

Acer Altos
G330 Mk2 Series
User's Guide

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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 the unit. All correspondence concerning the unit should include these information.

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Acer Altos G330 Mk2 Series

Model Name : G330 Mk2

Part Number: MU.R3100.001

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:	G330 Mk2
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 SÄTEESEENSTIRRA 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:	G330 Mk2
SKU number:	G330 Mk2xx ("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 B
 - 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.

The product is not suitable for use with visual display work place devices according to §2 of the German Ordinance for Work with Visual Display Units.

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



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



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

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>.



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.



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Important: The product is not suitable for use with visual display work place devices according to §2 of the German Ordinance for Work with Visual Display Units.

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.



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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 Acer Altos G330 Mk2 server is a single processor system featuring the latest in computing technology. It hosts a range of powerful and flexible features designed to meet the needs of various network environments. From simple networking functions to computing-intensive applications, the Altos G330 Mk2 delivers.

System specifications

This section lists down the impressive computing features of the Altos G330 Mk2 system.

Performance

Processor

- Single Intel® LGA775 processor socket supporting the following processor models:
 - Quad-Core Intel Xeon processor 3200 series
 - Dual-Core Intel Xeon processor 3000 series
 - Intel® Core™2 Quad processor
 - Intel® Core™2 Duo processor
 - Intel® Pentium® Dual-Core processor
 - Intel® Celeron® processor
- 512 KB, 1 MB, 2 MB, 4 MB or 2x4 MB L2 cache
- 1333, 1066, and 800 MHz front side bus (FSB) speed
- Supports the following Intel technologies: ¹
 - Intel Quad-Core Architecture
 - Intel Dual-Core Architecture
 - Intel Extended Memory 64 Technology (EM64T)
 - Intel Enhance Intel SpeedStep Technology (EIST)
 - Intel Virtualization Technology (VT)

Chipset

- North bridge - Intel 3200 Memory Controller Hub (MCH)
- South bridge - Intel 82801IR I/O Controller Hub (ICH9R)

¹ Support for dual core, quad core configuration, Hyper-Threading Technology and EM64T may vary depending on processor type specifications.

Memory

- Four DIMM slots supporting DDR2 800 unbuffered ECC modules
- Maximum memory capacity of 8 GB
- Supports 512 MB, 1 GB, and 2 GB capacity modules
- Supports dual-channel interleave operation ²

PCI interface

- Five PCI bus slots with four separate bus segments
 - One PCI Express x16 slot with x8 throughput (PCI-E 1 slot)
 - One PCI Express x8 slot with x4 throughput (PCI-E 2 slot)
 - One PCI Express x4 slot with x1 throughput (PCI-E 3 slot)
 - Two 32-bit/33 MHz/3.3V PCI slots (PCI 4 and PCI 5 slots)

Video controller

- Embedded XGI Z9s chipset
- 16 MB DDR SDRAM

SATA II controller

- Integrated in the Intel ICH9R chipset
- Data transfer rate of up to 3.0 Gb/s
- Supports six onboard SATA ports
- Onboard SATA RAID support
 - RAID 0,1 and 10 support

Networking

- One Gigabit Ethernet LAN port (RJ-45)
- Broadcom BCM 5721 Gigabit Ethernet Controller

Baseboard Management Controller (optional)

- Baseboard Management Controller (BMC) module (optional)
- Intelligent Platform Management Interface (IPMI) 2.0 compliant

² Dual-channel memory mode requires that only memory modules of the same type, banking, stacking technology, and manufacturer be installed in the Altos G330 Mk2 server.

Media storage

- Three 5.25-inch device bays
 - Optical disc drive (ODD) installed in the topmost bay (DVD-ROM or combo drive)
 - Two 5.25-inch bays support installation of optional DAT and AIT tape drives
- One hard disk drive (HDD) cage bay supports the following options:
 - Hot-swap³ or easy-swap HDD cages
 - Up to four SAS or SATA II drives
- Media storage options
 - One 3.5-inch floppy disk drive (FDD) bay for optional FDD installation

I/O ports

- | | |
|---------------------------|--------------------------------|
| • Two front USB 2.0 ports | • Monitor port |
| • PS/2 keyboard port | • Two rear USB 2.0 ports |
| • PS/2 mouse port | • One Gigabit LAN port (RJ-45) |
| • Serial port | |

Power supply and ventilation

- 350-watts ATX 12V PFC power supply with auto switching function
- Support for the following cooling components:
 - One rear system fan
 - One processor heat sink-fan (HSF) assembly
 - Optional HDD fan for systems using at least two hard drives are installed in adjacent HDD bays.

³ The hot-swap HDD configuration is only available when the optional hot-plug backplane board is installed in the HDD cage.

Hardware monitoring and server management

- Hardware monitoring for voltage, temperature, and fan speed detection integrated in the ITE 8718 chip
- Status LED indicators for constant monitoring of basic system operations
- Acer Server Management (ASM) monitors potential problem spots in the network environment
- Trusted Platform Module (TPM) 1.2 support

Operating system

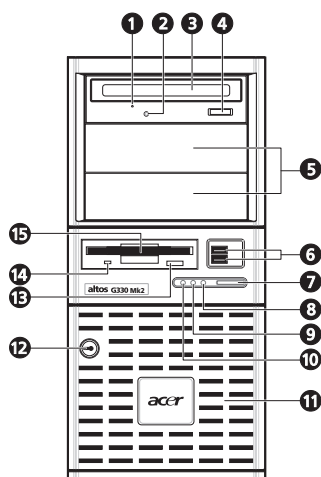
- Microsoft Windows Server 2003 x64 Edition
- Microsoft Windows Server 2003
- Red Hat® Enterprise Linux® 5.0 EM64T
- Red Hat® Enterprise Linux® 5.0
- SUSE Linux® Enterprise Server 10.0 EM64T
- SUSE Linux® Enterprise Server 10.0

Mechanical

- Chassis
 - Tool-less chassis design for easy hardware access
 - Tower orientation
 - Dimensions
 - Height: 424.6 mm (16.72 in)
 - Depth: 479.7 mm (18.89 in)
 - Width: 185.9 mm (7.32 in)
- Mainboard
 - Dimensions (length x width): 304.8 x 243.8 mm (12 x 9.6 in)
 - Form factor: Advanced Technology Extended (ATX)

External and internal structure

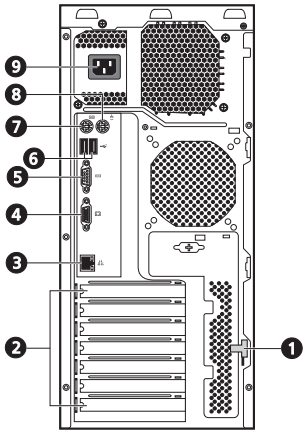
Front panel









No.	Component	No.	Component
1	ODD mechanical eject hole	9	HDD activity indicator
2	ODD activity indicator	10	Status/fault indicator
3	Optical disc drive	11	HDD bay bezel
4	ODD eject button	12	Security keylock
5	5.25-inch drive bays	13	FDD eject button
6	USB 2.0 ports	14	FDD activity indicator
7	Power button	15	Floppy disk drive (optional)
8	Power indicator		

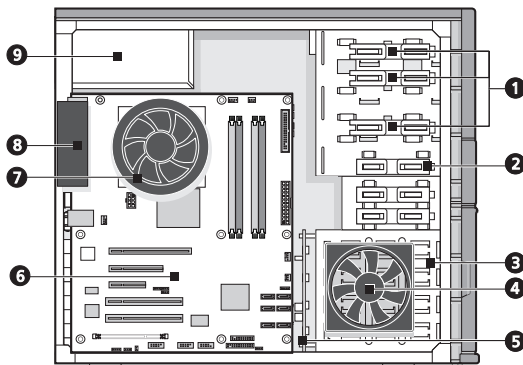
Note: If you intend to install an optional floppy disk drive, refer to the documentation that came with the new drive for instructions.

Rear panel



No.	Icon	Component
1		Side panel release latch
2		Expansion slot covers
3		Gigabit LAN port
4		Monitor port
5		Serial port
6		USB 2.0 ports
7		PS/2 keyboard port
8		PS/2 mouse port
9		Power cable socket

Internal components



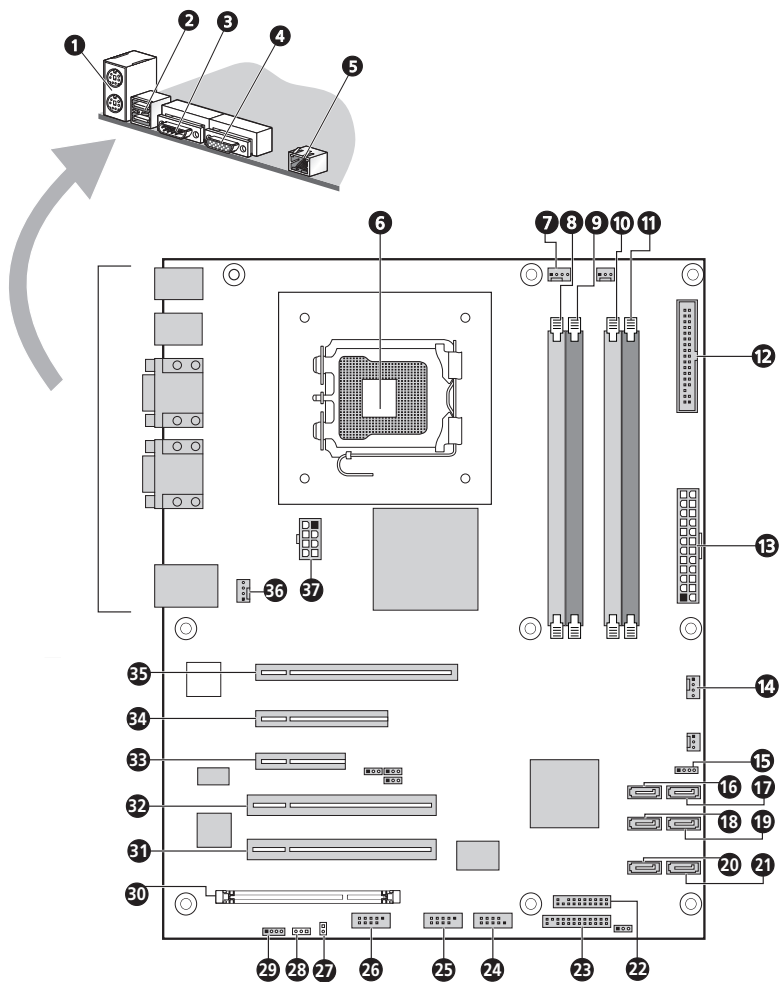
No.	Component
1	Release sliders for the 5.25-inch device bays
2	Release slider for the FDD bay
3	HDD cage
4	HDD fan
5	Hot-plug HDD backplane board
6	Mainboard
7	Processor heat sink-fan
8	System fan
9	Power supply unit

Notes:

- The HDD fan is an optional item. Use of it is only required when the system is using at least two hard drives are installed in adjacent HDD bays.
- The hot-plug backplane board is an optional item.
- Contact your local Acer representative for information on how to purchase these hardware options.

System boards

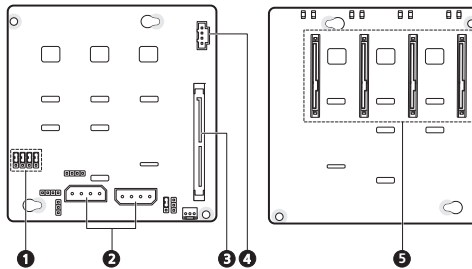
Mainboard



No.	Component	No.	Component
1	TOP: PS/2 Mouse Port Bottom: PS/2 Keyboard Port	20	SATA port 4
2	USB2.0 Port	21	SATA port 5
3	Serial Port	22	TPM module connector
4	Monitor Port	23	Front panel LED connector
5	Gigabit LAN port	24	Serial port connector (COM 2)
6	Processor socket	25	USB connector 1
7	Processor HSF connector	26	USB connector 2
8	DIMM A1	27	Chassis intrusion connector
9	DIMM A2	28	IPMB_1 connector
10	DIMM B1	29	IPMB_2 connector
11	DIMM B2	30	BMC Module slot
12	FDD connector	31	PCI 5 slot (32-bit/33 MHz/3.3 V)
13	2x12 ATX power connector	32	PCI 4 slot (32-bit/33 MHz/3.3 V)
14	HDD fan connector	33	PCI-E 3 slot PCI Express x4 (with x1 throughput)
15	I2C connector	34	PCI-E 2 slot PCI Express x8 (with x4 throughput)
16	SATA port 0	35	PCI-E 1 slot PCI Express x16 (with x8 throughput)
17	SATA port 1	36	Rear system fan connector
18	SATA port 2	37	2x4 ATX power connector
19	SATA port 3		

Backplane board

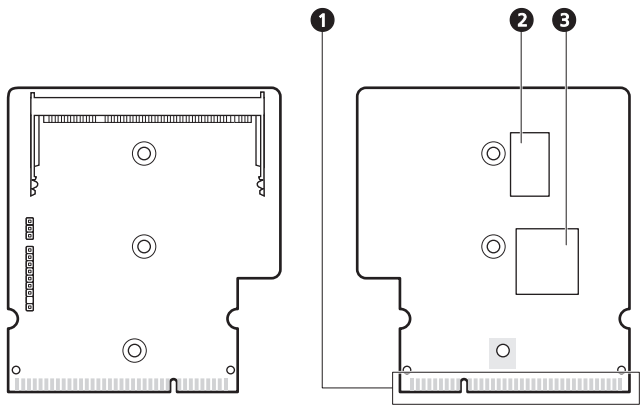
The backplane board attached to the rear of the hot-plug HDD cage is what differentiate it from the easy-swap HDD cage model.



No.	Component
1	HDD access LED control jumpers Close 2-3 – HDD LED control via pin 11 (default)
2	HDD power cable connectors
3	HDD data cable connector (SFF-8484)
4	SAS Backplane Management cable connector
5	HDD connectors

BMC module

The optional BMC module is the meeting point between the server hardware and the system management software. In conjunction with the mainboard hardware monitor, it allows system administrators to manage the system remotely over a network.



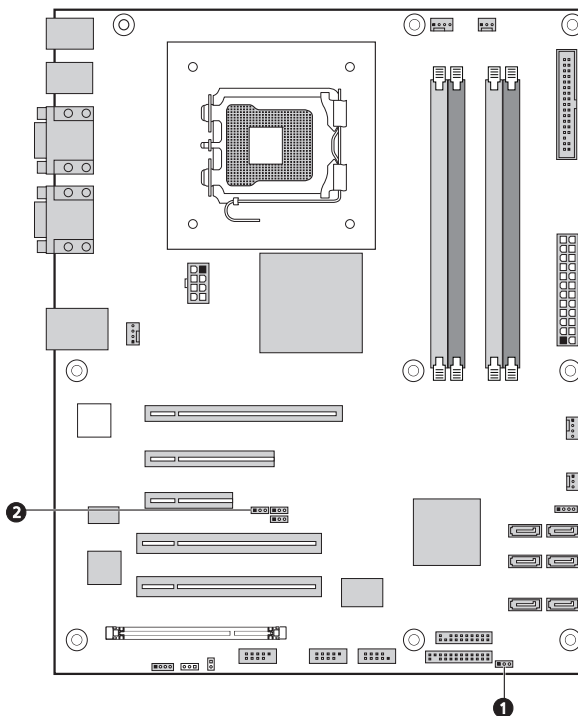
No.	Code	Description
1	SODIMM_1	BMC module mainboard connector
2	U3	SDRAM (Synchronous Dynamic Random Access Memory)
3	U1	H85/216x BMC chipset



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Note: Altos G330 Mk2 does not support ARMC/3.

System jumpers



No.	Jumper	Setting
1	Clear CMOS	1-2 – Normal operation setting 2-3 – The CMOS RAM contents will be cleared on the next reset.
2	BIOS recovery	1-2 – Normal operation setting 2-3 – BIOS recovery setting



Note: The default setting for normal operation is **1-2** for all system jumpers.

System LED indicators

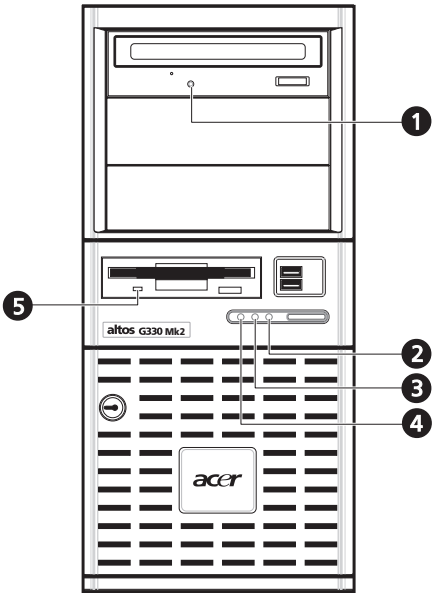
This section discusses the different status LED indicators located on the:

- 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 LED indicators (green) mounted on the front panel allow the constant monitoring of the system's power status and drive activity.



No.	Indicator	Status	Description
1	ODD activity	Blinking	There is an ongoing ODD activity.

No.	Indicator	Status	Description
2	Power	On	The system is powered on.
		Blinking	The system is in ACPI sleep mode.
3	HDD activity	Blinking	There is an ongoing HDD activity.
4	Status/fault ¹	Solid green	System is in normal mode.
		Solid amber	Critical system threshold breach Access the Setup utility and view the system event log for details.
5	FDD activity	Blinking	There is an ongoing FDD activity.

1 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.

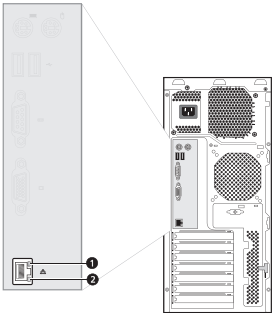
Hot-plug HDD LED indicators

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

The Gigabit LAN port located on the rear panel has two LED indicators that show its status.



No.	Indicator	Status	Description
1	Network speed	Solid yellow	GbE link network access
		Solid green	100 Mbps link network access
		Off	10 Mbps link network access
2	Network connection	Solid green	Active network link
		Blinking green	Ongoing network data activity
		Off	Off-line network

2 System setup

This chapter gives you instructions on how to prepare the system for operation. Procedures for connecting 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:

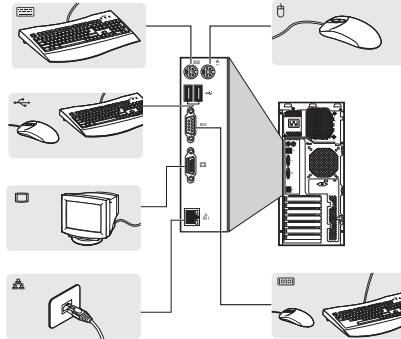
- Acer Altos G330 Mk2 system
- Acer Altos G330 Mk2 System DVD
- Acer Altos G330 Mk2 accessory box
- System keys (attached to the security keylock)

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

The color-coded I/O ports on the rear panel support a variety of compatible peripherals.



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

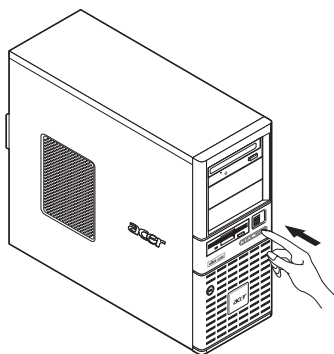


.....
Caution: Do not route the power cord where it will be walked on or pinched by items placed against it. The server is designed to be electrically grounded (earthed). To ensure proper operation, plug the power cord into a properly grounded AC outlet only.

Turning on the system

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

To turn on the system, press the power button on the front panel.



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



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

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

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

Power-on problems

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

- The external power cord may be loosely connected.

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

- No power comes from the grounded power outlet.

Have an electrician check your power outlet.

- Loose or improperly connected internal power cables.

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



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



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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.

Turning off the system

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

To turn off the system via software:

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

To turn off the system via hardware:

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

3 System upgrade

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

Installation precautions

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

ESD precautions

Electrostatic discharge (ESD) can damage static-sensitive hardware components, such as the processor, disk drives, and the system boards. 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.
- Avoid moving around unnecessarily to minimize your body's ESD.
- 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 perform any hardware configuration may cause serious damage and bodily harm. Do not attempt the procedures described in the following sections unless you are a qualified service technician.

- 1 Back up all important system and data files before performing any hardware configuration.
- 2 Turn off the server and all connected peripherals.
- 3 Unplug all power cables from their outlets.
- 4 Disconnect all telecommunication cables from their ports.
- 5 Place the server on a flat, stable surface.
- 6 Open the server according to the instructions on page 31.
- 7 Follow the ESD precautions described in the previous section when handling a server component.

Post-installation instructions

Perform the steps below after installing a server component.

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

Opening the server

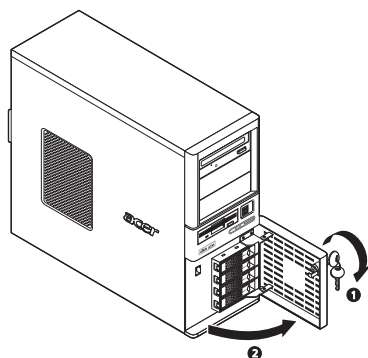


Caution: Before you proceed, make sure that you have turned off the system and all peripherals connected to it. Read the "Pre-installation instructions" section page 30.

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

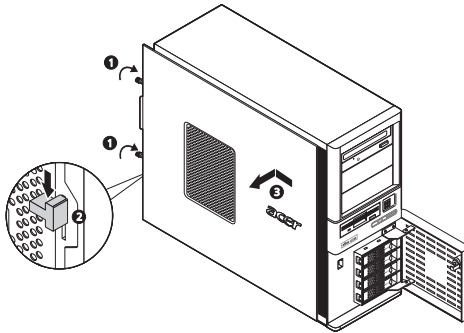
Removing the side panel

- 1 Perform the pre-installation instructions described on page 30.
- 2 Open the HDD bay bezel.
 - (1) If necessary, insert the key into the lock and turn it counterclockwise until it points to the unlock icon.
 - (2) Open the lower bezel to a 90° angle.



- 3 Remove the side panel.
 - (1) Loosen the two screws located on the rear edge of the side panel.
 - (2) Move the side panel release latch all the way down to unfasten the panel from the chassis.

- (3) Slide the side panel toward the rear of the chassis to detach it.

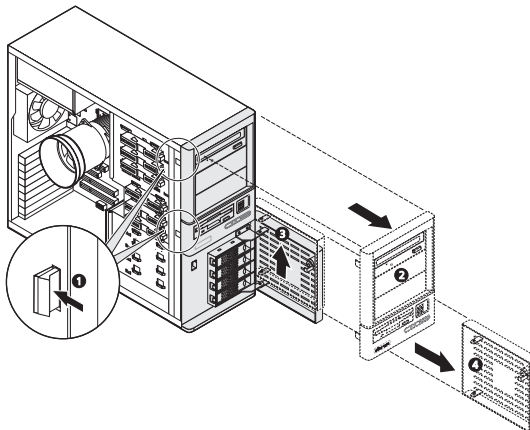


Removing the front bezels

- 1 Remove the side panel.
- 2 Remove the front bezels.

There are two front bezels protecting the 5.25-inch drive bays and the HDD bay. Remove the top bezel first.

- (1) Release the top bezel retention tabs from the chassis interior.
- (2) Pull the top bezel away from the chassis.
- (3) Pull the lower bezel upward to release its retention tabs from the chassis.
- (4) Pull the lower bezel away from the chassis.




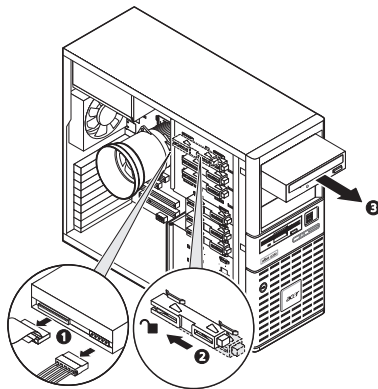
Configuring a 5.25 inch storage device

The three 5.25-inch device bays support a variety of storage devices for additional storage capacity and scalability. Go to page 5 for a list of supported storage devices.

By default, the system ships with a DVD-ROM drive installed on the topmost device bay. You can choose to replace this default drive, or you can install a new storage device.

To install an optional storage device:

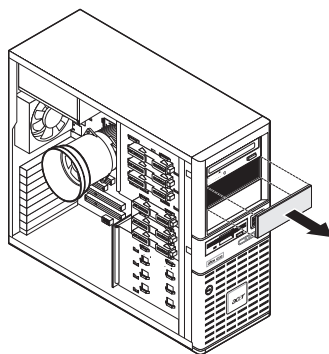
- 1 Perform the pre-installation instructions described on page 30.
- 2 If you intend to replace the DVD drive, go to the next step.
If you intend to install a new storage device, go to step 4.
- 3 Remove the default DVD drive.
 - (1) Disconnect the power and IDE cables from rear of the default DVD drive.
 - (2) Move and hold the DVD drive release slider to the unlock position .
 - (3) Pull the drive out of the device bay.





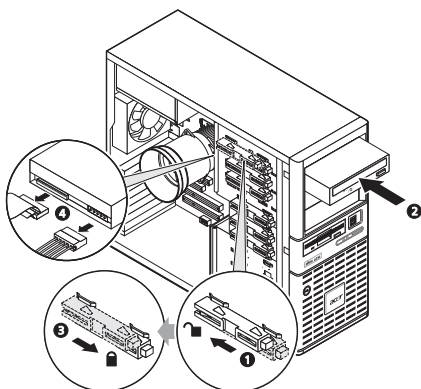
Proceed to step 5 for instructions on how to install a new storage device.

- 4 Use a flat-blade screwdriver to pry the dummy bezel off the device bay where you intend to install the new storage device.

Keep this dummy bezel for future reinstallation.



- 5 Install the new 5.25-inch storage device.
 - (1) Move and hold the DVD drive release slider of the unlock position .
 - (2) Slide the new 5.25-inch drive into the drive bay.
 - (3) Move the release slider into the lock position .
 - (4) Connect the power and data cables of the new storage device.



- 6 Observe the post-installation instructions described on page 30.

Configuring a hard drive

The Altos G330 Mk2 HDD cage bay accommodates both hot-plug and easy-swap HDD cage models. The main difference between these two cage models is the presence of a backplane board on the rear side of the hot-plug HDD cage. Both cage models support up to four SATA II or SAS hard disk drives. Users have the option to purchase extra hard disks to provide the system with additional storage capacity and scalability.

Hard drive configuration reminders

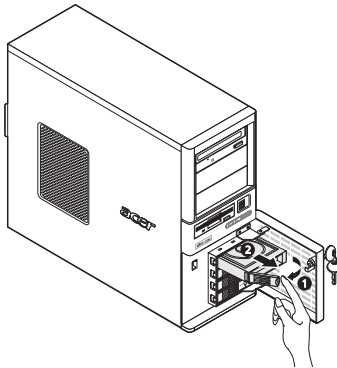
- A dummy HDD carrier occupies a vacant HDD bay. Users need to purchase a blank HDD carrier to install additional hard drive(s).
- If you intend to install a SAS hard drive model, install the SAS or SAS RAID card option first.
- If you intend to install at least two hard drives in adjacent HDD bays, an HDD fan is required to maintain proper system cooling.

Contact your local Acer representative for more information on how to purchase these optional items.

To remove a hot-plug hard drive:

- 1 If necessary, unlock the front bezel, then pull it open.
- 2 Remove the hot-plug hard drive from its bay.
 - (1) Press the hard disk carrier button to release the ejector lever.
 - (2) Use the ejector lever to pull the drive out of the cage.

Make sure to support the drive when pulling it out of the cage.



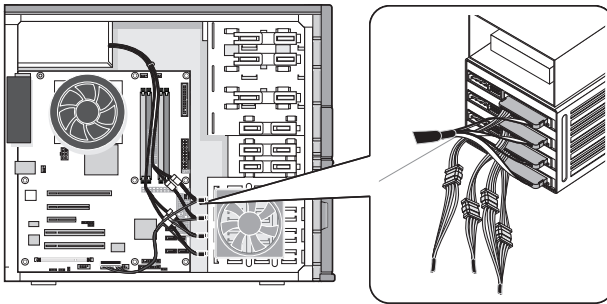
To remove an easy-swap hard drive:

- 1 Remove the side panel from the chassis.

Go to page 31 for instructions.

- 2 Disconnect the data and power cables from their HDD connectors.

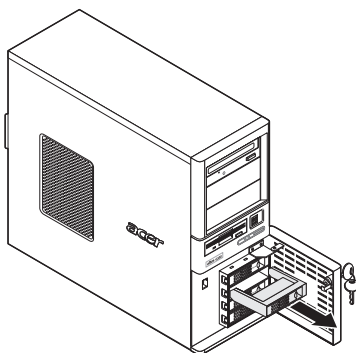
The figure below shows the cable connections for a SAS HDD connected to an optional SAS/SAS RAID expansion card. Easy-swap HDD configuration also supports SATA HDDs connected to the onboard SATA connectors.



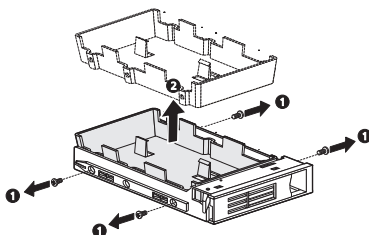
- 3 Press the hard disk carrier button to release the ejector lever.
- 4 Use the ejector lever to pull the drive out of the cage.
Make sure to support the drive when pulling it out of the cage.
- 5 Observe the post-installation instructions described on page 30.

To install a hot-plug hard drive:

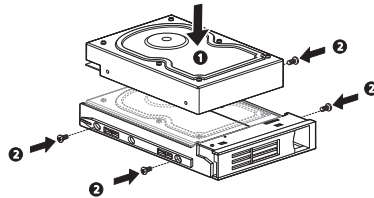
- 1 If necessary, unlock the HDD bay bezel, then pull it open.
- 2 Pull out the dummy HDD carrier from the cage.



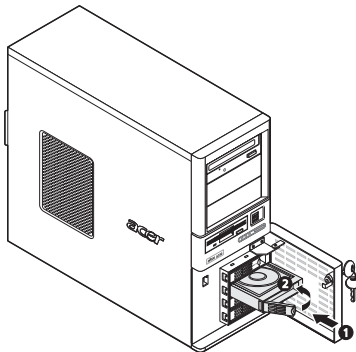
- 3 Prepare the new blank HDD carrier for installation.
 - (1) Remove the four screws that secures the blank frame.
You will use these screws to secure the hard disk later.
 - (2) Detach the plastic frame from the HDD carrier.



- 4 Align the new hard disk with the HDD carrier, then secure it with the four screws you removed in step 3-1.



- 5 Install the new hard drive into the cage.
 - (1) Slide the drive into the cage with the ejector lever still extended.
 - (2) Make sure that the drive is properly inserted before pushing the lever back until it clicks into place.



To install an easy-swap hard drive:

- 1 Remove the side panel from the chassis.
Go to page 31 for instructions.
- 2 Observe steps 2 through 5 of the previous section.
- 3 Connect the data and power cables to their HDD connectors.
- 4 Observe the post-installation instructions described on page 30.

Upgrading the processor

Altos G330 Mk2 has one LGA775 processor socket that supports a variety of Intel processor models. Refer to page 3 for a list of these supported processor options.

This section explains the procedures for removing and installing the processor and heat sink-fan.

Processor configuration precautions

- Handle the processor and the HSF assembly carefully. Damage to either may prevent the system from functioning properly.
- Do not touch the pins on either the processor or the processor socket; they are very sensitive and are easily damaged.
- Do not force the processor into the socket. When properly aligned, the processor will easily fit into place.
- Be sure that the server has the most recent ROM version. Failure to flash the ROM before installing a new processor can cause system failure.

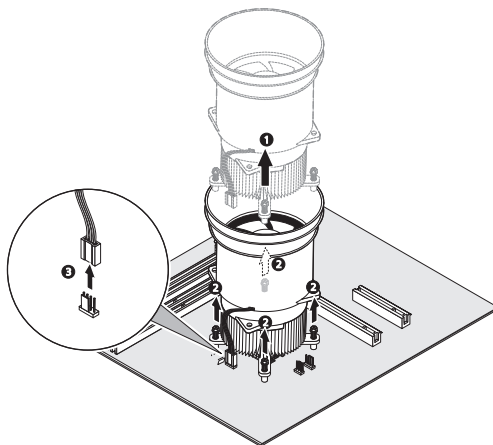
To upgrade the processor:

- 1 Perform the pre-installation instructions described on page 30.
- 2 Lay the server on its side (components showing).
- 3 If necessary, remove any accessory boards or cables that prevent access to the HSF.

- 4 Remove the HSF from the chassis.

The figure below shows the HSF type available for the Altos G330 Mk2 system.

- (1) Disconnect the processor HSF cable from its mainboard connector.
- (2) Loosen the four HSF mounting pins.
- (3) Twist the HSF slightly to break the thermal grease bond loose. Once the thermal grease bond is broken, lift the HSF away from the mainboard.



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

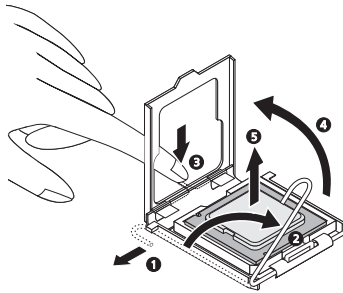
- 6 Remove the default processor.



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

- (1) Press down on the socket lever while pulling it towards the center of the mainboard to disengage it from the socket hook.
- (2) Fully open the load lever.
- (3) Press the rear tab with your finger tip to bring the front end of the retention plate up slightly.
- (4) Open the plate to expose the socket body.
- (5) Grasp the processor by its edges and lift it out of its socket.



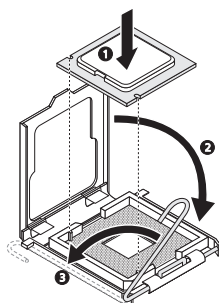
- 7 Store the old processor inside an anti-static bag.
- 8 Remove the new processor from its box, handling it by the edges.
- 9 Remove the protective shipping cover from the new processor.

10 Install the new processor.

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

Make sure that the alignment tabs on the socket fit the two notches located on the 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.
- (3) Press down on the socket lever while pushing it towards the center of the processor socket to engage it under the socket hook.



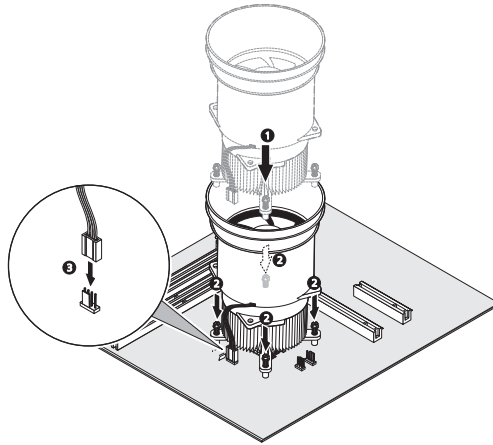
11 Apply a thin layer of an Acer-approved thermal interface material to the processor base and the bottom side of the HSF.

Make sure that only a *very thin layer* is applied so that both contact surfaces are still visible.

12 Reinstall the HSF assembly.

The figure below shows the HSF type available for the Altos G330 Mk2 system.

- (1) Align then insert the HSF on top of the retention plate.
- (2) Tighten the four mounting pins a few threads in, observing a diagonally opposite pattern, then tighten them completely to secure the heat sink to the processor base.
- (3) Reconnect the HSF cable to its mainboard connector.



13 Observe the post-installation instructions described on page 30.

Upgrading the system memory

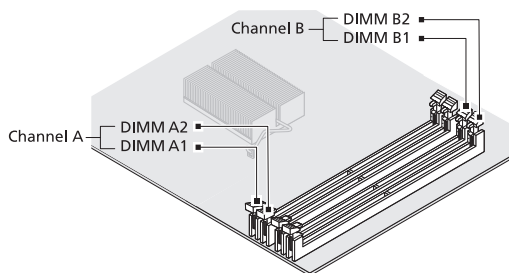
This section explains the procedures for removing and installing a memory module.

Altos G330 Mk2 has four DDR2-800 DIMM slots. Each slot supports 512 MB, 1 GB or 2 GB memory modules. The maximum memory capacity is 8 GB.

System memory interface

Altos G330 Mk2 has four DIMM slots divided into two memory channels.

- Channel A - DIMM A1 and DIMM A2
- Channel B - DIMM B1 and DIMM B2



System memory configuration guidelines

- To ensure data integrity, use only Acer-approved DDR2 800 unbuffered ECC modules in 512 MB, 1 GB, or 2 GB capacities.
- Use identical modules—same type, banking, stacking technology, and manufacturer.
- The minimum memory configuration is one DIMM, installed in the DIMM A1 slot (the slot closest to the processor socket).
- The system does not support a three-DIMM memory configuration.

- DIMMs on channel A (DIMM A1 and A2) are paired with DIMMs on channel B (DIMM B1 and B2) to enable two-way interleaving. When only two DIMMs are being used, the population order must be DIMM A1 and DIMM B1 to ensure dual-channel operating mode.
- For best performance and dual-channel interleave operation, DIMM modules must be installed or removed in matched pairs, following the slot sequence: DIMM A1 and B1 first, then DIMM A2 and B2.
- Observe the population sequence illustrated in the table below when installing a memory module.

Memory channel	DIMM slot	Population order
A	DIMM A1	1
A	DIMM A2	3
B	DIMM B1	2
B	DIMM B2	4

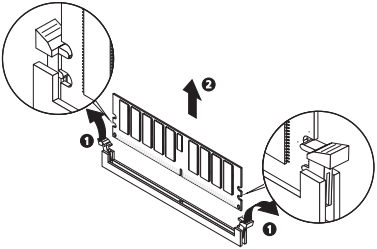
- The table below lists the supported memory installation based on the memory interleave configuration.

Interleave mode	Channel A		Channel B		Total memory
	DIMM A1	DIMM A2	DIMM B1	DIMM B2	
Single channel	512 MB				512 MB
	1 GB				1 GB
	2 GB				2 GB

Interleave mode	Channel A		Channel B		Total memory
	DIMM A1	DIMM A2	DIMM B1	DIMM B2	
Dual channel	512 MB		512 MB		1 GB
	1 GB		1 GB		2 GB
	2 GB		2 GB		4 GB
	512 MB	512 MB	512 MB	512 MB	2 GB
	1 GB	1 GB	1 GB	1 GB	4 GB
	2 GB	2 GB	2 GB	2 GB	8 GB

To remove a memory module:

- 1 Perform the pre-installation instructions described on page 30.
- 2 Lay the server on its side (components showing).
- 3 If necessary, remove any cables that prevent access to the DIMM slots.
- 4 Locate the memory module you intend to remove.
- 5 Remove the memory module.
 - (1) Press the retaining clips on both sides of the slot outward to release the DIMM.
 - (2) Hold the DIMM by its edges, then gently pull it upward to remove it.



- 6 Store the removed memory module inside an anti-static bag.
- 7 If you intend to install a new memory module, proceed to the next section for related procedure, otherwise observe the post-installation instructions described on page 30.

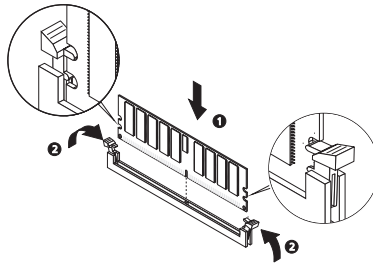
To install memory module:

- 1 Perform steps 1 through 3 of the previous section.
- 2 Select an empty DIMM slot.
- 3 If necessary, open the holding clips of the selected DIMM slot.
- 4 Remove the new memory module from its protective packaging, handling it by the edges.
- 5 Install the new memory module.
 - (1) Align the module so that the notch on the slot fits the keyed edge of the module, then press the module at both ends until the retaining clips snap into place.

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

- (2) Make sure to firmly press the retaining clips inward to lock the module in place.

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



- 6 Observe the post-installation instructions described on page 30.

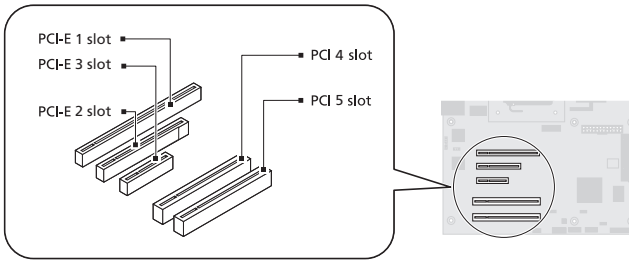
The system automatically detects the amount of memory installed. Run the BIOS setup utility to view the new value for total system memory.

Installing an expansion card

This section explains how to install an expansion card.

Altos G330 Mk2 has five PCI bus slots, namely:

- One PCI Express x16 slot with x8 throughput (PCI-E 1 slot)
- One PCI Express x8 slot with x4 throughput (PCI-E 2 slot)
- One PCI Express x4 slot with x1 throughput (PCI-E 3 slot)
- Two 32-bit/33 MHz/3.3V PCI bus slots (PCI 4, PCI5 slots)

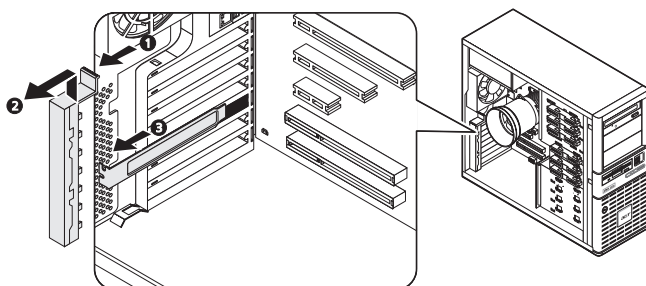


To install an expansion card:

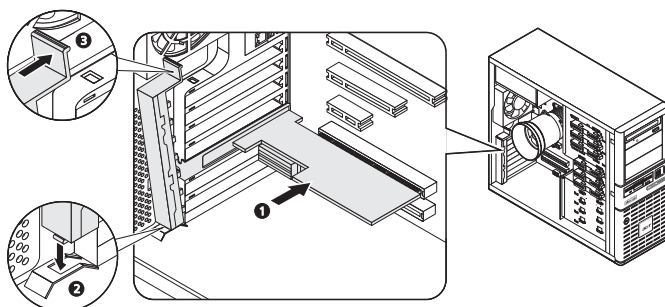
- 1 Perform the pre-installation instructions described on page 30.
- 2 If necessary, remove any cables that prevent access to the expansion slots.
- 3 Locate an empty expansion slot that is compatible with the specification of the card you intend to install.
- 4 Install the expansion card.
 - (1) Pull the card bracket latch slightly upward.
 - (2) Detach the card bracket latch from the chassis.
 - (3) Pull out the slot cover opposite the selected expansion slot.
Store it for future reassembly.



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 Remove the expansion card from its protective packaging, handling it by the edges.
- 6 Install the new expansion card.
 - (1) Insert the card into the selected slot.
Make sure that the card is properly seated.
 - (2) Insert the lower end of the card bracket latch to its chassis notch.
 - (3) Secure the card bracket latch tab to the chassis.



- 7 Connect the necessary cables to the expansion card as required.
- 8 Observe the post-installation instructions described on page 30.

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

Installing the BMC module

The optional BMC module allows system administrators to manage the Altos G330 Mk2 system remotely over a network.

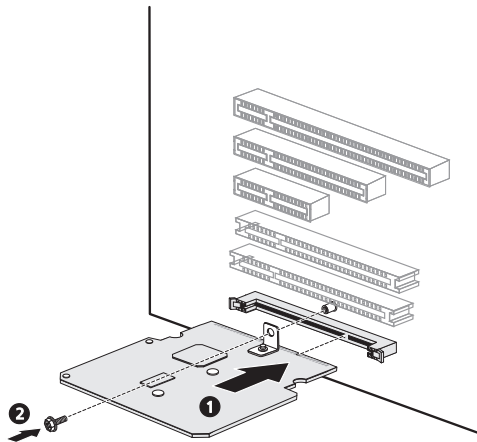
To install the BMC module:

- 1 Perform the pre-installation instructions described on page 30.
- 2 Locate the IPMI_1 slot. If necessary, remove any boards or cables that prevent access to it.
- 3 If necessary, open the holding clips of the IPMI_1 slot.
- 4 Remove the BMC module from its protective packaging, handling it by the edges.
- 5 Install the BMC module.

- (1) Align the module so that the notch on the IPMI_1 slot fits the keyed edge of the module, then press the module at both ends to seat it fully into the slot.

When the module is properly installed, the holding clips will automatically lock in place.

- (2) Secure the module with the one screw.



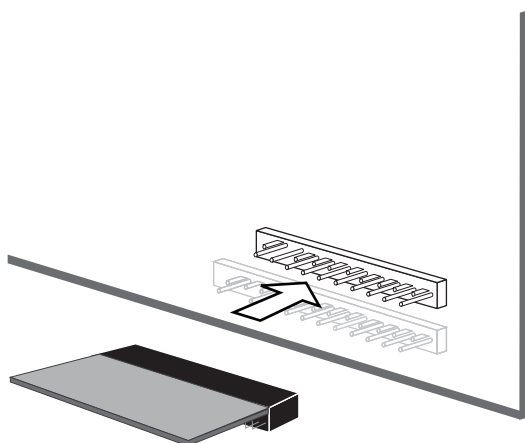
- 6 Observe the post-installation instructions described on page 30.

Installing the TPM module

The optional TPM module allows system administrators to enhance the security of Altos G330 Mk2 system.

To install the TPM module:

- 1 Perform the pre-installation instructions described on page 30.
- 2 Locate the TPM module connector. If necessary, remove any boards or cables that prevent access to it.
- 3 Remove the TPM module from its protective packaging, handling it by the edges.
- 4 Install the TPM module.
 - (1) Insert the TPM module into the TPM module connector.



- 5 Observe the post-installation instructions described on page 30.

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.



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

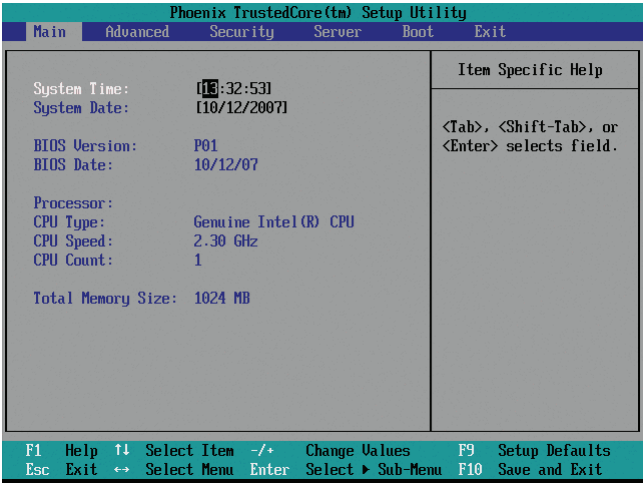
- **Enter** key – Display a submenu screen.



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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.

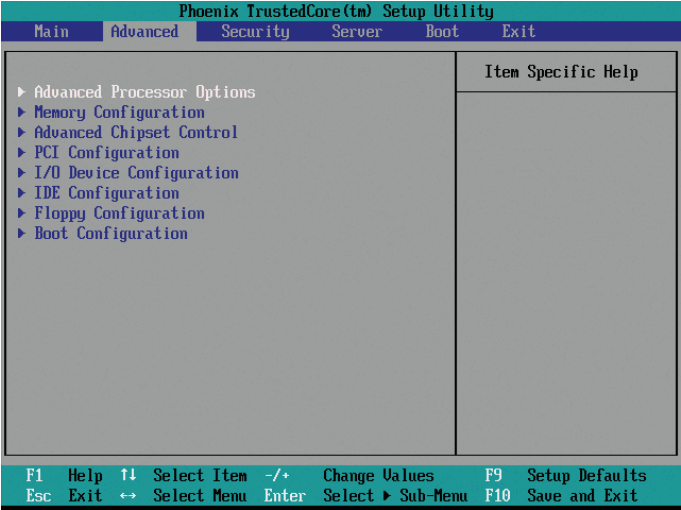
Main menu



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 CPU Type CPU Speed CPU Count	Technical specifications for the installed processor
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.



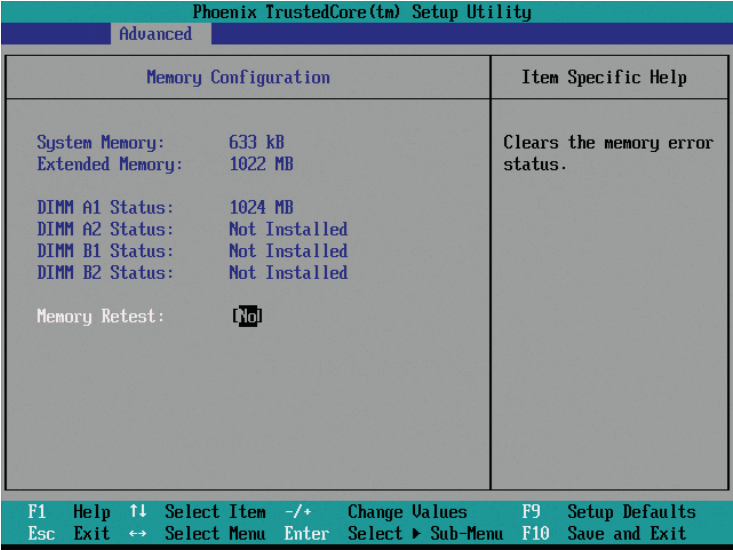
Advanced Processor Options

Phoenix TrustedCore(tm) Setup Utility		
Advanced		
Advanced Processor Options		Item Specific Help
CPU Type:	Genuine Intel	
CPU Speed:	2.30 GHz	
FSB Speed:	1333 MHz	
Processor CPUID:	0671	
Processor L2 Cache:	6144 KB	
C1 Enhanced Mode:	[Enabled]	
Intel(R) Virtualization Technology:	[Enabled]	
Execution Disable Bit:	[Enabled]	
Intel EIST Support:	[Enabled]	
Processor Multicore:	[Enabled]	
Trusted Execution Technology:	[Enabled]	
Hardware Prefetcher:	[Enabled]	
Adjacent Cache Line Prefetch:	[Enabled]	
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults Esc Exit ↔ Select Menu Enter Select ► Sub-Menu F10 Save and Exit		

Parameter	Description	Option
CPU Type	Processor model name	
CPU 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.	
FSB Speed	Front side bus frequency	
Processor CPUID	Processor ID number	
Processor L2 Cache	Processor second-level cache size detected during POST Note: This field is not shown on the above screenshot.	
C1 Enhanced Mode	Select whether to enable the C1 Enhanced mode for the processor. If enabled, all logical processors in a physical processor will run in a C1 state.	Enabled Disabled

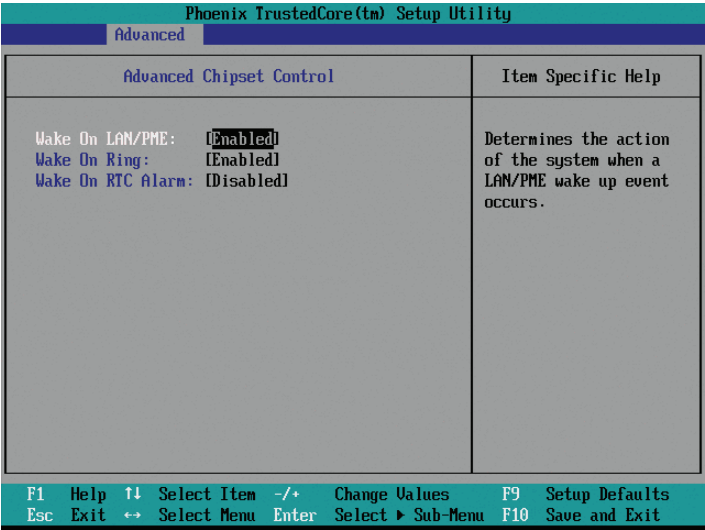
Parameter	Description	Option
Intel Virtualization Technology	Select whether to enable the Intel Virtualization Technology function. VT allows a single platform to run multiple operating systems in independent partitions.	Enabled Disabled
Execute Disable Bit	Select whether to enable the Intel Execute Disable Bit (XD) function. The XD function allows the processor to divide the system memory into areas for storage of processor instructions or for storage of data. When a malicious worm attempts to insert code in the buffer, the processor disables code execution, preventing damage or worm propagation.	Enabled Disabled
Intel EIST Support	Enable/Disable Enhanced Intel SpeedStep Technology.	Enabled Disabled
Processor Multicore	Enable/Disable processor multicore	Enabled Disabled
Trusted Execution Technology	Enable/Disable Trusted Execution Technology	Enabled Disabled
Hardware Prefetcher	Select whether to enable the speculative prefetch unit of the processor.	Enabled Disabled
Adjacent Cache Line Prefetch	When enabled, cache lines are fetched in pairs. When disabled, only the required cache line is fetched.	Enabled Disabled

Memory Configuration



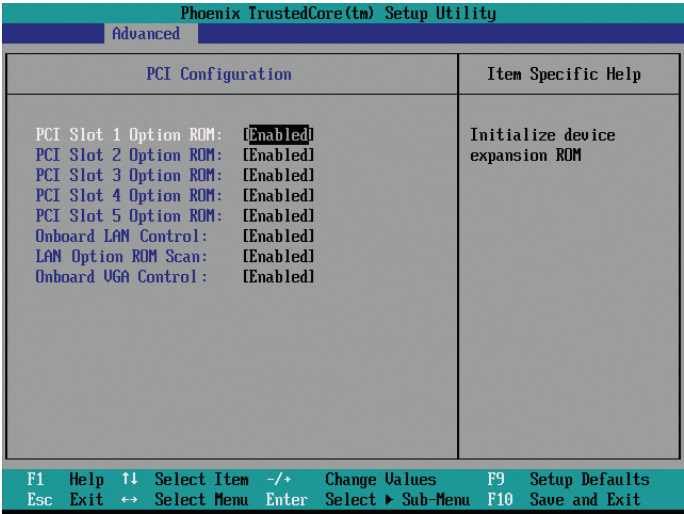
Parameter	Description	Option
System Memory	Total size of system memory detected during POST	
Extended Memory	Total size of extended memory detected during POST	
DIMM Group A1, A2, B1, B2 Status	The size of memory installed on each of the FBD slots.	
Memory Retest	Select whether to delete the historical memory data log. System memory will be retested on the next boot-up.	Yes No

Advanced Chipset Control



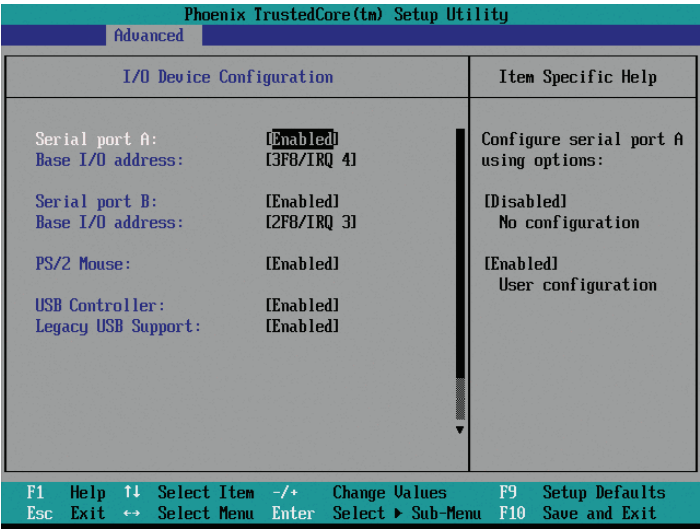
Parameter	Description	Option
Wake On LAN/PME	Select whether to wake up the system when a LAN or PME event is detected.	Enabled Disabled
Wake On Ring	Select whether to wake up the system when an incoming call is detected on the modem.	Enabled Disabled
Wake On RTC Alarm	Select whether to wake up the system when an RTC alarm is detected.	Enabled Disabled

PCI Configuration



Parameter	Description	Option
PCI Slot 1 - 5 Option ROM	When enabled, this setting will initialize the device expansion ROM for the related PCI slot.	Enabled Disabled
Onboard LAN Control	Enable or Disable the onboard LAN Device by setting item to the desired value	Enabled Disabled
LAN Option ROM Scan	Select whether to enable the selected onboard LAN device. When enabled, device expansion ROM will be initialized.	Enabled Disabled
Onboard VGA Control	Enable or Disable the onboard VGA by setting item to the desired value	Enabled Disabled

I/O Device Configuration

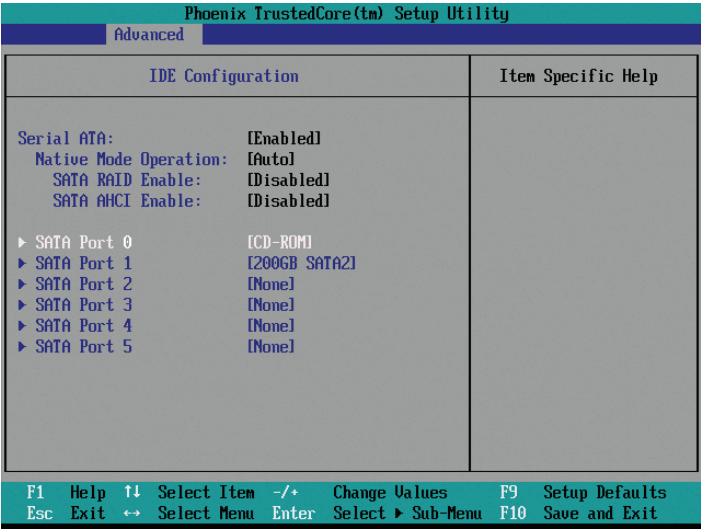


Parameter	Description	Option
Serial Port A/B	When enabled allows you to configure the serial port settings. When set to Auto allows the server's BIOS or OS to select a configuration. When set to Disabled , displays no configuration for the serial port.	Enabled Disabled Auto
Base I/O address	Base I/O address and IRQ setting for the selected serial port	3F8/IRQ4 2F8/IRQ3 3E8/IRQ4 2E8/IRQ3
PS/2 Mouse	Enable this parameter if you intend to use a mouse or trackball with a PS/2 interface.	Enabled Disabled
USB Controller	Enables or disables the onboard USB controller.	Enabled Disabled

Parameter	Description	Option
Legacy USB Support	Enables or disables support for legacy USB devices.	Enabled Disabled

IDE Configuration

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



Parameter	Description	Option
Serial ATA	Select whether to enable support for SATA devices.	Enabled Disabled
Native Mode Operation	Select the native mode for the SATA function.	Auto Serial ATA
SATA RAID Enable	Enable/Disable SATA RAID function.	Enabled Disabled
SATA AHCI Enable	Set this item to enable SATA AHCI function for WinXP-SP1+IAA driver supports AHCI mode.	Enabled Disabled

I/O Channel 0/Secondary Master/Slave

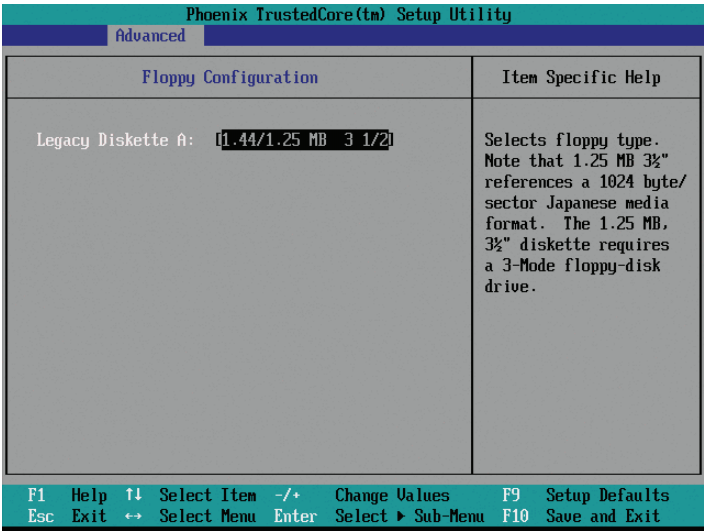
Phoenix TrustedCore(tm) Setup Utility		
Advanced		
SATA Port 2	[200GB SATA2]	Item Specific Help
Type:	[Auto]	User = you enter parameters of hard-disk drive installed at this connection. Auto = autotypes hard-disk drive installed here. CD-ROM = a CD-ROM drive is installed here. ATAPI Removable = removable disk drive is installed here.
Total Sectors:	398721968	
Maximum Capacity:	200GB SATA2	
Multi-Sector Transfers:	[16 Sectors]	
LBA Mode Control:	[Enabled]	
32 Bit I/O:	[Disabled]	
Transfer Mode:	[FPIO 4 / DMA 2]	
Ultra DMA Mode:	[Mode 5]	
F1 Help	↑↓ Select Item	-/+ Change Values
Esc Exit	↔ Select Menu	Enter Select ► Sub-Menu
		F9 Setup Defaults
		F10 Save and Exit

Parameter	Description	Option
Type	Selects the drive type.	Auto 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.	16 Sectors Disabled 2 Sectors 4 Sectors 8 Sectors
LBA Mode Control	Selects the hard disk drive translation method. For drivers with more than 504 MB, LBA mode is necessary.	Enabled Disabled

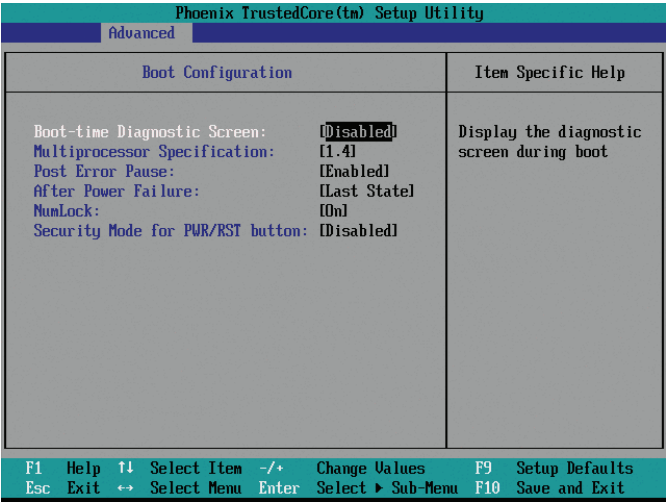
Parameter	Description	Option
32-bit I/O	Enables or disables the 32-bit data transfer function	Disabled Enabled
Transfer Mode	Select a transfer mode to enhance hard disk performance.	Fast PIO 4 Standard Fast PIO 1 Fast PIO 2 Fast PIO 3 FPIO 3/DMA 1 FPIO 4/DMA 2
Ultra DMA Mode	Selects DMA (Direct Memory Access) mode.	Mode 6 Disabled Mode 0 Mode 1 Mode 2 Mode 3 Mode 4 Mode 5

Floppy Configuration

The Floppy Configuration submenu displays the type of floppy disk drive installed in the server.



Boot Configuration

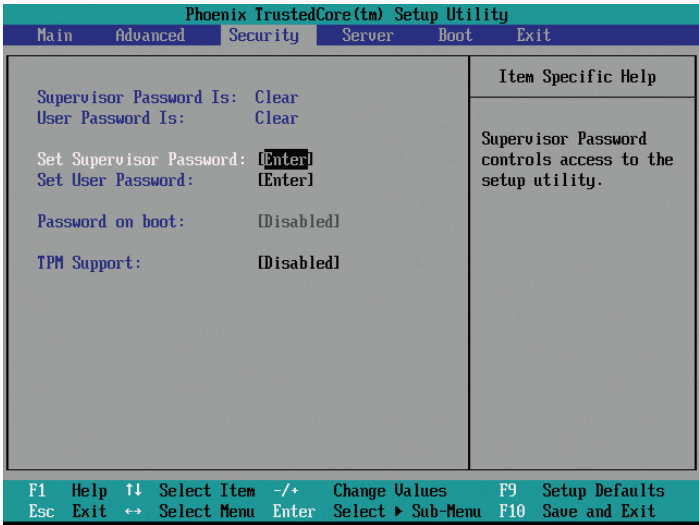


Parameter	Description	Option
Boot-time Diagnostic Screen	Choose whether to display the boot-time diagnostic screen during POST.	Disabled Enabled
Multiprocessor Specification	Select the multiprocessor (MP) specification revision level. Note: Some operating system will require a 1.1 setting for compatibility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

Parameter	Description	Option
NumLock	Select the NumLock behavior during boot-up.	On Off
Security Mode for PWR/RST button	Enable/Disable Security mode for PWR button and RST button	Enabled Disabled

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 Enter to configure the supervisor password.	
Set User Password	Press Enter to configure the user password.	
Password On Boot	Select Enabled to activate security check during POST.	Disabled Enabled
TPM Support	Enable/Disable Trusted Platform Module support	Disabled 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

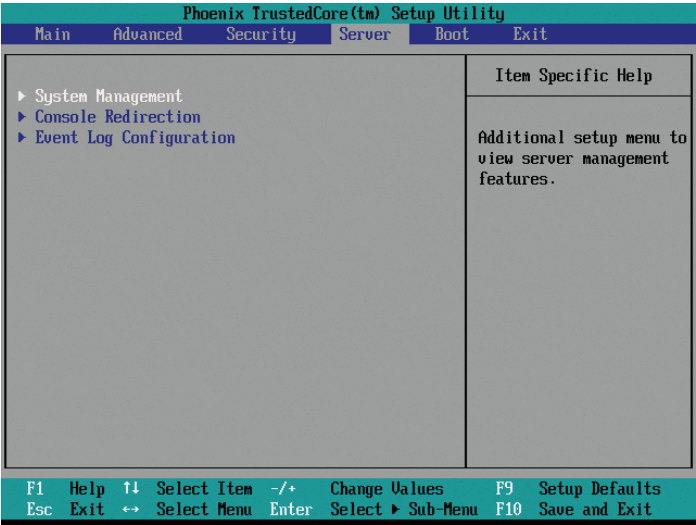
- 1 Use the up/down keys to select a password parameter (Set Supervisor Password or Set User Password), then press **Enter**.
- 2 Type the original password then press **Enter**.
- 3 Type a new password then press **Enter**.
- 4 Retype the password to verify the first entry then press **Enter** again.
- 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**.

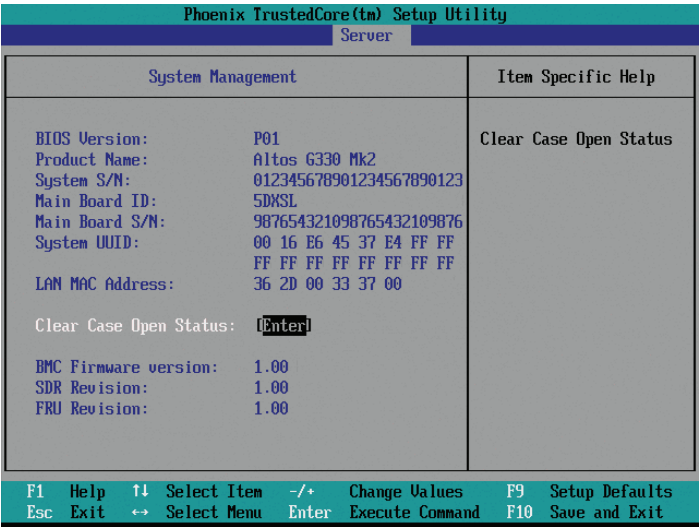
Server menu



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

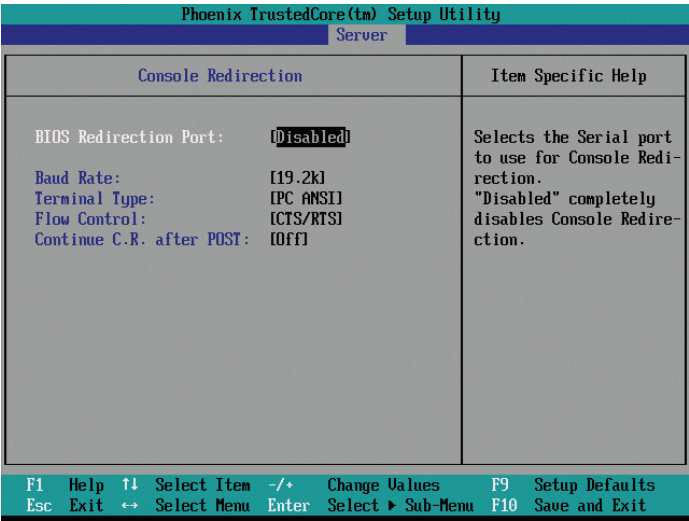
System Management

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
Clear Case Open Status	Press Enter to select whether to clear case open status

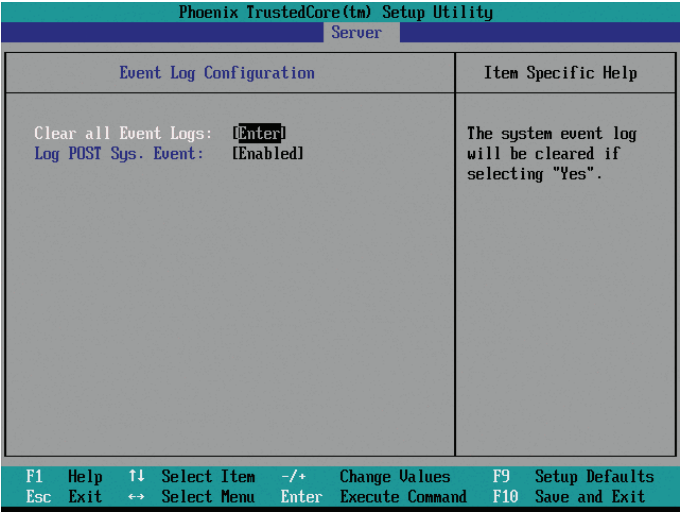
Console Redirection



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 Disabled
Baud Rate	Select the baud rate for console redirection.	300 1200 2400 9600 19.2K 38.4K 57.6K 115.2K

Parameter	Description	Option
Console Type	Select a terminal type to be used for console redirection.	VT100, VT100 8bit PC-ANSI 7bit VT100+ VT-UTF8
Flow Control	Assign control for the console redirection flow.	None XON/OFF CTS/RTS
Continue C.R. After POST	Select whether to enable console redirection after POST.	On Off

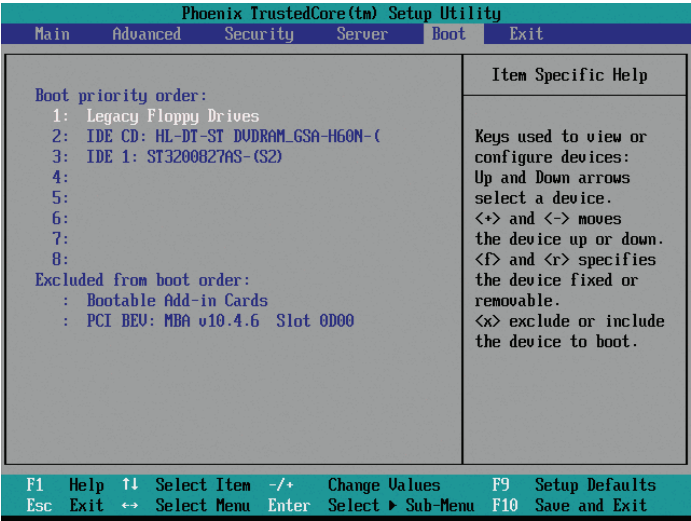
Event Log Configuration



Parameter	Description	Option
Clear All Event Logs	Press Enter 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.	Disabled Enabled

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.

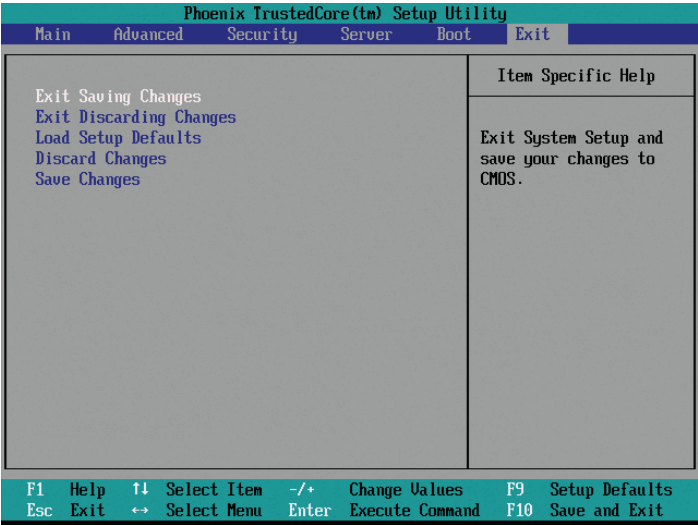


By default, the server searches for boot devices in the following order:

- 1 Floppy disk drive
- 2 Optical disc drive
- 3 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.

Pre-troubleshooting procedure

If you encounter any problem, ensure first that the system has the latest BIOS version. In addition to the BIOS, also update any drivers used for components that you have installed in the system, such as video drivers, network drivers, and storage drivers.

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" item on page 92.

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 power button to turn the server on (power indicator should be lit green)?
- Are all device drivers properly installed?
- Is the hard disk drive properly formatted and configured?
- Are the BIOS configuration settings correct?
- Is the operating system properly loaded?

Refer to the operating system documentation.

- Are all hardware components compliant with the tested components lists?
- Are all internal cables correctly connected and secured?
- Is the processor fully seated in its mainboard socket?
- Are all standoffs in the proper location and not touching any components, causing a potential short?
- Are all add-in expansion cards fully seated in their 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



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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 monitor.
- 3 Make sure the system power cord is plugged into a properly grounded AC outlet and in the power cable socket.
- 4 Make sure both the monitor and the keyboard are correctly connected to the system.
- 5 Turn on the 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 monitor.
- 7 If the operating system normally loads from the hard drive, make sure there is no diskette in the FDD and no disc in the ODD.
- 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 the "Power indicator does not light" item on page 90.

Verifying the condition of the storage devices

As POST determines the system configuration, it tests for the presence of each 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 the related problems listed in the "Component troubleshooting" 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 the "No characters appear the display monitor" item on page 93.

Component troubleshooting

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 up.

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 correctly installed system compliant memory modules, and that the system DIMM population guidelines were observed.
- Make sure that you have installed a system compliant processor.

FDD activity indicator does not light.

Do the following:

- Make sure the FDD data and power cables are properly connected.
- Check that relevant switches and jumpers for the FDD are set correctly.
- Check that the FDD is properly configured.

HDD activity indicator does not light.

Do the following:

- Make sure the HDD 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 free from scratches or 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 in their 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 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 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 monitor properly adjusted?
- Is the monitor signal cable properly connected?
- Does this monitor work correctly if plugged into a different system?
- Remove all add-in cards and see if the system boots up.
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 correctly installed system compliant memory modules, and that the system DIMM population guidelines were observed.
- Make sure that you have installed a system compliant processor.

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

- 1 Verify that the 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 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 G330 Mk2 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 55 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 LSI utility is only available when the corresponding SAS controller board option is installed in the server. Proceed to the next section for instructions on how to use these utilities.
LSI MegaRAID SAS RAID Configuration Utility	

RAID configuration utilities

RAID option for the Altos G330 Mk2 system is provided through either the onboard SATA controller or through a controller board option (LSI MegaRAID SAS RAID controller).



.....
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 1 volume using the onboard SATA controller.

To enable the onboard SATA RAID controller:

- 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 | IDE Configuration** submenu.
- 4 Change the setting of the SATA RAID Enable field from Disabled to **Enabled**.
- 5 Press **F10**.
- 6 Select **Yes** to save the new SATA RAID settings and close the Setup Utility.

Entering the onboard SATA RAID Configuration Utility

During POST, press **Ctrl-M** in the LSI MegaRAID Software RAID information screen.

Loading the onboard LSI SATA RAID default setting

- 1 In the onboard LSI RAID Configuration Utility, select **Objects** from the Management menu.
- 2 Select **Adapter** from the Objects list.
The available adapter options will be displayed.
- 3 Press **Enter** in the adapter list.
The adapter settings will be displayed.
- 4 Select **Factory Default**, then **YES** to load the default settings.
- 5 Close the configuration utility.
- 6 Press **Ctrl+Alt+Del** to reboot the system.

Creating the RAID 1 volume

- 1 In the onboard LSI RAID Configuration Utility, select **Configuration** from the Management menu.
- 2 Select **New Configuration** from the Configuration menu, then select **YES** to continue.
An array selection window displays the devices connected to the current controller.
- 3 Press the arrow keys to choose the specific physical drives, then press the space bar to associate the selected drive with the current array.
The indicator for the selected drive change from READY to ONLINE.
- 4 Add two more drives to the current array, then press **Enter**.
- 5 Press **Enter** again to select another array to configure.
- 6 Press the space bar to select the array, then press **F10** to configure the logical drive.
- 7 Accept the default RAID level (RAID1), then press **Enter** to return to the array selection window.
- 8 Press **Enter** to end the array configuration.

- 9 Select **YES** to save the configuration, then press any key to return to the Configuration menu.

Initializing the RAID volume

- 1 Press **Esc** to return to the Management menu.
- 2 Select **Initialize** from the Management menu.
All logical drives should be listed under Logical Drives.
- 3 Press the space bar to select the drives for initialization.
The selected drive will be shown in yellow.
- 4 Press **F10**, then select **YES** to start the initialization process.
- 5 Once initialization is complete, press any key to continue.
- 6 Press **Esc** to return to the Management menu.
- 7 Press **Esc**, then select **YES** to close the configuration utility.
Press **Ctrl+Alt+Del** to reboot the system, then proceed to the OS installation.

Assigning a Hot Spare Disk

- 1 Select Objects from Management menu.
- 2 Select **Physical Drive** from **Objects**. All of the HDDs will be listed.
- 3 Select a drive marked as **READY** and press **Enter**.
- 4 Select **Make Hot Spare** and press **Enter**.
- 5 Select **Yes** then you will see the HDD is changed from **READY** to **HOTSP**.
- 6 Press **ESC** to return to the **Management Menu**.

Save and Exit LSI RAID Configuration Utility

- 1 When RAID configuration, initialization and assigning hot spare is completed, press **ESC** in the Management Menu and select **YES** to exit the RAID Configuration Utility.
- 2 Press **Ctrl + Alt + Del** to reboot the server.
- 3 Now you can start to install OS.

LSI MegaRAID SAS 8708ELP RAID Configuration Utility

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

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-H** 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 Configuration menu, select **Adapter Properties** to display the current adapter settings.
- 2 Click **Next** to change the adapter setting.
- 3 Change the setting of Set Factory Defaults from No to **Yes**, then click **Submit**.
- 4 Press **Ctrl+Alt+Del** to reboot the server.

To create and initialize a RAID volume:

- 1 Access the Configuration menu.
- 2 Click **Configuration Wizard**.
- 3 Click **Add Configuration**, then click **Next**.
- 4 Click **Custom Configuration**, then click **Next**.
- 5 Use the **Ctrl** key to select the drives that you want to add into the array.
- 6 After selecting the drives, click **Accept DG**, then **Next**.
- 7 Select the RAID Level you want to use.
- 8 Create the logical volume and specify its size on the Select Size field, then click **Accept**.
- 9 After creating a logical volume on all of the RAID volume, click **Accept**, then **Yes** to save the configuration.

- 10 Click **Yes** to initialize the new logical drives.
All the created logical drives will be listed.
- 11 Click on **Home** to revert to the Configuration menu.
- 12 Select **Exit**, then **Yes**.
- 13 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 Access the Configuration menu.
- 2 Under Physical Drives, select a free disk marked as **UNCONF GOOD**.
- 3 Select **Make Global Dedicated HSP** or **Make Dedicated HSP**, then click **Go**.
- 4 Click on **Home** to revert to the Configuration menu.
Under Physical Drives, the assigned hot spare disk is marked as **Hotsapare** and highlighted in pink.

LSI MegaRAID SAS 8204ELP RAID Configuration Utility

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

Starting LSI MegaRAID SAS RAID Configuration Utility

During POST, press **CTRL-M** in the LSI MegaRAID information screen.

Loading Factory default setting

- 1 Select **Objects** from **Management menu**.
- 2 Select **Adapter** from **Objects**. The selectable adapter will be listed.
- 3 Press **Enter** on the adapter and the adapter setting will be shown on the screen. You can change the setting from this menu.
- 4 Select **Factory Default** and **Yes** to load the default settings.

- 5 Exit the configuration utility and press **<Ctrl> + <Alt> + ** to reboot the server.

Creating a RAID volume

- 1 Select **Configuration** from **Management Menu**.
- 2 Select **New Configuration** from the **Configuration Menu**. An array selection window displays the devices connected to the current controller.
- 3 Press the arrow keys to choose specific physical drives and press spacebar to associate the selected drive with the current array. The indicator for selected drive change from **READY** to **ONLINE**.
- 4 After you adding the drives to current array, press **Enter** to finish creating current array.
- 5 Press **Enter** again to select array to configure.
- 6 Press spacebar to select the array and press **F10** to configure the logical drive
- 7 Select **Accept** and press **Enter** to use the default setting for the RAID volume.
- 8 Press **Enter** to end the array configuration.
- 9 Select **YES** to Save Configuration and press any key to return to the **Configuration Menu**.
- 10 Press **ESC** to return to the **Management Menu**.

Initial RAID Volume

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

Assigning a Hot Spare Disk

- 1 Select **Objects** from **Management Menu**.
- 2 Select **Physical Drive** from **Objects**. All of the HDDs will be listed.

- 3 Select a drive marked as **READY** and press **Enter**.
- 4 Select **Make Hot Spare** and press **Enter**.
- 5 Select **Yes** then you will see the HDD is changed from **READY** to **HOTSP**.
- 6 Press **ESC** to return to the **Management Menu**.

Save and Exit LSI RAID Configuration Utility

- 1 When RAID configuration, initialization and assigning hot spare is completed, press **ESC** in the **Management Menu** and select **YES** to exit the RAID Configuration Utility.
- 2 Press **Ctrl + Alt + Del** to reboot the server.
- 3 Now you can start to install OS.

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