select whether to enable the onboard network 1/2 controller.	<b>Enabled</b> Disabled
LAN 1/2 Option ROM Scan	Select whether to enable the selected onboard LAN device. When enabled, device expansion ROM will be initialized.	<b>Enabled</b> Disabled
Onboard VGA Control	Enables or disables the onboard VGA controller.	<b>Enabled</b> Disabled

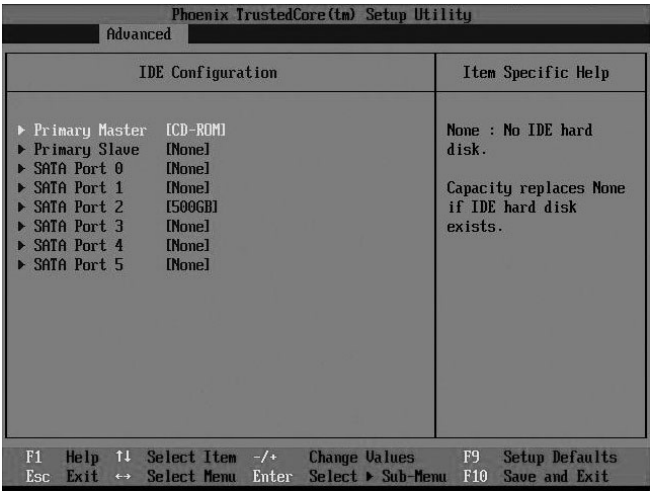
# I/O Device Configuration

Phoenix TrustedCore(tm) Setup Utility		
Advanced		
I/O Device Configuration		Item Specific Help
Serial port A:	[Auto]	Configure serial port A using options:  [Disabled] No configuration  [Enabled] User configuration  [Auto] BIOS or OS chooses configuration
Serial port B:	[Auto]	
PS/2 Mouse	[Enabled]	
USB Control	[USB1.1+USB2]	
USB BIOS Legacy Support:	[Enabled]	
SATA0 Controller:	[Enabled]	
SATA1 Controller:	[Enabled]	
SATA2 Controller:	[Enabled]	
► NV RAID Configuration		
F1 Help	↑↓ Select Item	Change Values
Esc Exit	↔ Select Menu	Enter Select ► Sub-Menu
F9 Setup Defaults	F10 Save and Exit	

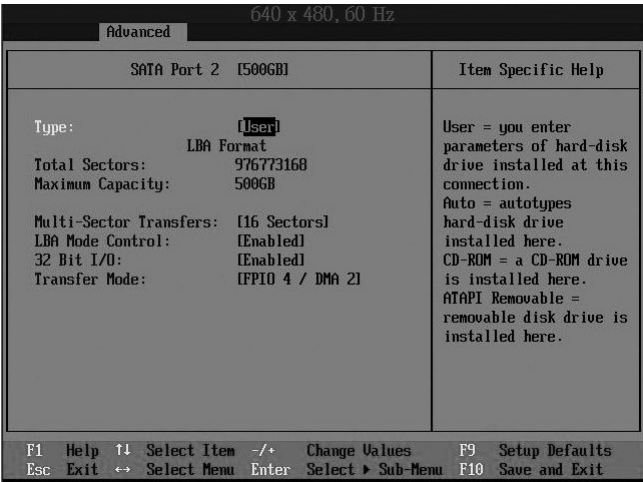
Parameter	Description	Option
Serial Port A/B	When enabled allows you to configure the serial port settings.  When set to Auto allows the server's BIOS or OS to select a configuration.  When set to Disabled, displays no configuration for the serial port.	Enabled Disabled <b>Auto</b>
PS/2 Mouse	Enable this parameter if you intend to use a mouse or trackball with a PS/2 interface.	<b>Enabled</b> Disabled
USB Control	Enables or disables support for legacy USB devices	<b>Enabled</b> Disabled
USB BIOS Legacy Support	Enables or disables support for legacy USB devices.	<b>Enabled</b> Disabled
Serial 0,1,2 controller	Select whether to enable support for SATA devices.	<b>Enabled</b> Disabled
NV RAID Configuration	Press <b>Enter</b> to configure the onboard SATA RAID.	<b>Enabled</b> Disabled

# IDE Configuration

The IDE Configuration submenu lets you define the parameter settings related to the system hard drive(s).



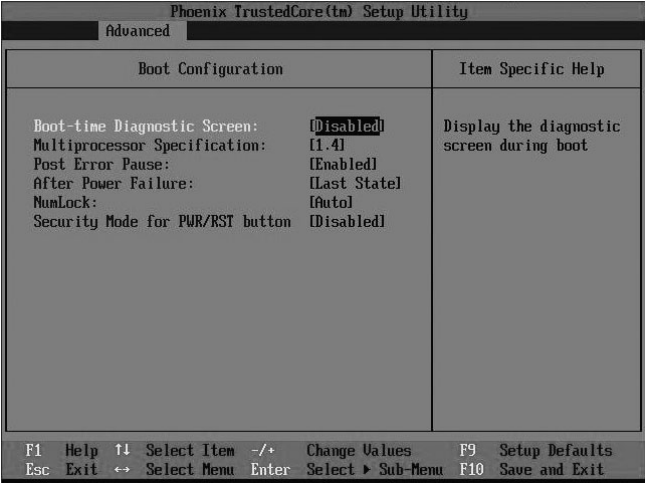
SATA Port



Parameter	Description	Option
Type	Selects the drive type.	<b>Auto</b> None CD-ROM ATAPI Removable IDE Removable User
Total Sectors	Total number of sectors available in the selected hard drive.	
Maximum Capacity	Maximum capacity of the selected hard drive.	
Multi-Sector Transfers	Set the multi-sector transfer mode.	<b>16 Sectors</b> Disabled 2 Sectors 4 Sectors 8 Sectors
LBA Mode Control	Selects the hard disk drive translation method. For drives with more than 504 MB, LBA mode is necessary.	<b>Enabled</b> Disabled

Parameter	Description	Option
32-bit I/O	Enables or disables the 32-bit data transfer function	Enabled <b>Disabled</b>
Transfer Mode	Select a transfer mode to enhance hard disk performance.	<b>Fast PIO 4</b> Standard Fast PIO 1 Fast PIO 2 Fast PIO 3 FPIO 3/DMA 1 FPIO 4/DMA 2

# Boot Configuration



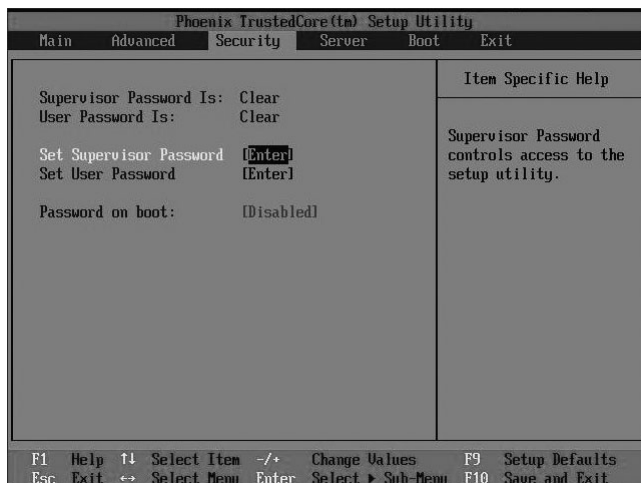
Parameter	Description	Option
Boot-time Diagnostic Screen	Choose whether to display the boot-time diagnostic screen during POST.	Enabled <b>Disabled</b>
Multiprocessor Specification	Select the multiprocessor (MP) specification revision level. <b>Note:</b> Some operating system will require a 1.1 setting for compatibility reasons.	<b>1.4</b> 1.1
POST Error Pause	Select whether to pause POST when a boot-up error is detected.	<b>Enabled</b> Disabled
After Power Failure	Defines the power state to resume to after a system shutdown that is due to an interruption in AC power. When set to <b>Last State</b> , the system will return to the active power state prior to shutdown. When set to <b>Stay Off</b> , the system remains off after power shutdown. When set to <b>Power On</b> , the system will be turned on from a power failure.	<b>Last State</b> Stay Off Power On

Parameter	Description	Option
NumLock	Select the NumLock behavior during boot-up.	<b>Auto</b> On Off
Security Mode for PWR/RST button	Enables or disables the security mode for the power button or the reset button.	Enabled <b>Disabled</b>



## Security menu

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



There are three types of passwords that you can set:

- **Supervisor password**  
Entering this password will allow the user to access and change all settings in the Setup Utility.
- **User password**  
Entering this password will restrict a user's access to the Setup menus. To enable or disable this field, a supervisor password must first be set. A user can only access and modify the System Time, System Date, and Set User Password fields.
- **Power-on password**  
When the Password on Boot field is enabled, a password will be required to boot up the server. To enable or disable this field, a supervisor password must first be set.

Parameter	Description	Option
Supervisor Password Is	This parameter indicates whether a supervisor password has been assigned.	Clear Enabled
User Password Is	This parameter indicates whether a user password has been assigned.	Clear Enabled
Set Supervisor Password	Press <b>Enter</b> to configure the supervisor password.	
Set User Password	Press <b>Enter</b> to configure the user password.	
Password On Boot	Select <b>Enabled</b> to activate security check during POST.	<b>Disabled</b> Enabled

## Setting a system password

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

## Changing a system password

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

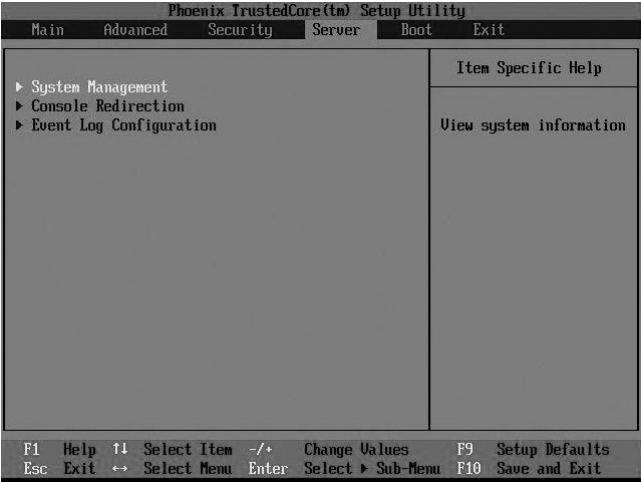
## Removing a system password

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

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

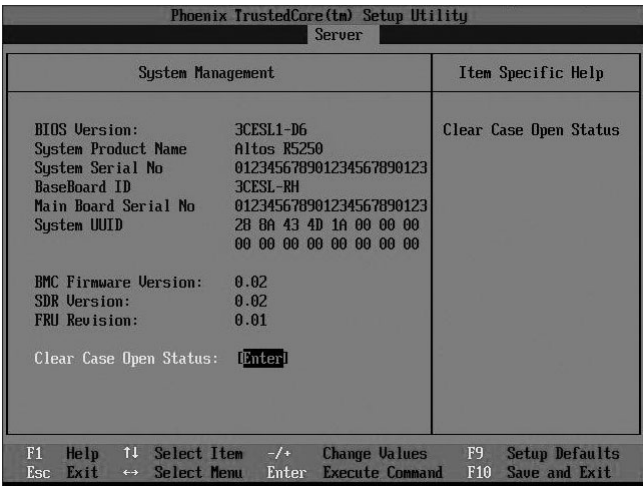
# Server menu

The Server menu displays submenu options for viewing basic system ID information and viewing console redirection-related and event log-related settings. Select a submenu item, then press **Enter** to access the related submenu screen.



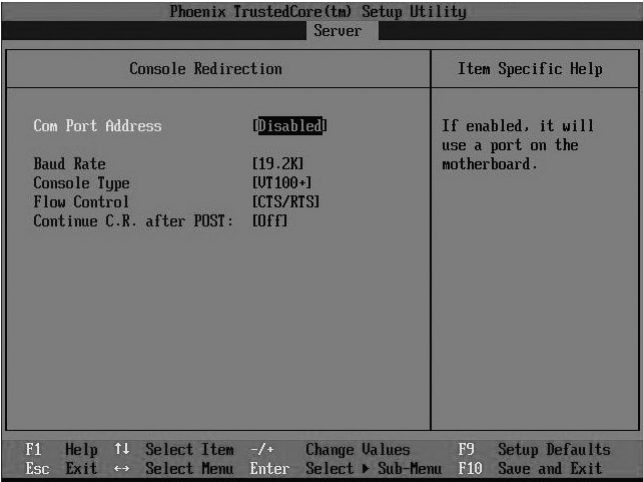
# System Management

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



Parameter	Description	Option
Clear Case Open Status	Press <b>Enter</b> then select whether to enable or disable the clear case open status at next boot function.	

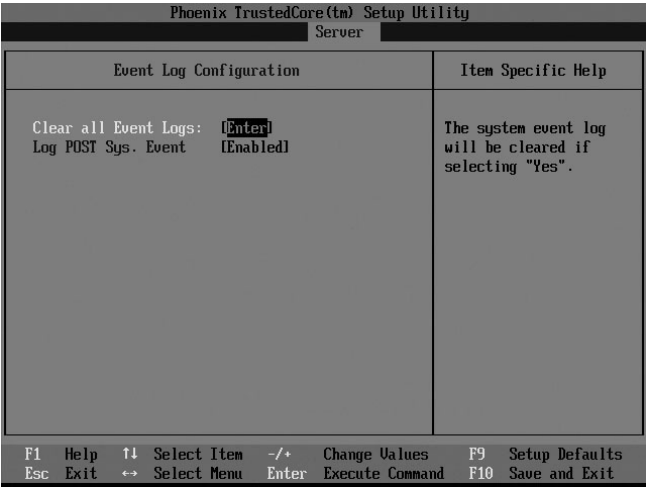
# Console Redirection



Parameter	Description	Option
COM Port Address	Select whether to enable console redirection. Console redirection enables users to manage the system from a remote location.	Onboard COM A Onboard COM B <b>Disabled</b>
Baud Rate	Select the baud rate for console redirection.	300 1200 2400 9600 <b>19.2K</b> 38.4K 57.6K 115.2K
Console Type	Select a terminal type to be used for console redirection.	VT100, VT100 8bit <b>PC-ANSI 7bit</b> VT100+ VT-UTF8

Parameter	Description	Option
Flow Control	Assign control for the console redirection flow.	None XON/OFF <b>CTS/RTS</b>
Continue C.R. After POST	Select whether to enable console redirection after POST.	On <b>off</b>

# Event Log Configuration

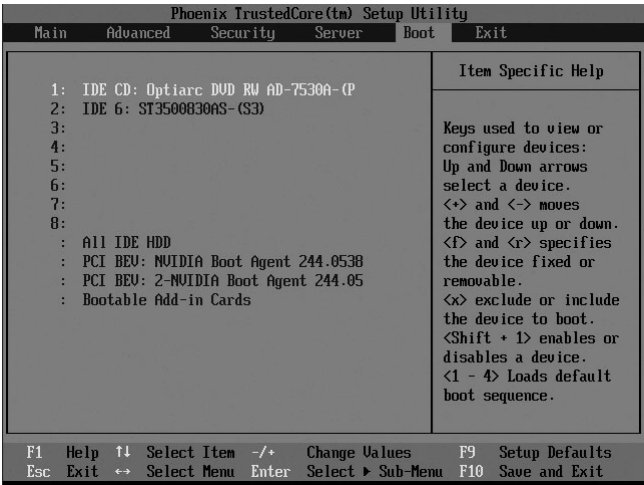


Parameter	Description	Option
Clear All Event Logs	Press <b>Enter</b> then select whether to clear all entries in the system event log.	
Log POST Sys. Event	Select whether to enable the BIOS event log to be integrated in the system event log.	<b>Enabled</b> Disabled



# Boot menu

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

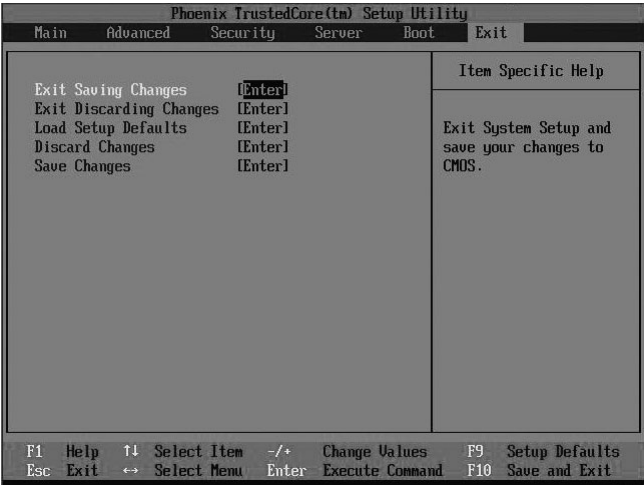


By default, the server searches for boot devices in the following order:

- 1 Optical disc drive
- 2 Hard drive

# Exit menu

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



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

# 5 System troubleshooting

This chapter provides possible solutions for specific problems. If you cannot correct the problem, contact your local Acer representative or authorized dealer for assistance.

## 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.	Press the system power button off and then on.

## 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 94.

# Initial troubleshooting checklist

Use the checklist below to eliminate the possible cause for the problem you're 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?
- Is 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?
- Are the processors fully seated in their mainboard sockets?
- 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 DVD-ROM drive.
- 8 If the power indicator is lit, attempt to boot from a floppy diskette or from a disc.
- 9 Turn on the system.

If the power indicator did not light up, see "Power indicator does not light" on page 92.



## 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 on green briefly. Check the activity indicators for the hard drive(s), DVD-ROM drive, floppy drive, and any other 5.25-inch 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 94.

## 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 another device.
- Make sure the power indicator on the front panel is lit up green.
- 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 there populated according to the system guidelines.
- Make sure that you have installed system compliant processors, and that there populated according to the system guidelines.

HDD activity indicator does not light.

Do the following:

- Make sure the data and power cables are connected correctly.
- Check that relevant switches and jumpers on the hard drive and on the backplane board (for hot-plugs HDD) are set correctly.

DVD drive activity indicator does not light.

Do the following:

- Make sure the IDE 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.

DVD tray cannot be ejected.

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

DVD 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 unscratch and free of any contaminant.
- Make sure the drive's IDE and power 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 there populated according to the system guidelines.
- Make sure that you have installed system compliant processors, and that there 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 does 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

This appendix gives an overview of the different server management tools supported by your server.



# Server management overview

The server management tools supported by the Altos R5250 system is listed in the table below.

Tool	Function
<i>Phoenix</i> BIOS Setup Utility	Use this tool to configure the different hardware components and system functions (memory, processor, and security settings). Go to the BIOS setup chapter on page 57 for details.
ASM (Acer Server Management)	This utility allows a system administrator to remotely manage the server in a network environment through a single management station. For detailed instructions on how to install and use this utility, refer to the user documentation accompanying it.
Onboard SATA RAID Configuration Utility	Use any of these utilities to configure RAID for the system hard drives. The two LSI utilities are only available when their corresponding SAS RAID or SAS daughter board option is installed in the server. Proceed to the next section for instructions on how to use these utilities.
SAS Daughter Board Configuration Utility	
SAS RAID Daughter Board Configuration Utility	
<b>Note:</b> Support for the SAS Daughter Board Configuration Utility may not be available for all system releases.	

## RAID configuration utilities

RAID option for the Altos R5250 system is provided through either the onboard SATA controller or through an external daughter board option (SAS daughter board or SAS RAID daughter board with iButton).



-----  
**Caution:** Creating a RAID volume erases all data previously saved in the hard drives. Make sure that you back up important files before starting a RAID configuration process.

### Onboard SATA RAID Configuration Utility

This section explains how to create a RAID 5 volume using the onboard SATA RAID controller.

To enable the onboard SATA RAID controller:

To configure the onboard SATA RAID controller, you must first enable the onboard SATA RAID controller in the BIOS Setup Utility.

- 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** to access the BIOS Setup Utility.
- 3 Select the **Advanced | I/O Device Configuration | NV RAID Configuration** submenu.
- 4 Change the setting of the NV RAID Configuration field from Disabled to **Enabled**.

Once the setting is changed, the SATA ports will be listed.

- 5 Change the setting of the SATA port you want to use for RAID from Disabled to **Enabled**.
- 6 Press **F10**.
- 7 Select **Yes** to save the new SATA RAID settings and close the Setup Utility.

To initialize the Onboard SATA RAID Configuration Utility:



-----  
**Note:** There must be at least one SATA hard drive installed in the system, otherwise the MediaShield ROM BIOS 6.77 will not appear during POST.

- 1 Turn on the server and the monitor.
- 2 During POST, press **F10** on the MediaShield ROM BIOS 6.77 Manager option ROM prompt.

To create a RAID 5 volume:

- 1 On the Onboard SATA RAID Configuration Utility, use the **Up** and **Down** arrow keys to select **RAID 5** for the RAID Mode.
- 2 Use the **Left** and **Right** arrow keys to change the setting of the HDD from Free Disks to **Array Disks**.
- 3 Press **F7** to start creating the new RAID 5 volume.
- 4 Press **Y** to clear data on the disk.

Once the new RAID volume is created, volume will display on the screen.

- 5 Press **Ctrl-X** to close the utility.

Proceed to the installation of the operating system. Refer to the user documentation that came with your OS for related instructions.

To assign a hot spare disk:

You can skip this procedure. If you have an HDD that is not configured and is marked as free, the HDD will be rendered as a hot spare disk. When an HDD fails, the HDD that is marked as free will be used to rebuild a RAID automatically.

## SAS Daughter Board Configuration Utility

This section explains how to create a RAID 1 volume when the SAS daughter board is installed.

To initialize the SAS Daughter Board Configuration Utility:

- 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 **Ctrl-C** on the SAS BIOS prompt.

To load the factory default setting:

- 1 On the SAS Daughter Board Configuration Utility, press **Alt-N** to display Global Properties.
- 2 Select **Restore Defaults**, then press **Enter**.
- 3 Press **Esc**, then select **Save Changes then exit this menu**.
- 4 Select **SAS 1068E**, then press **Enter**.
- 5 Select **Advanced Adapter Properties**, then press **Enter**.
- 6 Select **Restore Defaults**, then press **Enter**.
- 7 Press **Esc** twice, then select **Save changes then exit this menu**.

To create a RAID 1 volume with a hot spare disk:

- 1 On the SAS Daughter Board Configuration Utility, select **SAS 1068E**, then press **Enter**.
- 2 Select **RAID Properties**, then press **Enter**.
- 3 Select **Create IM Volume**, then press **Enter**.
- 4 Move the cursor to the RAID Disk column.
- 5 Press the **space bar** and **D** to change the setting from No to **Yes**.  
The Drive Status will be marked as Primary.
- 6 Move the cursor to another disk.
- 7 Press the **space bar** to change the setting from No to **Yes**.  
The Drive Status will be marked as Secondary.
- 8 Move the cursor to the Hot Spr column and select another disk.
- 9 Press the **space bar** to change the setting from No to **Yes**.  
The Drive Status will be marked as Hot Spare.

- 10 Press **C**, then select **Save changes then exit this menu**.

Proceed to the installation of the operating system. Refer to the user documentation that came with your OS for related instructions.

To initialize a RAID 1 volume

You can skip this procedure if you selected **to create a new IM array** (or pressed **D**) while performing the **creating a RAID 1 volume with a hot spare disk** section. After you create a new IM array, no synchronization will be performed. You can exit the SAS configuration utility and proceed to install the OS.

## SAS RAID Daughter Board Configuration Utility

This section explains how to create a RAID 5 volume when the SAS RAID daughter board (with iButton) is installed.

To initialize the LSI MegaRAID SAS RAID Configuration Utility:

- 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 **Ctrl-M** on the RAID BIOS prompt.  
After POST completion, the Adapter Selection window will appear.
- 3 Click **Start** to launch the Configuration menu.

To load the factory default RAID setting:

- 1 On the Management menu, select **Objects**.
- 2 Select **Adapter**, then press **Enter** to change the adapter setting.
- 3 Change the setting of Factory Default from No to **Yes**.
- 4 Press **Ctrl+Alt+Del** to reboot the system.

To create a RAID 5 volume:

- 1 Access the Configuration menu.
- 2 Select **New Configuration**.  
All devices connected to the controller will be listed.
- 3 Use the arrow keys to select the drives that you want to configure.
- 4 Press the **spacebar** to associate the drive with the current array.  
The indicator for the selected drive will change from Ready to **Online**.
- 5 After selecting the drives, then press **Enter** to start creating an array.
- 6 After creating the array, press **Enter** again to configure the array.
- 7 Press the **space bar** to select an array, then press **F10** to configure the logical drive.
- 8 Select **Accept**, then press **Enter** to use the default settings for the RAID volume.
- 9 Press **Enter**, then select **Yes** to save the configuration.

- 10 Press **Esc** to return to the Management menu.
- 11 Select **Yes** to exit the configuration utility.
- 12 Press **Ctrl+Alt+Del** to reboot the system.

Proceed to the installation of the operating system. Refer to the user documentation that came with your OS for related instructions.

To initialize a RAID 1 volume

- 1 On the Management menu, select **Initialize**.  
All logical drives will be listed.
- 2 Press the **space bar** to select the drive to initialize. The selected drive will be highlighted in yellow.
- 3 After selecting the drives, press **F10** and select **Yes** to initialize the new logical drives.
- 4 When initialization is completed, press **Esc**.
- 5 Press **Esc** to return to the Management menu.
- 6 Select **Yes** to exit the configuration utility.
- 7 Press **Ctrl+Alt+Del** to reboot the system.

Proceed to the installation of the operating system. Refer to the user documentation that came with your OS for related instructions.

To assign a hot spare disk:

- 1 On the Management menu, select **Objects**.
- 2 Select **Physical Drive**.  
All drives will be listed.
- 3 Select the drive marked Ready, then press **Enter**.
- 4 Select **Make Hot Spare**, then press **Enter**.
- 5 Select **Yes**.  
The assigned hot spare disk is marked as HOTSP.
- 6 Press **Esc** to return to the Management menu.
- 7 Select **Yes** to exit the configuration utility.
- 8 Press **Ctrl+Alt+Del** to reboot the system.

Proceed to the installation of the OS. Refer to the user documentation that came with your OS for related instructions.





## Appendix B: Rack mount configuration

This appendix shows you how to set up the  
Altos R5250 server in a rack mount configuration.

# Rack installation information

The Altos R5250 server system can also be mounted in a rack-model position. A rack mount kit is available for customers who want to convert system to rack-model design. To purchase a rack mount kit, contact your local Acer representative or order directly from <http://www.acer.com/>.

## 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.

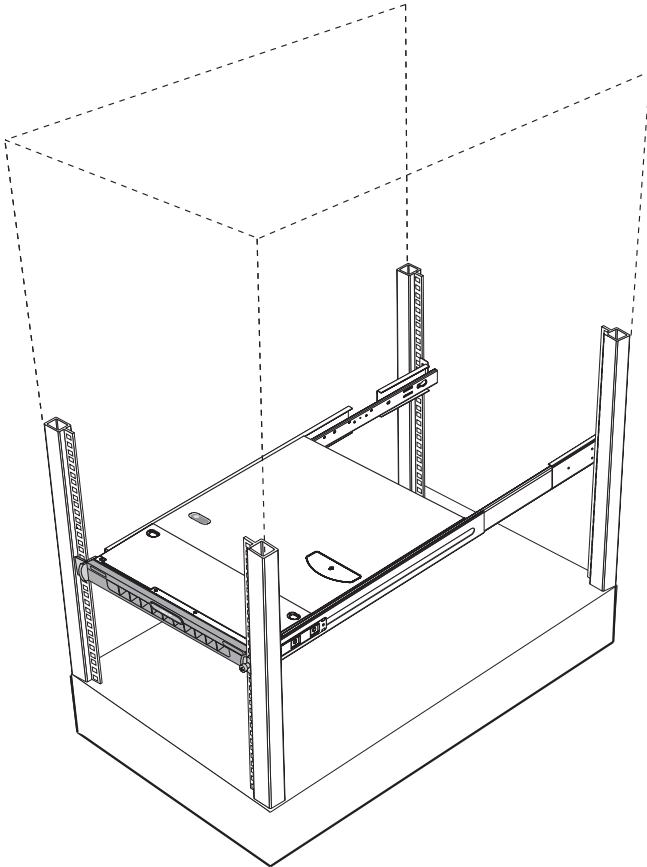
- Circuit overloading

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

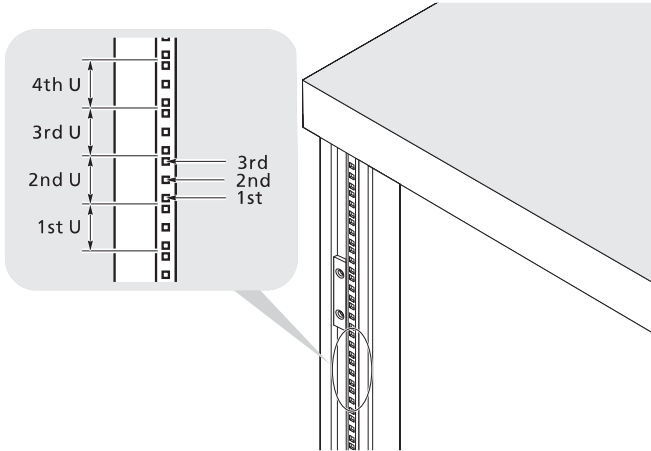
The Acer Altos R5250 server should be mounted into a rack. A tool-less rack rail and CMA (cable management arm) kit is available for installing system to a rack cabinet.

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 1U 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.

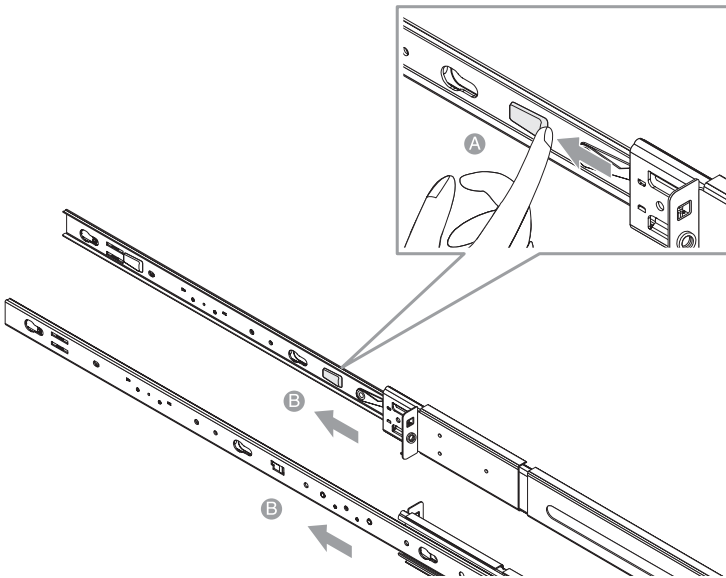
# Installing the system into the rack



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

To install the system into a four-post rack

- 1 Remove the inner rails from the mounting rails.
  - (1) Extend the inner rail from the mounting rail until the rail release latch clicks.
  - (2) Depress the release latch **(A)** and slip the inner rail out **(B)**.



- (3) Do the same thing to the other mounting rail.

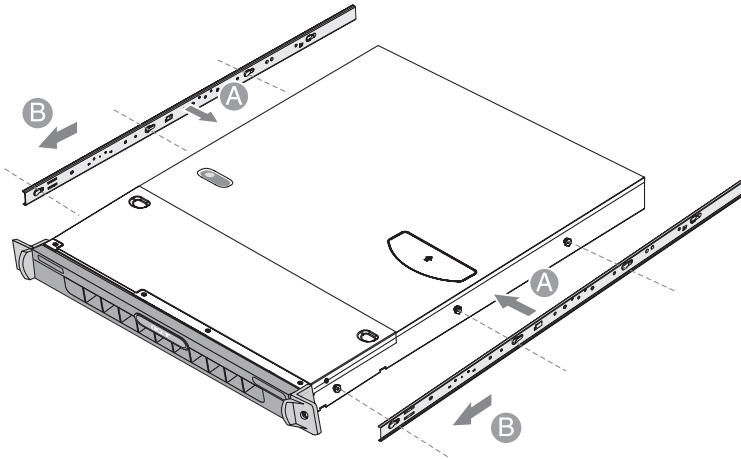


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**Caution!** To avoid personal injury, care should be taken when pressing the inner rail release latches and sliding the component into the rack.

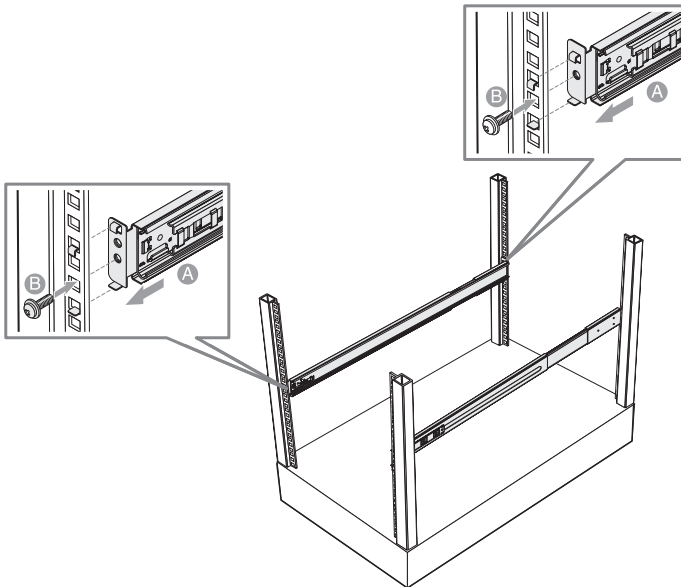
- 2 Attach the inner rails to both sides of the server.

Align the screw holes of the inner rail to the server screws **(A)**, then slide rails to the left until the rails lock into place with an audible click **(B)**.

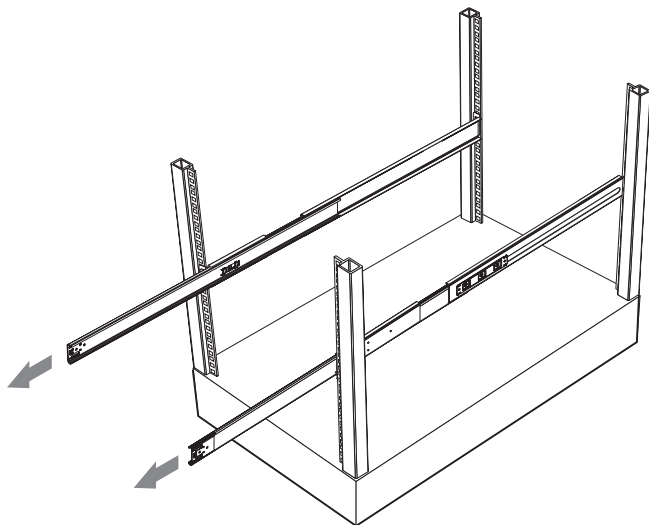




- 3 Install the mounting rails to the rack posts.
- (1) Determine the vertical position in the rack. Refer to "Vertical mounting hole pattern" on page 112 for more information.
  - (2) Align and insert the mounting rails into the rack posts' mounting holes **(A)**.
  - (3) Make certain the proper mounting holes on rack post are selected.
  - (4) Use two metal screws supplied with the kit to secure the front and rear mounting rail to the rack **(B)**.
  - (5) Do the same thing to the other mounting rail.



- (6) Fully extend the mounting rails on the rack.

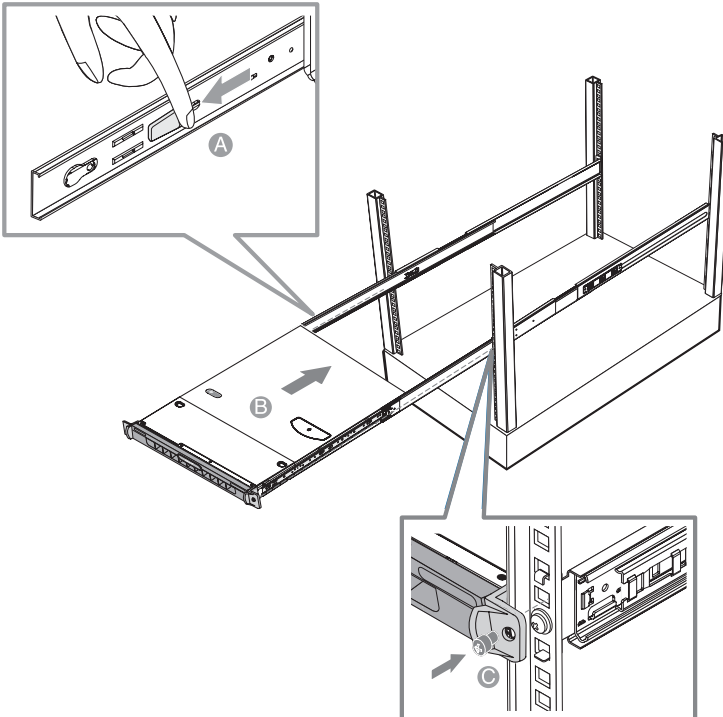


#### 4 Install the server into the rack.



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

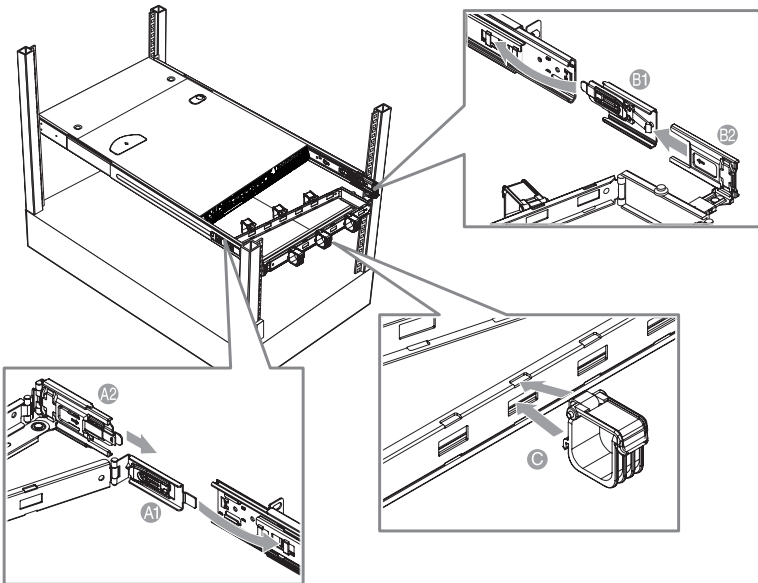
- (1) Carefully align the inner rails attached to the server with the fully extended mounting rails on the rack.
- (2) Press the release latch on both sides of the server **(A)**.
- (3) Insert the inner rails into the mounting rails, then push the server into the rack until you hear a click sound **(B)**.
- (4) Secure the server to the rack using two metal screws **(C)**.



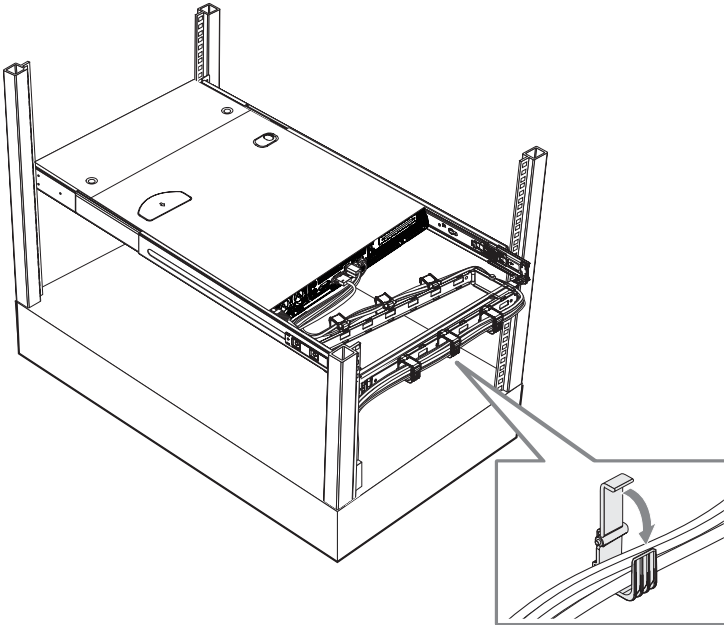
5 Attach the CMA (cable management arm) to the rear of the server.

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

- (1) Insert the smaller CMA extension into the rear of the left inner rail **(A1)**.
- (2) Insert the larger CMA extension into the rear of left mounting rail **(A2)**.
- (3) Insert the CMA extension connector into the rear of the right mounting rail **(B1)**.
- (4) Insert the CMA arm connector into the plastic cutout on the CMA extension connector **(B2)**.
- (5) Attach the cable clips into the appropriate mounting holes in the CMA **(C)**.



- (6) Connect the power, peripheral and networking cables into their appropriate ports.  
Refer to "Connecting peripherals" on page 20 for detailed instructions.
- (7) Route all cables through the cable clips.





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