User's Manual

RS-200-RT

2U Server

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RS-200-RT-R3-R3, RS-200-RT-S3-S6, RS-200-RT-R3-S6 and RS-200-RT-TB, developed by Advantech Co., Ltd., has passed the CE test for environment specifications when shielded cables are used for external wiring. We recommend the use of shielded cables.

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警告使用者

這是甲類的資訊產品，在居住的環境中使用時，
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被要求採取某些適當的對策。

</div>

Product Warranty

Advantech warrants to you, the original purchaser, that each of its products will be free from defects in materials and workmanship for one year from the date of purchase.

This warranty does not apply to any products which have been repaired or altered by persons other than repair personnel authorized by Advantech, or which have been subject to misuse, abuse, accident or improper installation. Advantech assumes no liability under the terms of this warranty as a consequence of such events.

Because of Advantech's high quality-control standards and rigorous testing, most of our customers never need to use our repair service. If an Advantech product is defective, it will be repaired or replaced at no charge during the warranty period. For out-of-warranty repairs, you will be billed according to the cost of replacement materials, service time and freight. Please consult your dealer for more details.

If you think you have a defective product, follow these steps:

1. Collect all the information about the problem encountered. For example, CPU speed, Advantech products used, other hardware and software used, etc. Note anything abnormal and list any on-screen messages you get when the problem occurs.

2. Call your dealer and describe the problem. Please have your manual, product, and any helpful information readily available.

3. If your product is diagnosed as defective, obtain an RMA (return merchandise authorization) number from your dealer. This allows us to process your return more quickly.

4. Carefully pack the defective product, a fully completed Repair and Replacement Order Card and a photocopy proof of purchase date (such as your sales receipt) in a shippable container. A product returned without proof of the purchase date is not eligible for warranty service.

5. Write the RMA number visibly on the outside of the package and ship it prepaid to your dealer.

Packing List

You should find the items listed below in the server package. If anything is missing or damaged, please consult with your vendor for resolution.

- 2 CPU Coolers
- 2 Rack Mount Ears
- 2 Chassis Handlers
- 8 Screw Sinks for Ears and Handlers
- 1 CD Title-Driver Bank
- 4 Driver Bank Floppy Diskettes (including RAID)
- RS-200-RT User's Manual
- Warrant Card
- Holder for full size Add-on Card
- 2 Screw sinks for holder

Technical Support and Sales Assistance

If you have any technical questions about the RS-200-RT series products, please visit our support website at http://www.advantech.com.tw/support

For more information about Advantech products and sales information, please visit: http://www.advantech.com.

Contents

Chapter 1: Introduction

The RS-200-RT is a 2U high, rack-mountable server for high-density Internet services. Engineered for Internet service providers and enterprises, the RS-200-RT's rack-mountable 2U form factor is the best for stacking servers as services grow. The RS-200-RT designed for maximum reliability features Dual Intel® Pentium® !!! (Tualatin) Processors, and provides flexibility and high performance at the same time.

The RS-200-RT series of thin servers is well placed to compete at the forefront in this fast-paced product sector. Thin servers are rapidly becoming the platform of choice for Internet, VOD (Video on Demand), industrial and telecom-focused applications. Characterized with being quick to deploy and easy to manage, the RS-200-RT server provides flexible solution designed to meet the needs of ISPs, video streaming, telecommunications applications and space constrained data centers.

The thin servers provide pack powerful hardware configurations into compact form factors that allow flexible installation and replacement. The server-strength hardware includes powerful processors on server-engineered

motherboards, flexibly configurable high capacity, high-speed hot-swappable SCSI storage devices, high-speed network interfaces and specially designed fault detection and management features. These all add up to a hardware solution that provides the kind of high availability required by demanding applications.

1.1 Specifications

1.1.1 RS-200-RT-R3-R3

General Specification

CPU	Dual Intel Pentium !!! 1.13/1.26GHz
Chipset	Serverworks III LE chipset w/ 133MHz FSB
BIOS	Award Flash BIOS 2M-bit
Memory	4 DIMM sockets support up to Max. 4GB
	Registered ECC PC-133 SDRAM
	(Max memory size depends on OS support)
VGA	Ati RageXL with 4MB SGRAM
SCSI	Adaptec 7899W Ultra 160 dual channel
	controller, data transfer rate up to 160MB/s.
	Each channel can support 3 internal SCSI HDD
RAID	HW zero channel RAID module option
LAN	Triple Intel 82559 Fast Ethernet controllers
	support 10/100Mbps with RJ-45 connectors.
	One of 3 LANs is optional.
FDD	One slim Floppy Disk Drive
CD-ROM	One slim CD-ROM drive
Expansion	Two 64bit/66MHz PCI slots and one
	32bit/33MHz PCI slot on two riser card
I/O	1 x RS-232 port, 2 x USB ports, 1 x VGA port,
	2 x PS/2 ports for keyboard and mouse port,
	3 x LAN ports (one option), 1 x parallel port

System and Environment

Construction   19" Rack Mount, Heavy-duty steel chassis, 2U, front cover with key lock

Cooling System   4 52-CFM cooling fans, totally 208 CFM

Controls   Momentary power, system reset and alarm reset switches

Indicators   LEDs for Power, Voltage, temperature, fan, HDD and LAN

Storage   6 hot-swap SCA-2 SCSI HDD drive bays, 1 slim-type FDD drive and 1 slim-type CD-ROM drive

Power Supply   Redundant 300W(1+1) power supply

　　　Input   90~264VAC Full Range @ 47~63Hz

System Monitoring   Integrated server management features including thermal, voltage, fans and power failure monitoring in one controller and an optional SNMP MIB-base software for system remote monitoring.

Weight   14.4kg (31.7lb)

Paint Color   Black 4U 2X, Fabric Texture

Operating Temp. 0 ~40℃ (32 ~104℉)

Storage Temp.   -20 ~70℃ (-4 ~158℉)

Operating Hum. 5~95% @ 40℃

Storage Humidity 5~95%

Dimension	482mm (19") W x 88mm (3.46") H x 600mm (23.6") D
Certifications	FCC Class A, CE, UL, CUL, BSMI
OS	Linux, Free BSD 4.x, Win 2K/NT 4.0, Solaris 8.x

1.1.2 RS-200-RT-R3-S6

General Specification

CPU   Dual Intel Pentium !!! 1.13/1.26GHz

Chipset   Serverworks III LE chipset w/ 133MHz FSB

BIOS   Award Flash BIOS 2M-bit

Memory   4 DIMM sockets support up to Max. 4GB

              Registered ECC PC-133 SDRAM

              (Max memory size depends on OS support)

VGA   Ati RageXL with 4MB SGRAM

SCSI   Adaptec 7899W Ultra 160 dual channel

              controller, data transfer rate up to 160MB/s.

              One channel can support 6 internal SCSI HDDs

RAID   HW zero channel RAID module option

LAN   Triple Intel 82559 Fast Ethernet controllers

              support 10/100Mbps with RJ-45 connectors.

              One of 3 LANs is optional.

FDD   One slim Floppy Disk Drive

CD-ROM   One slim CD-ROM drive

Expansion   Two 64bit/66MHz PCI slots and one

              32bit/33MHz PCI slot on two riser cards

I/O   1 x RS-232 port, 2 x USB ports, 1 x VGA port,

              2 x PS/2 ports for keyboard and mouse port,

              3 x LAN ports (one option), 1 x SCSI port,

              1 x parallel port

System and Environment

Construction   19" Rack Mount, Heavy-duty steel chassis, 2U, front cover with key lock

Cooling System 4 52-CFM cooling fans, totally 208 CFM

Controls   Momentary power, system reset and alarm reset switches

Indicators   LEDs for Power, Voltage, temperature, fan, HDD and LAN

Storage   6 hot-swap SCA-2 SCSI HDD drive bays, 1 slim-type FDD drive and 1 slim-type CD-ROM drive

Power Supply   Redundant 300W power supply

      Input   90~264VAC Full Range @ 47~63Hz

System Monitoring   Integrated server management features including thermal, voltage, fans and power failure monitoring in one controller and an optional SNMP MIB-base software for system remote monitoring.

Weight   14.4kg (31.7lb)

Paint Color   Black 4U 2X, Fabric Texture

Operating Temp. 0 ~40℃ (32 ~104℉)

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Storage Humidity 5~95%

Dimension	482mm (19") W x 88mm (3.46") H x 600mm (23.6") D
Certifications	FCC Class A, CE, UL, CUL, BSMI
OS	Linux, Free BSD 4.x, Win 2K/NT 4.0, Solaris 8.x

1.1.3 RS-200-RT-S3-S6

General Specification

CPU	Dual Intel Pentium !!! 1.13/1.26GHz
Chipset	Serverworks III LE chipset w/ 133MHz FSB
BIOS	Award Flash BIOS 2M-bit
Memory	4 DIMM sockets support up to Max. 4GB Registered ECC PC-133 SDRAM (Max memory size depends on OS support)
VGA	Ati RageXL with 4MB SGRAM
SCSI	Adaptec 7899W Ultra 160 dual channel controller, data transfer rate up to 160MB/s. One channel can support 6 internal SCSI HDDs
RAID	HW zero channel RAID module option
LAN	Triple Intel 82559 Fast Ethernet controllers support 10/100Mbps with RJ-45 connectors. **One of 3 LANs is optional.**
FDD	One slim Floppy Disk Drive
CD-ROM	One slim CD-ROM drive
Expansion	Two 64bit/66MHz PCI slots and one 32bit/33MHz PCI slot on two riser cards
I/O	1 x RS-232 port, 2 x USB ports, 1 x VGA port, 2 x PS/2 ports for keyboard and mouse port, 3 x LAN ports (one option), 1 x SCSI port, parallel port

System and Environment

Construction   19" Rack Mount, Heavy-duty steel chassis, 2U, front cover with key lock.

Cooling System   4 52-CFM cooling fans, totally 208 CFM

Controls   Momentary power, system reset and alarm reset switches

Indicators   LEDs for Power, Voltage, temperature, fan, HDD and LAN

Storage   6 hot-swap SCA-2 SCSI HDD drive bays, 1 slim-type FDD drive and 1 slim-type CD-ROM drive

Power Supply   300W power supply

     Input   90~264VAC Full Range @ 47~63Hz

System Monitoring   Integrated server management features including thermal, voltage, fans and power failure monitoring in one controller and an optional SNMP MIB-base software for system remote monitoring.

Weight   12.9kg (28.4lb)

Paint Color   Black 4U 2X, Fabric Texture

Operating Temp. 0 ~40℃ (32 ~104℉)

Storage Temp.   -20 ~70℃ (-4 ~158℉)

Operating Hum. 5~95% @ 40℃

Storage Humidity 5~95%

Dimension   482mm (19") W x 88mm (3.46") H x
                600mm (23.6") D

Certifications   FCC Class A, CE, UL, CUL, BSMI

OS   Linux, Free BSD 4.x, Win 2K/NT 4.0,
                Solaris 8.x

1.1.4 RS-200-RT-TB

General Specification

CPU   Dual Intel Pentium !!! 1.13/1.26GHz

Chipset   Serverworks III LE chipset w/ 133MHz FSB

BIOS   Award Flash BIOS 2M-bit

Memory   4 DIMM sockets support up to Max. 4GB

           Registered ECC PC-133 SDRAM

           (Max memory size depends on OS support)

VGA   Ati RageXL with 4MB SGRAM

SCSI   Adaptec 7899W Ultra 160 dual channel

           controller, data transfer rate up to 160MB/s.

           Each channel can support 3 internal SCSI HDD

RAID   HW zero channel RAID module option

LAN   Triple Intel 82559 Fast Ethernet controllers

           support 10/100Mbps with RJ-45 connectors.

           One of 3 LANs is optional.

FDD   One slim Floppy Disk Drive

DVD-ROM One slim DVD-ROM drive

Expansion Two 64bit/66MHz PCI slots and one

           32bit/33MHz PCI slot on two riser cards

UPS   Sustain 5~10 min power for emergency backup

I/O   2 x USB ports, 1 x VGA port,

           2 x PS/2 ports for keyboard and mouse port,

           3 x LAN ports (one option), 1 x parallel port

System and Environment

Construction   19" Rack Mount, Heavy-duty steel chassis

Cooling System   4 52-CFM cooling fans, totally 208 CFM

Controls   System Reset and Alarm reset switches

Indicators   LEDs for Power, Voltage, temperature, fan, HDD and LAN

Storage   6 hot-swap SCA-2 SCSI HDD drive bays, 1 slim-type FDD drive and 1 slim-type DVD-ROM drive

Power Supply   300W power supply with UPS

   Input   110V/220V VAC @ 47~63Hz

System Monitoring   Integrated server management features including thermal, voltage, fans and power failure monitoring in one controller and an optional SNMP MIB-base software for system remote monitoring.

Weight   14.4kg (31.7lb)

Paint Color   Black 4U 2X, Fabric Texture

Operating Temp. 0 ~40℃ (32 ~104℉)

Storage Temp.   -20 ~70℃ (-4 ~158℉)

Operating Hum.   5~95% @ 40℃

Storage Humidity 5~95%

Dimension   482mm (19") W x 88mm (3.46") H x 600mm (23.6") D

Certifications FCC Class A, CE, UL, CUL, BSMI

OS   Win 2K/NT 4.0, Linux

1.2 External Connection

SCSI port   USB port   Parallel port   PS/2 Mouse

100Mb indicator

Link/Active indicator

USB port

LAN3   LAN1   RS-232

LAN2   VGA

PS/2 Keyboard
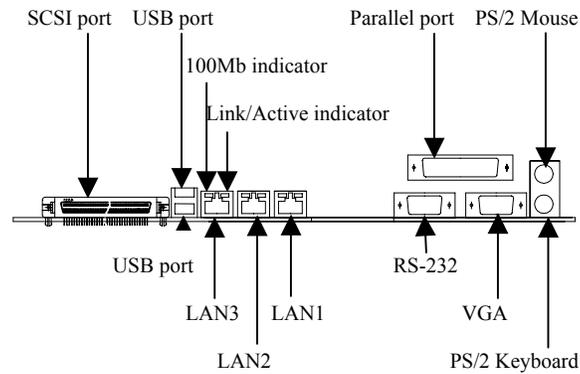
SCSI Connector: The serverboard provides a 68-pin Ultra-160 connector for extending SCSI storage devices.

Dual USB Connectors (Two 4-pin Female): Two USB ports are available for attaching USB devices. User can plug USB device directly to the USB connector.

LAN Connectors (8-pin): The serverboard provides three LAN connectors with two status LEDs. One LED indicates whether 100Mbit protocol is active. Another one indicates whether LAN is active or at linking.

Printer Port Connector: The serverboard provides a 25-pin female centronic connector for LPT. The parallel port is a standard printer port that also supports Enhanced Parallel Port (EPP) and Extended capabilities Parallel Port (ECP).

PS/2 Mouse Connector (6-pin Female): The connector is for a standard PS/2 mouse only.

Serial Port Connector: The serverboard has one 9-pin male DIN connector for RS-232 port.

VGA port Connector (15-pin D-SUB): The port allows user connect it to external Monitor.

PS/2 Keyboard Connector: The connector is for a standard PS/2 keyboard only.

1.3 Front Panel

1.3.1 RS-200-RF-R3-S6 and RS-200-RT-S3-S6

Please use a key in accessory box to unlock the front cover.

● Front Panel
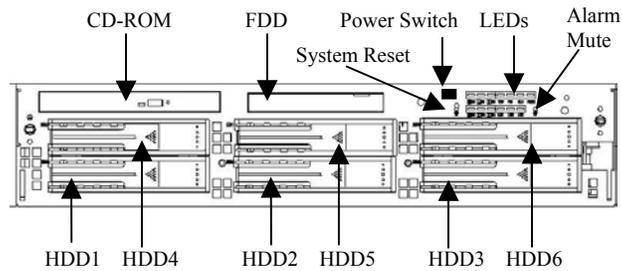
● System Status Panel

	Indicator	Description
Voltage	Red	Voltage/Redundant Power Failure
Temperature	Red	Overheating
Fan	Red	Fan Failure
LAN 1	Green	Active
LAN 2	Green	Active
LAN 3	Green	Active
HDD 1	Green	Active
	Red	HDD failure
HDD 2	Green	Active
	Red	HDD failure
HDD 3	Green	Active
	Red	HDD failure
HDD 4	Green	Active
	Red	HDD failure
HDD 5	Green	Active
	Red	HDD failure
HDD 6	Green	Active
	Red	HDD failure
Power	Green	Power-on
	Red	Standby

1.3.2 RS-200-RT-R3-R3 and RS-200-RT-TB

● Front Panel
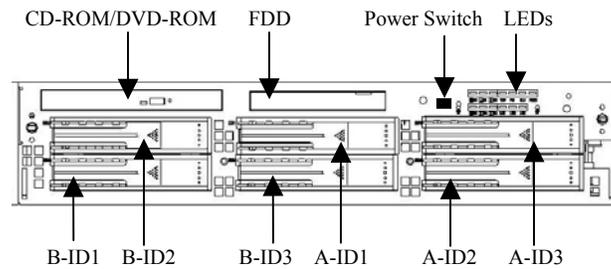
Note: No power switch for RS-200-RT-TB

● System Status Panel

	Indicator	Description
Voltage	Red	Voltage/Redundant Power Failure
Temperature	Red	Overheating
Fan	Red	Fan Failure
LAN 1	Green	Active
LAN 2	Green	Active
LAN 3	Green	Active
A-ID 1	Green	Active
	Red	HDD failure
A-ID 2	Green	Active
	Red	HDD failure
A-ID 3	Green	Active
	Red	HDD failure
B-ID 1	Green	Active
	Red	HDD failure
B-ID 2	Green	Active
	Red	HDD failure
B-ID 3	Green	Active
	Red	HDD failure
Power	Green	Power-on
	Red	Standby

1.4 Rear Panel

64-bit PCI slot port   32-bit PCI slot port

Power Supply
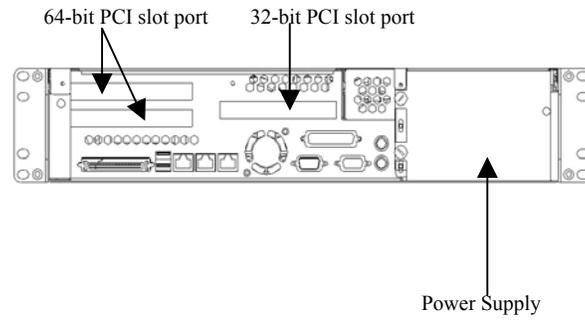
1.5 System Monitoring

Fan status monitoring and alarm: To prevent system from overheating and damages, the CPU fans and other system fans can be monitored for their speed and failure. The fans are set for their normal RPM range, and alarm threshold. If an alert is triggered, that means a failure status occurs. The system will signal a red light on the front panel and the buzzer sound to alarm. Even if the Alarm Reset button and the system mute are pressed, the red light from the Alarm LED will still be on unless the problem is solved

Temperature monitoring and alert: To prevent system from overheat and damage, the server board supports processor thermal sensing and auto-protection. If an alert is triggered, that means a failure status occurs. The system will signal a red light on the front panel, and the buzzer will sound to alert. Even if the Alarm Reset button and the system mute are pressed, the red light from the Alarm LED will still be on unless the problem is solved.

Voltage monitoring and alert: System voltage levels are monitored to ensure stable current flows to critical components. If an alert is triggered, that means a failure status occurs. The system will signal a red light on the front

panel, and the buzzer will sound to alert. Even if the Alarm Reset button and the system mute are pressed, the red light from the Alarm LED will still be on unless the problem is solved.

HDD drive monitoring and alert: If system installs a zero channel hardware module, it will own the ability to detect HDD failure status. If an alert is triggered, that means a failure status occurs. The system will signal a red light on the front panel, and the buzzer will sound to alert. Even if the Alarm Reset button and the system mute are pressed, the red light from the Alarm LED will still be on unless the problem is solved.

The system provides an optional SNMP MIB-base software that allows user to monitor the current health status of this machine via network management software at remote site.

Chapter 2 System Placement and Installation

2.1 System Placement

Power Supply   Motherboard

FAN

CD-ROM/   FDD   HDD
DVD-ROM
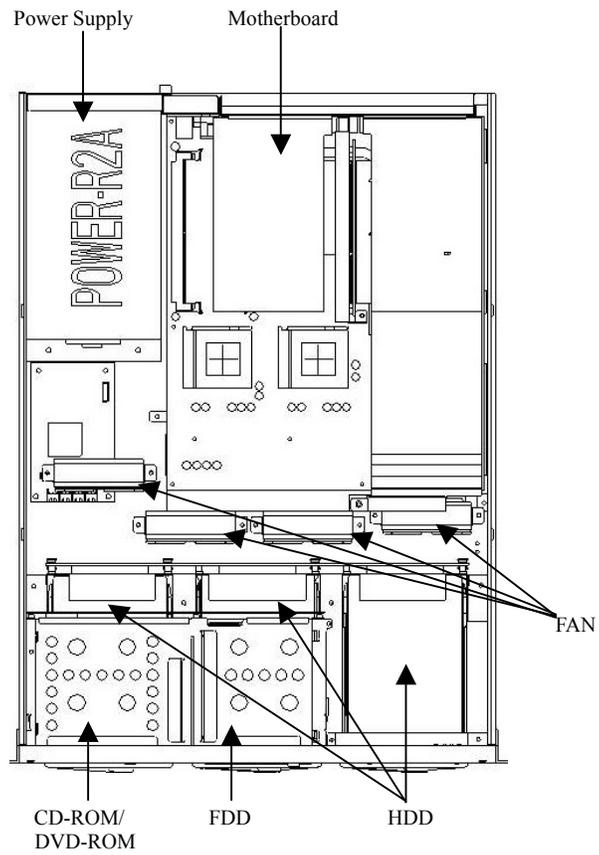
2.2 Motherboard Placement

Northbridge   RAID Module Connector

DIMM Socket   LAN Module   SCSI Port (Ch-B)

SCSI Chip

SCSI Port (Ch-A)

FDD Port

VGA Chip

CD-ROM Port

Southbridge

Power module μ P

CPU0 socket   CPU1 socket   FDD port   IDE port

Power Connector
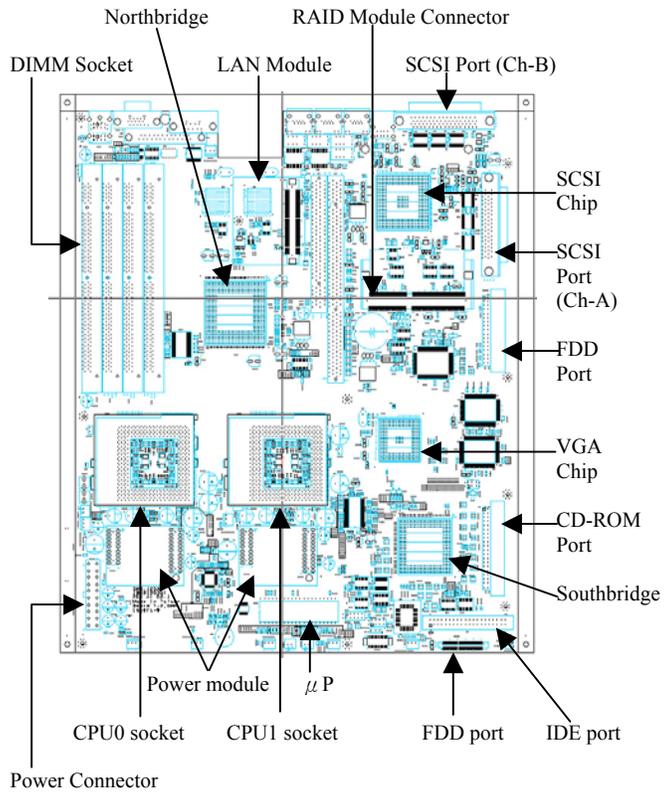
Note: If machine installs one CPU only, please insert it in CPU0 socket. Terminator board should be placed in CPU1 socket.

The description of jumpers on the motherboard

● CN24-Power Bottom / PCI64 33/66MHz

Jumper	Function	Remark
1-2 Close to Open	Power On	>0.5 Sec
3-4 Closed	PCI64 run 33MHz	Normal PCI64 run 66MHz

● J10-Power On for Special Power supply

Jumper	Function	Remark
1-2 Closed	Power bottom on / off	For 1U and 2U redundant power supply
2-3 Closed	Power supply switch on / off	For 2U single power supply

● J8-Load default or System reset function

Jumper	Function	Remark
1-2 Closed	Load Default	For LED board system-reset bottom (S2)
2-3 Closed	System Reset	For LED board system-reset bottom (S2)

● J6- LAN1 & LAN2 LED indicator

Function	Jumper
On board 82559 LAN1 LED	PIN 1-2 Closed
On board 82559 LAN2 LED	PIN 3-4 Closed
On board 82559 LAN3 LED	PIN 3-4 Closed
Addon-card Gigabit LAN1 LED	Gigabit Lan1 Active LED connect J6 pin2
Addon-card Gigabit LAN2 LED	Gigabit Lan2 Active LED connect J6 pin4
Addon-card Gigabit LAN3 LED	Gigabit Lan3 Active LED connect J6 pin6

● JP1-Alarm board device sensor setting.

Jumper	Function	Remark
PIN 1-2,3-4,5-6,7-8,9-10 Closed	RS-200-RT One CPU	Note1,3
PIN 3-4,5-6,7-8,9-10 Closed	RS-200-RT Two CPU	Note1
PIN 1-2,5-6,7-8,9-10 Closed	RS-200-RT One CPU	Note2,3
PIN 5-6,7-8,9-10 Closed	RS-200-RT Two CPU	Note2

- J4-RTC CMOS Jumper setting

Jumper	Function
1-2 Closed	RTC CMOS Active
2-3 Closed	CMOS Clear

- JFREQ1

Ratio	Pin 1-2	Pin 3-4	Pin 5-6	Pin 7-8	Ratio x 133M
4	OFF	OFF	OFF	OFF	533Mhz
7.5	OFF	OFF	ON	OFF	1Ghz
8	ON	ON	OFF	OFF	1.066Ghz
8.5	ON	OFF	ON	ON	1.13Ghz
9	OFF	OFF	ON	ON	1.2Ghz
9.5	OFF	ON	ON	ON	1.26Ghz
10	OFF	ON	OFF	OFF	1.33Ghz
10.5	ON	ON	OFF	ON	1.4Ghz
11	ON	OFF	OFF	OFF	1.46Ghz
11.5	OFF	ON	OFF	ON	1.53Ghz
12	ON	OFF	OFF	ON	1.6Ghz

Note1: Case Fan must connect to CN27--FAN(2B0),

CN28--FAN(2B1),

CN29--FAN(2B2),CN30--FAN(2B3).

Note2: Case Fan must connect to CN27--FAN(2B0),

CN29--FAN(2B2),CN30--FAN(2B3).

Note3: One CPU must work on U35, U36 add a CPU

terminator board.

Note4: CN16---Redundant power fail.

Note5: CN31---Thermal sensor .

Note6: CN32---Case Open sensor.

Note7: CN25---connects to LED board.

2.3 SCSI Backplane Placement

2.3.1 SCA-2 SCSI Backplane
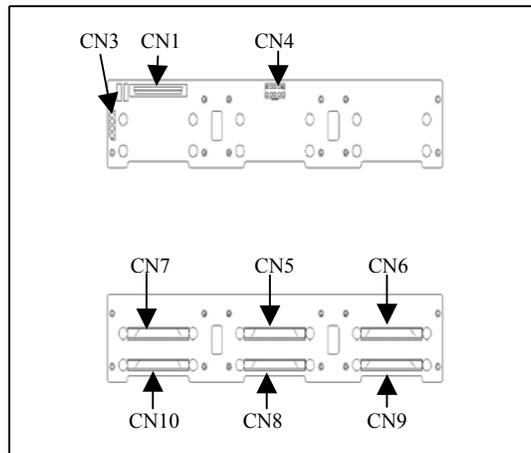
Connector	Description
CN1	68-pin SCSI Connector (to Host)
CN3	SCSI HDD Active Indicator
CN4	Power Connector
CN5	SCA-2 SCSI HDD Connector (ID 5)
CN6	SCA-2 SCSI HDD Connector (ID 6)
CN7	SCA-2 SCSI HDD Connector (ID 4)
CN8	SCA-2 SCSI HDD Connector (ID 2)
CN9	SCA-2 SCSI HDD Connector (ID 3)
CN10	SCA-2 SCSI HDD Connector (ID 1)

2.3.2 Dual SCSI Channel Backplane
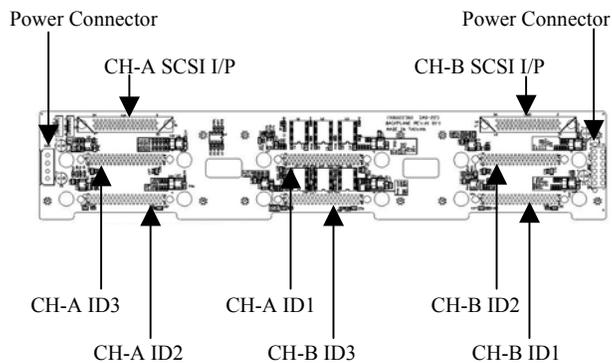
Connector	Description
CN1	Channel A, 68-pin SCSI Connector (to Host)
CN4	Power Connector
CN5	SCA-2 SCSI HDD Connector (Ch-A ID 1)
CN6	SCA-2 SCSI HDD Connector (Ch-A ID 3)
CN7	SCA-2 SCSI HDD Connector (Ch-B ID 2)
CN8	SCA-2 SCSI HDD Connector (Ch-B ID 3)
CN9	SCA-2 SCSI HDD Connector (Ch-A ID 2)
CN10	SCA-2 SCSI HDD Connector (Ch-B ID 1)
CN11	Power Connector
CN12	Channel B, 68-pin SCSI Connector (to Host)
CN13	Connector for HDD failure and activity

2.4 Installing CPU

The server has two Socket 370 CPU sockets that can accommodate Intel Tualatin CPUs as noted in the server specification table. The server is designed to use dual CPU configuration. The installed CPUs should be:

- The same type
- The same speed

Before installing the CPU, check it for any visible damage. Make sure none of the pins are bent or missing. To install the CPUs, first turn off your system, remove its cover and follow the directions below that come with the CPUs. Always observe static electricity precautions when installing CPUs. The general procedure is:
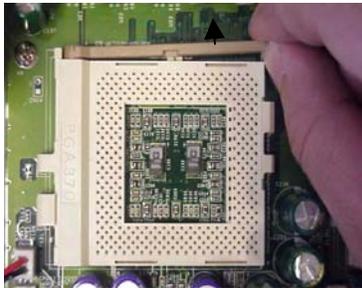
Pull the lever outward
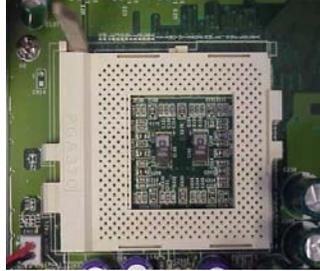
Raise the retaining lever of CPU socket to a position perpendicular to the socket up.

Orient the CPU to the socket correctly so that the pins match the receptacles. Insert the CPU in the socket so that the pins fully insert.

Lower the retaining lever so that the CPU locks in place and latch the arm to the side of the socket.

Repeat this operation for the second CPU. If you will only install one CPU, it is necessary to install an **optional** CPU terminator in another slave CPU socket. The procedure of installing CPU terminator is the same as CPU.

Warning: Without a fan or heat sink, a CPU will overheat and cause damage to both the CPU and the main board. It is not necessary to install CPU cooler fan for CPU terminator.

2.5 Installing CPU Cooler Fan

After a CPU has been installed, you will need to **install the proper cooling device** for the CPU. The server comes with two high efficiency heatsink/ CPU coolers that sit on the top of an installed CPU and clip onto the CPU socket. The general procedure is:

Take out the heat-spread glue.

Paint the heat-spread glue on the CPU die evenly.
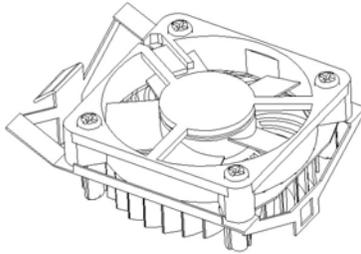
Place the clip to hold the protrusion on the side of CPU socket.
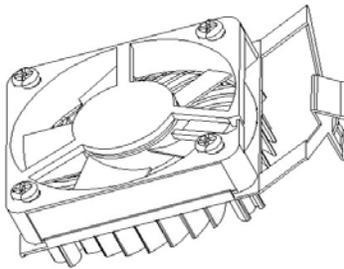
Place the clip to hold the protrusion on another side of CPU socket. Press the spring clip over the protrusion so that it snaps in place. Plug the power connector of CPU cooler fan into power socket (CN17 for CPU0 socket, CN18 for CPU1 socket).

CPU Cooler Fan installed. Please repeat the same procedure
to install another CPU and CPU cooler fan.

Please use **extra caution** when installing any type of
clamp-style fan, or else damage may occur to the CPU
socket, and/or the CPU itself

Note: In order to upgrade to support higher speed CPU,
manufacture maybe changes to use new CPU cooler fan.

2.6 Installing System Memory

The serverboard has four 168-pin DIMM sockets for 3.3V Registered PC-133 compliant SDRAM with ECC. The approved SDRAM modules are showed in Appendix A. You can install any configuration specified in the server specification table. Always observe static electricity precautions when installing memory. To install DIMM modules do as follows:
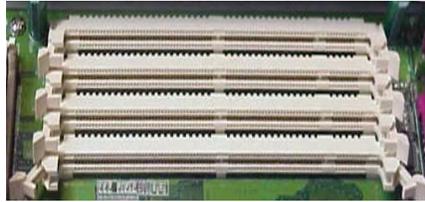
Press the socket retaining latches back out of the way.
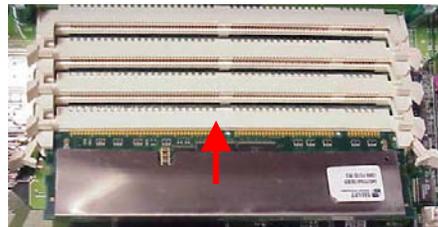
Orient the module so that the edge connector sections correctly match the socket sections. Holding the module to the socket, place it in the socket so that the edge connectors insert slightly in the socket. Make sure they match.

Press the module into the socket so that it seats firmly in place and the retaining latches rotate upwards and seat them selves in the notches on the side of the module.

Repeat this operation for the rest of modules you will install.

Note: Serverworks III LE chipset can support system memory size up to 4GB, but it depends on OS support. It means if OS only supports system memory up to 2GB, then the system with this OS installed also supports system memory up to 2GB.

2.7 Installing Add-on Card

There are two expansion slots on the preinstalled riser card. It allows user to install up to 2 64bit/66MHz PCI add-on cards in the expansion slots. The detailed installation procedure is stated as follows:

Remove the pre-installed bracket so that add-on card bracket can be inserted. Put down the add-on card.

Plug the add-on card horizontally into PCI slot.
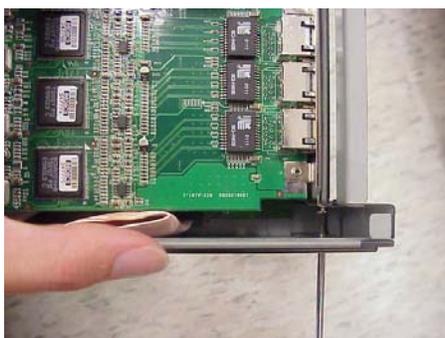
Fasten the bracket of the add-on card with screw.

2.8 Installing LAN Module

The server provides an optional LAN module for the
third 10/100Mps LAN. You can buy the LAN module from
your dealer near you. Please plug the third LAN module into
the 80-pin connector (**CN11**) located on Main Board and
fasten it with M3 screw. Please refer to 2.2 Main Board
Placement for LAN module location.

The system is equipped with 3 high-performance
32-bit PCI-bus Ethernet interfaces, which are fully
compliant with IEEE 802.3/u 10/100Mbps CSMA/CD
standards. They are supported by all major network
operating systems. Three onboard RJ-45 jacks provide
convenient 10/100Base-T RJ-45 operations.

2.9 Installing Zero Channel Hardware RAID Module

The machine provides an inexpensive and **optional** hardware RAID solution without sharing extra PCI slot.

Insert the zero-channel hardware RAID module into RAID module socket with 30-degree angle.

Please press the module down and let the bracket of module socket latch it.

2.10 Adding Disk Drives

The RS-100/200-RT has preinstalled three/six hard disk drive bays, one slim-type CD-ROM or DVD-ROM (master mode only) and one slim-type floppy disk drive. The RS-100/200-RT provides one SCA-2 backplane and can support three/six hot-swap hard disk drives.

Please notice that if the hard disk drives used in the RS-100/200-RT shall be 3.5", 1" height SCSI hard disk drives with 80-pin SCA-2 connectors.

In order to install the hard disk drives in the chassis, please follow the procedures below.
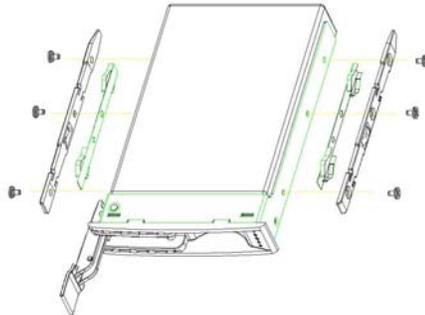
Unfasten the dummy HDD tray from the hard disk rack. Put the hard disk drive in the hard rack and fasten it with screws.
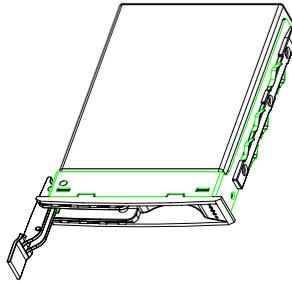
Hard Disk drive assembled
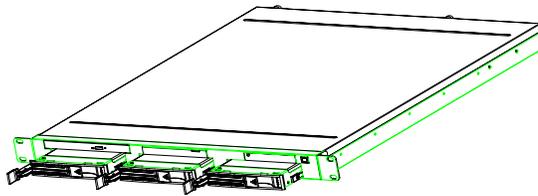
Slide the cages of the HDD drive into HDD bays and make HDD drive connectors connect the SCSI sockets on SCSI backplane closely.
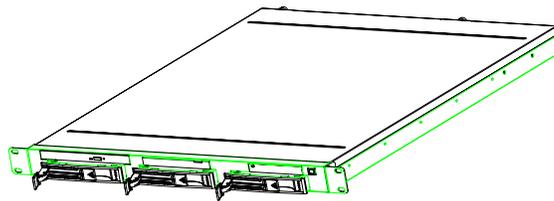
Close the latches

2.11 Installing Rail Slider

1.Fasten rail slider and bracket of rail slider together with screws
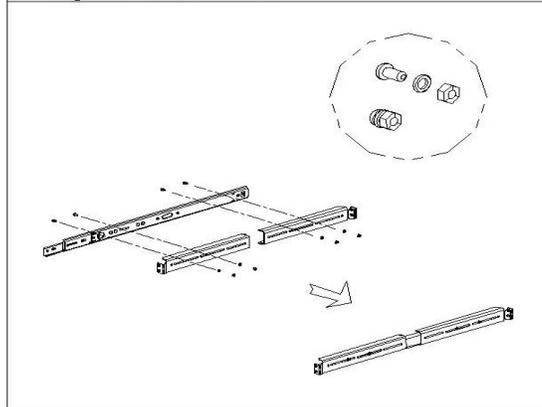
2.Detach internal rail from outer rail

PUSH=Take internal rail out

PUSH=Insert internal rail
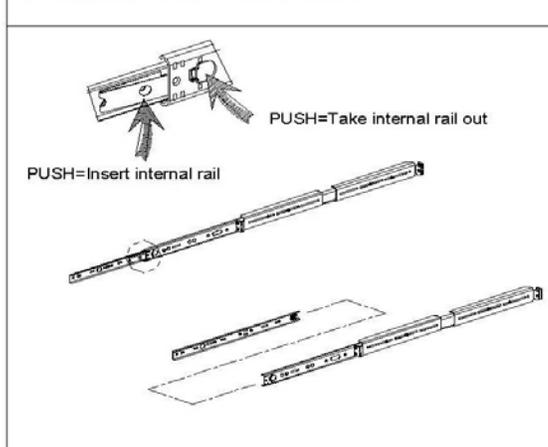
4.Fasten internal rails on server with screws
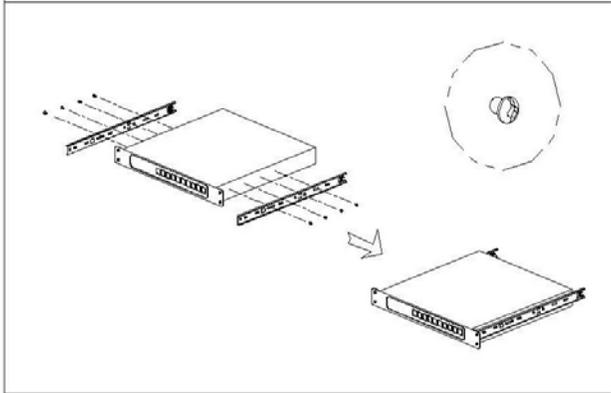
5.Slidecserver with internal rails into outer rails
   on rackmount
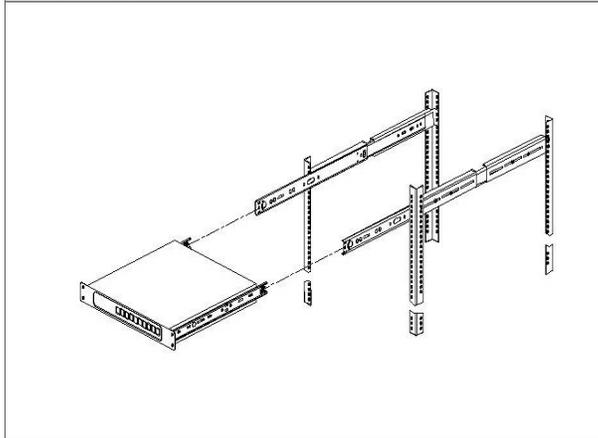
Chapter 3 BIOS Setup

Award BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This type of information is stored in battery-backed RAM (CMOS RAM), so that it retains the Setup information when the power is turned off.

You should be able to use the BIOS optimized default settings as they come from the factory. If you want to check or alter BIOS settings, run the CMOS Setup Utility by pressing the "**Del**" key command during the POST. If you think the settings need to be refreshed, run the Setup Utility, choose the "**Load Optimized Defaults** " option from the main menu, save and reboot.

3.1 Function Keys

The Function Keys are located at the bottom of CMOS setup screen. The keys allow users to navigate then main setup menu. The following table lists describe their functions.

Key	Function Description
Esc	Jump to Exit menu or return to the main menu from sub-menu
↑ or ↓	Move the cursor to the up or down between fields
← or →	Select the menu item to the left or the right
Enter	Select menu item
F10	Save & Exit Setup

The Function keys of **sub-menu** are described as below:

Key	Function Description
Esc	Jump to Exit menu or return to the main menu from sub-menu
↑ or ↓	Move the cursor to the up or down between fields
← or →	Select the menu item to the left or the right
PU/PD	Modify the value or setting
+/-	Modify the value or setting
Enter	Select the menu item
F1	Display the General Help screen from anywhere in the BIOS Setup
F5	Load Previous Values
F7	Load Optimized Defaults
F10	Save the setting

3.2 Main Menu

When the Setup program is accessed, the following screen appears. Move arrow keys to the appropriate place you will setup and press "**Enter**" for selection.


```
          CMOS Setup Utility - Copyright (C) 1984-2001 Award Software

  ► Standard CMOS Features              Load Optimized Defaults
  ► Advanced BIOS Features              Set Password
  ► Integrated Peripherals              Save & Exit Setup
  ► PnP/PCI Configurations              Exit Without Saving


  Esc : Quit      F9 : Menu in BIOS      ↑↓→← : Select Item
  F10 : Save & Exit Setup

                 Time, Date, Hard Disk Type...
```
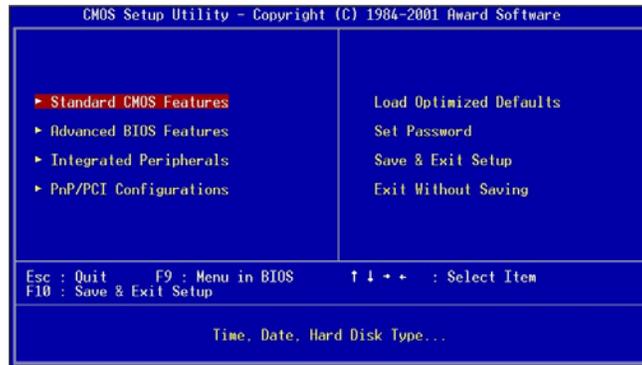
3.2.1 Standard CMOS Features

      Choose the "**Standard CMOS Features**" option from main menu. The "**Standard CMOS Features**" allows users to configure system components such as date, time, hard disk drive and floppy drive types showed in the screen below:

```
         CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                          Standard CMOS Features

    Date (mm:dd:yy)            Thu, Aug 16 2001        Item Help
    Time (hh:mm:ss)            17 : 44 : 41
                                                 Menu Level   ▶
  ▶ IDE Primary Master
  ▶ IDE Primary Slave                            Change the day, month,
  ▶ IDE Secondary Master                         year and century
  ▶ IDE Secondary Slave

    Drive A                   [1.44M, 3.5 in.]
    Halt On                   [All Errors]

    Base Memory                    640K
    Extended Memory              65535K
    Total Memory                  1024K



 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
       F5: Previous Values  F7:  Optimized Defaults
```

Date (mm:dd:yy): Set the system date. The format is month, day and year. Move to proper place by arrow keys in order to modify the values by Page Up/+ Key or Page Down/- Key.

Time (hh:mm:ss): change internal clock.

IDE Primary Master: Move the highlight to the "**IDE Primary Master**" and enter to get the following screen.
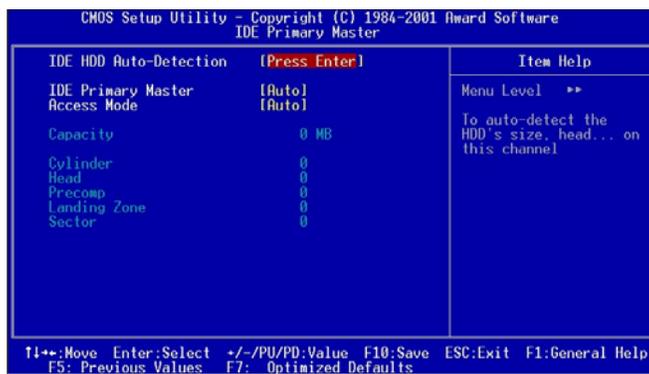
```
          CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                              IDE Primary Master
    ┌─────────────────────────────────────────────┬──────────────────────────┐
    │  IDE HDD Auto-Detection    [Press Enter]     │        Item Help         │
    │                                              │                          │
    │  IDE Primary Master        [Auto]            │  Menu Level    ▶▶        │
    │  Access Mode               [Auto]            │                          │
    │                                              │  To auto-detect the      │
    │  Capacity                   0 MB             │  HDD's size, head... on  │
    │                                              │  this channel            │
    │  Cylinder                   0                │                          │
    │  Head                       0                │                          │
    │  Precomp                    0                │                          │
    │  Landing Zone               0                │                          │
    │  Sector                     0                │                          │
    │                                              │                          │
    │                                              │                          │
    │                                              │                          │
    │                                              │                          │
    ├─────────────────────────────────────────────┴──────────────────────────┤
    │  ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
    │     F5: Previous Values   F7:  Optimized Defaults                        │
    └─────────────────────────────────────────────────────────────────────────┘
```

IDE HDD Auto-Detection: To auto-detect the capacity, cylinder, head and sector of HDD

IDE Primary Master: **[Auto/Manual/None]**
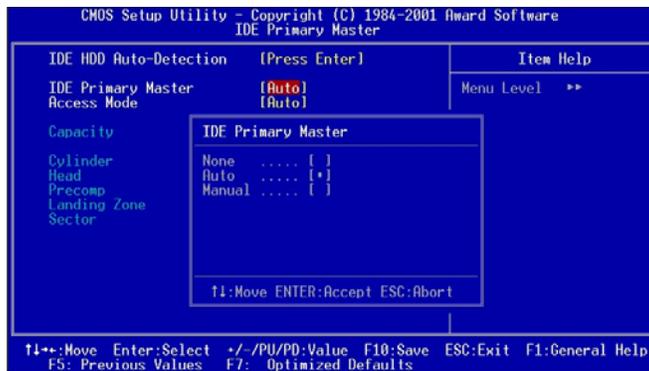
Access Mode: **[Auto/Large/LBA/CHS]**

IDE Primary Slave: Choose the option then get the following three items.

IDE HDD Auto-Detection: To auto-detect the capacity, cylinder, head and sector of HDD
IDE Primary Slave: **[Auto/Manual/None]**
Access Mode: **[Auto/Large/LBA/CHS]**

IDE Secondary Master: Choose the option then get the following three items.

IDE HDD Auto-Detection: To auto-detect the capacity, cylinder, head and sector of HDD
IDE Secondary Master: **[Auto/Manual/None]**
Access Mode: **[Auto/Large/LBA/CHS]**

IDE Secondary Slave: Choose the option then get the following three items.

IDE HDD Auto-Detection: To auto-detect the capacity, cylinder, head and sector of HDD
IDE Secondary Slave: **[Auto/Manual/None]**
Access Mode: **[Auto/Large/LBA/CHS]**

Drive A: Set the type of floppy drive installed by Page Up Key and Page Down.
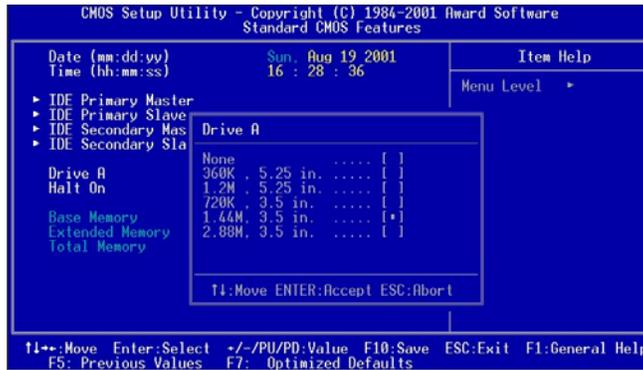
Halt On: Set system halt on when specified item occurs. The selection items are showed in the following screen.

3.2.2 Advanced BIOS Features
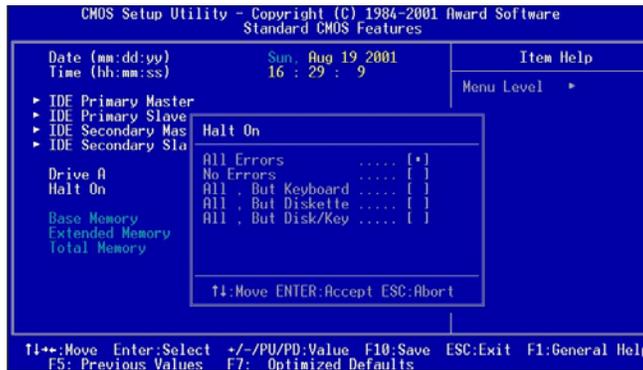
```
        CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                        Advanced BIOS Features

   Quick Power On Self Test   [Enabled]              Item Help
   First Boot Device          [SCSI]
   Second Boot Device         [Floppy]         Menu Level   ▶
   Third Boot Device          [CDROM]
   Boot Other Device          [Enabled]        Allows the system to
   Boot Up Floppy Seek        [Enabled]        skip certain tests
   Gate A20 Option            [Fast]           while booting. This
   Typematic Rate Setting     [Disabled]       will decrease the time
 x Typematic Rate (Chars/Sec) 6               needed to boot the
 x Typematic Delay (Msec)     250              system
   Security Option            [Setup]
   MPS Version Control For OS[1.4]
   OS Select For DRAM > 64MB [Non-OS2]




 ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
     F5: Previous Values     F7:  Optimized Defaults
```

Quick Power On Self Test (POST) [Enabled/Disabled]:
Allows the system to skip certain tests while booting. This
will decrease the time needed to boot the system.

First Boot Device
[Floppy/SCSI/CD-ROM/HDD/LAN/Disabled]: Select
your boot device priority

Second Boot Device
[Floppy/SCSI/CD-ROM/HDD/LAN/Disabled]: Select
your boot device priority

Third Boot Device

[Floppy/SCSI/CD-ROM/HDD/LAN/Disabled]: Select your boot device priority

Boot Other Device [Enabled/Disabled]: Select your boot device priority

Boot Up Floppy Seek [Enabled/Disabled]: Enable-During POST, BIOS will determine if the floppy disk drive installed is 40 or 80 tracks. A 360 KB type drive is 40 tracks; while 720 KB, 1.2 MB, and 1.44 MB type drives are all 80 tracks. **Disable**- BIOS will not search for the floppy drive type by track number.

Gate A20 Option [Fast/Normal]: Fast- let chipset control Gate A20; **Normal**-a pin in keyboard controller controls Gate A20. Default is set "**Fast**".

Typematic Rate Setting [Enabled/Disabled]: Keystrokes repeat at a rate determined by keyboard controller. When enabled, the typematic rate and typematic delay can be selected.

Typematic Rate (Chars/Sec): BIOS accepts the following input values (characters/second) for typematic rate: 6, 8, 10, 12, 15, 20, 24 and 30.

Typematic Delay (msec): Typematic delay is the time interval between the appearances of two consecutive characters, when holding down a key. The input values for this category are: 250, 500, 750, 1000 (msec).

Security Option [System/Setup]: The setting determines whether the system will boot up if the password is denied. Access to Setup is, however, always limited. **System-** The system will not boot, and access to Setup will be denied if the correct password is not entered at the prompt. **Setup-** The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

MPS Version Control For OS [1.4/ 1.1]

OS/2 selection for DRAM > 64MB[Non-OS2/ OS2]: Select OS2 if you are running OS/2 Operating System with greater than 64MB of RAM on the system.

3.2.3 Integrated Peripheral

```
       CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                        Integrated Peripherals
  On-Chip Primary   PCI IDE [Enabled]              │      Item Help
  IDE Primary Master PIO    [Auto]                 │
  IDE Primary Slave  PIO    [Auto]                 │ Menu Level    ▶
  IDE Primary Master UDMA   [Auto]                 │
  IDE Primary Slave  UDMA   [Auto]                 │
  On-Chip Secondary PCI IDE [Enabled]              │
  IDE Secondary Master PIO  [Auto]                 │
  IDE Secondary Slave  PIO  [Auto]                 │
  IDE Secondary Master UDMA [Auto]                 │
  IDE Secondary Slave  UDMA [Auto]                 │
  USB Controller            [Disabled]             │
x USB Keyboard Support       Disabled              │
  IDE HDD Block Mode        [Enabled]              │
  Onboard FDC Controller    [Enabled]              │
  Onboard Serial Port 1     [3F8/IRQ4]             │
  Onboard Serial Port 2     [2F8/IRQ3]             │
  Onboard Parallel Port                            │
  Parallel Port Mode                               │
  ECP Mode Use DMA          [3]                    │
──────────────────────────────────────────────────────────────────
↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
       F5: Previous Values    F7:  Optimized Defaults
```

On-Chip Primary PCI IDE [Enabled/Disabled]: The system provides an onboard on-chipset PCI IDE controller that supports Dual Channel IDE. A maximum of 4 IDE devices can be supported. If user installed the Off-Board PCI IDE controller, the user must choose which channels to disable. This will depend on the channel used in the PCI Off-Board add-on card.

IDE Primary Master/Slave PIO [Auto/Mode0/Mode 1-4] Each channel has both a master and a slave, making four IDE devices possible. Because each IDE device may have a different Mode timing (0,1,2,3,4), it is necessary for these to be independent. The default setting "**Auto**" will allow auto-detection to ensure optimal performance.

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IDE Primary Master/Slave UDMA [Auto/Disabled]

On-Chip Secondary PCI IDE [Enabled/Disabled]
IDE Secondary Master/Slave PIO [Auto/Mode0/Mode 1-4]

IDE Secondary Master/Slave UDMA [Auto/Disabled]

USB Controller [Enabled/Disabled]
USB Keyboard Support [Enabled/Disabled]: Choosing "**Enabled**" will allow the system to use USB keyboard without device driver.

IDE HDD Block Mode [Enabled/Disabled]: Enabled allows the Block mode access for the IDE HDD

Onboard FDC Controller [Enabled/Disabled]: The system has an on-board Super I/O chip with a FDD controller that supports a FDD Drive for 360K/ 720K/1.2M/1.44M. Choose "**Enabled**" to use the on-board FDD controller for accessing the FDD. Otherwise choose "**Disabled**" to use the off-board FDD controller.
Onboard Serial Port 1
[Auto/Disable/(3F8/IRQ4)/(2F8/IRQ3)/(3E8/IRQ4)/(2E8/ IRQ3)]

Onboard Serial Port 2

[Auto/Disable/(3F8/IRQ4)/(2F8/IRQ3)/(3E8/IRQ4)/(2E8/ IRQ3)]

The system has an On-board Super I/O chipset with 2 serial ports. The On-board serial ports can be selected as:
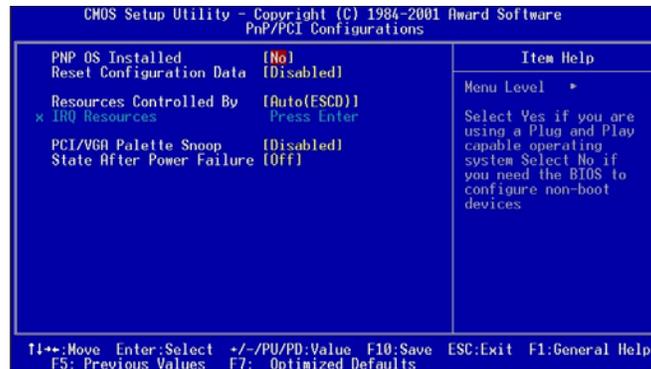
Auto

Disable

3F8/IRQ4   **COM 1 uses IRQ4**

2F8/IRQ3   **COM 2 uses IRQ3 (Reserved for Internal Alarm Board)**

3E8/IRQ4   **COM 3 uses IRQ4**

2E8/IRQ3   **COM 4 uses IRQ3**

ECP Mode Use DMA: In **ECP Mode Use DMA**, you can select DMA channel 1 or DMA channel 3. Leave this field on the default setting.

3.2.4 PnP/ PCI Configurations

```
            CMOS Setup Utility - Copyright (C) 1984-2001 Award Software
                          PnP/PCI Configurations
    PNP OS Installed        [No]                 Item Help
    Reset Configuration Data [Disabled]
                                            Menu Level  ▶
    Resources Controlled By  [Auto(ESCD)]
  x IRQ Resources            Press Enter       Select Yes if you are
                                               using a Plug and Play
    PCI/VGA Palette Snoop    [Disabled]         capable operating
    State After Power Failure [Off]             system Select No if
                                               you need the BIOS to
                                               configure non-boot
                                               devices




    ↑↓←→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help
       F5: Previous Values    F7:  Optimized Defaults
```

PnP OS Installed [Yes/No]: Select "**Yes**" if you are using a Plug and Play enabled operating system. Select "**No**" if you need the BIOS to configure non-boot devices.

Reset Configuration Data [Disabled/Enabled]: Default is **Disabled**. Select **Enabled** to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot.

Resources Controlled by [Auto/Manual]: BIOS can automatically configure all the boot and plug & play compatible devices. If you choose Auto, you cannot select IRQ, DMA and memory base address fields, since BIOS

automatically assigns them.

PCI/VGA Palette Snoop [Disabled/Enabled]: Some display cards that are nonstandard VGA, such as graphics accelerators or MPEG Video Cards, may not show colors properly. The setting **Enabled** should correct this problem. Otherwise, leave this on the setup default setting of **Disabled**. Recommend set **Disabled**.

State After Power Failure: The field let you determine which state your PC with a power failure returns to after power source supplies again. If set to **Off**, the PC will not boot after power supplies again. If set to **On**, the PC will boot after power source supplies again.

3.2.5 Load Optimized Defaults
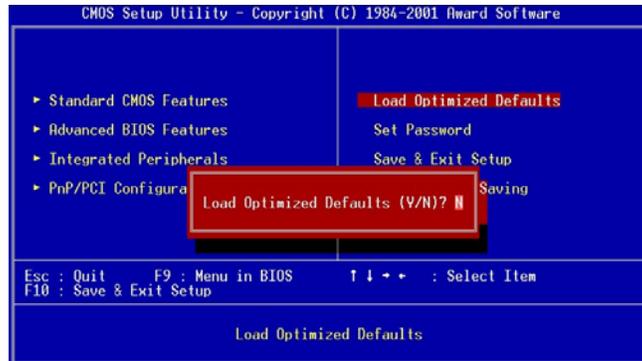
The option allows you to load the optimized default values for each of the parameters on the Setup menus. When this option is pressed, a confirmation is requested. Select "**Y**" to load the optimized default values. Select "**N**" or Press "**Esc**" to discard the selection.

3.2.6 Set Password

The option allows you to set or change user password. To set the user password, press "**Enter**". Type password and press "**Enter**". You can type up eight alphanumeric characters.


```
        CMOS Setup Utility - Copyright (C) 1984-2001 Award Software

      ► Standard CMOS Features            Load Optimized Defaults
      ► Advanced BIOS Features            Set Password
      ► Integrated Peripherals            Save & Exit Setup
      ► PnP/PCI Configurations            Exit Without Saving
                        ┌─────────────────────────┐
                        │ Enter Password:         │
                        └─────────────────────────┘
      Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ←   : Select Item
      F10 : Save & Exit Setup

                      Change/Set/Disable Password
```

If the CMOS is good or if this option has been used to change the default password, the user is asked for the password stored in the CMOS. The screen will display the following message:

Confirm Password:

Input the current password and press "**Enter**".

3.2.7 Save & Exit Setup

Once you finish your selection, choose the option to save the values you selected to CMOS RAM. The CMOS RAM is sustained by an on board backup battery and stays on even system is turned off. Once the option is selected, a confirmation is asked. Select "**Y**" to save changes and exit.
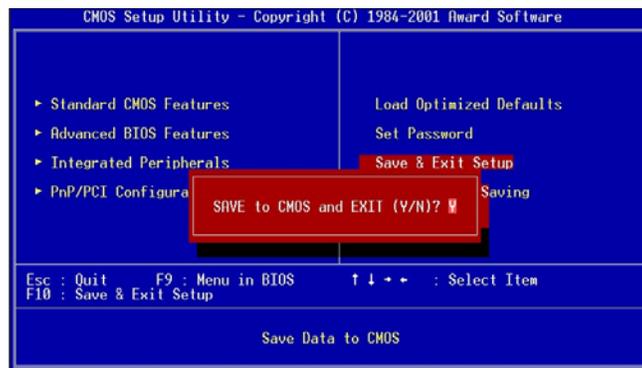
3.2.8 Exit without Saving

The option should only be used if you do not want to save the changes you have made to the Setup program. If you have made changes to the fields, the system will ask for confirmation before existing. Select "**Y**" then the system will keep previous values.
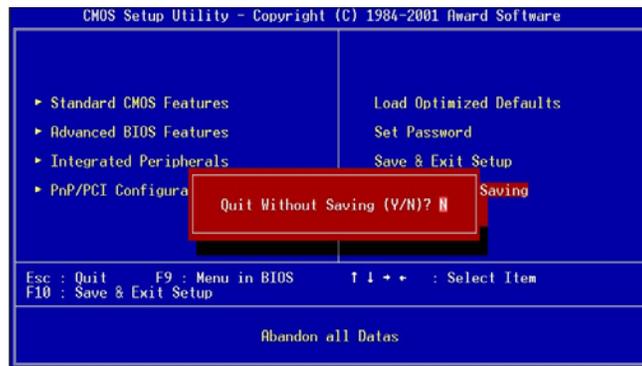
Chapter 4 Drivers Installation

The servers support several Operating Systems including Microsoft Windows NT 4.0/ 2000, Linux 7.x, Free BSD 4.x and Solaris 8.x. If user likes to install Solaris OS in the machine, please download drivers from the website http://access1.sun.com/patch.public/cgi-bin/show_list.cgi/un b/Solaris_x86_Intel_Drivers.

The server provides an optional zero-channel hardware RAID module that can support RAID 0, 1 and 5. Current available drivers for RAID module only support Windows 2000/NT 4.0 and Linux Red-Hat 7.0/7.1. Once the drivers for other OS are available, they will be uploaded to our website.

4.1 Drivers for Windows NT 4.0

In the CD disc for Driver Bank, there are some options as below when running "Setup" or CD auto-run.

- **VGA driver installation**

Please select the item "RS200-RT Drivers".

Please click "Install VGA driver", then Choose NT4. Double click "**setup.exe**". Please follow the instructions shown on the screens. Restart after driver installation.

● **Installing SCSI driver for Windows NT 4.0**

Driver Install during Windows NT Installation

1. CD-ROM Install: Boot from the CD-ROM of Win NT 4.0 and press **<F6>** while the message "**Setup is inspecting your computer's configuration…**".
2. When the "**Windows NT Setup**" window is generated, select "**Other**" and press "**Enter**".
3. Insert the "**Adaptec 7899 SCSI Driver for Win NT 4.0**" diskette into Drive A: and press "**ENTER**".
4. Select the "**Adaptec 19160, 29160(N), 39160, AHA-3960D, AIC-7892/7899 Ultra160 PCI SCSI Controller (NT 4.0)**" and click "**OK**".

Follow the normal Windows NT 4.0 setup installation procedure.

● **Install LAN Driver**

Please go to the following subdirectory when system requests LAN driver during OS installation.

rs100_200_rf\82559\LAN – Drivers for Windows NT 4.0,

● **Zero-channel RAID driver for Windows NT 4.0**

If machine doesn't have zero-channel RAID, please skip the following procedure.

1. Please finish **Win NT 4.0 SP6** installation first.
2. Double click "**My Computer**" icon
3. Select "**Control Panel**" icon
4. Choose "**SCSI Adapter**" icon
5. Press "**Drivers**"
6. Press "**Add**" under Drivers selection.
7. Specify "**a:**", insert the "**Zero-channel RAID driver for Win NT 4.0**" diskette into Drive A: and press "**Enter**"
8. Restart after installation.

For more information about how to setup RAID, please retrieve the file **RAID_USER_GUIDE.PDF** located in the subdirectory **RS-200-RT\RAID** of Driver Bank CD.

4.2 Drivers for Windows 2000

● **VGA driver installation**

Please select the item "RS200-RT Drivers".

Please click "Install VGA driver", then Choose Win2000. Double click "**setup.exe**". Please follow the instructions showed on the screens. Restart after driver installation.

- **Adaptec I2O RAID Host Adapter Driver for Windows 2000**

Driver setup during Windows 2000 Installation

1. CD-ROM Install: Boot from the CD-ROM and press <**F6**> while the message "**Setup is inspecting your computer's configuration…**".
2. When the "**Welcome to Setup**" window is generated, press "**Enter**".
3. In the "**Setup Method**" dialog box, press "**Enter**" to confirm "**Express Setup**".
4. Press "**S**" to add a SCSI adapter.
5. Specify "**a:**", insert the "**Adaptec I2O RAID Host Adapters for Windows 2000**" diskette into Drive A: and press "**ENTER**".
6. Select the "**Adaptec I2O RAID Host Adapters for Windows 2000**" and click "**OK**".

   Note: for CD-ROM installations, you must also specify the driver for your CD-ROM adapter.

   Follow the normal Windows 2000 setup installation procedure. Please check other drivers in Driver Bank.

4.3 Drivers for Red-Hat Linux 7.0/7.1

● **Adaptec I2O RAID Host Adapter Driver for Linux Red-Hat 7.0/7.1**

1. Boot from CD-ROM, Insert floppy diskette with label marked "**Adaptec I2O RAID card driver for Red-Hat Linux 7.0/7.1** "
2. When system shows "**Boot:**", please type "**linux dd**"
3. When it shows "**Do you a driver disk?**" Please choose "**Yes**"
4. When it shows "**Insert your driver disk**", please press "**OK**".
5. Then, follow the instructions showed on the screens.

For more information about how to setup RAID, please retrieve the file **RAID_USER_GUIDE.PDF** located in the subdirectory **RS-200-RT\RAID** of Driver Bank CD.

Appendix A Memory Approval List

No	Vendor	Model Name	Die	Capacity
1	SMART	SM572164574E63R	SAMSUNG K4S640432D-TC75	128MB
2	SMART	SM572324574E03R	SAMSUNG K4S280432B-TC75	256MB
3	SMART	SM572644578E63R	SAMSUNG K4S560432A-TC75	512MB
4	SMART	SM572284578E83R	SAMSUNG	1GB
5	ATP	AR16V72C4S4GAS	SAMSUNG KM44S16030CT-G7	128MB
6	ATP	AR32V72C4S4GAS	SAMSUNG K4S280432A-TC75	256MB
7	ATP	AR64V72C4S8GAS	SAMSUNG K4S560432A-TC75	512MB
8	ATP	AR128V72C4SSGAS	SAMSUNG SEC 12950-37	1GB

Note: All memories belong to PC-133, Registered and ECC type.

Memory Module suppliers' information refers to the website below:

ATP Website: www.atpusa.com

Smart Website: www.smartmodulartech.com

Appendix B. RAID Card Approval List

No.	Vendor	Model Name
1	AMI	MegaRAID Express 200 (Series 466)
2	AMI	MegaRAID Express 500 (Series 475)
3	Mylex	AcceleRAID 170
4	Mylex	AcceleRAID 352

Appendix C Accessory order information

No.	P/N	Description
1	9686000073	ZCR HW RAID module 2005S
2	96960210A0	LAN module for 3rd LAN port
3	9689000425	Rail Slider for RS-200-RT
4	SNMP 100L	SNMP 100L
5	SNMP 100N	SNMP 100N

Appendix D Safety Instructions

D.1 English

1. Read these safety instructions carefully.

2. Keep this user's manual for later reference.

3. Disconnect this equipment from any AC outlet before cleaning. Do not use liquid or spray detergents for cleaning. Use a damp cloth.

4. For pluggable equipment, the power outlet must be installed near the equipment and be easily accessible.

5. Keep this equipment away from humidity

6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall could cause damage.

7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.

8. Make sure the voltage of the power source is correct before connecting equipment to the power outlet.

9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.

10. All cautions and warnings on the equipment should be noted.

11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient over-voltage.

12. Never pour any liquid into an opening. This could cause fire or electrical shock.

13. Never open the equipment. For safety reasons, the equipment should be opened by qualified service personnel only.

14. If any of the following situations arises, get the equipment checked by

service personnel.

a. The power cord or plug is damaged.

b. Liquid has penetrated into the equipment.

c. The equipment has been exposed to moisture.

d. The equipment does not work well, or you cannot get it to work well according to the installation reference guide.

e. The equipment has been dropped and damaged.

f. The equipment has obvious signs of breakage.

15. DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW $-20\,°C$ (-4 $°F$) OR ABOVE $60\,°C$ (140 $°F$). THE MAY DAMAGE THE EQUIPMENT.

The sound pressure level at the operator's position according to IEC 704-1; 1982 is equal to or less than 70dB(A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

D.2 German- Wichtige Sicherheishinweise

1. Bitte lesen Sie Sich diese Hinweise sorgfältig durch.

2. Heben Sie diese Anleitung für den späteren Gebrauch auf.

3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie Keine Flüssig-oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.

4. Die Netzanschlußsteckdose soll nahe dem Gerät angebracht und leicht zugänglich sein.

5. Das Gerät ist vor Feuchtigkeit zu schützen.

6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen Könnte Verletzungen hervorrufen.

7. Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor überhitzung schützt. Sorgen Sie dafür, daβ diese Öffnungen nicht abgedeckt werden.

8. Beachten Sie beim Anschluβ an das Stromnetz die Anschluβwerte.

9. Verlegen Sie die Netzanschluβleitung so, daβ niemand darüber fallen kann. Es sollte auch nichts auf der Leitung abgestellt werden.

10. Alle Hinweise und Warnungen die sich am Geräten befinden sind zu beachten.

11. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.

12. Durch die Lüftungsöffnungen drüfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw.

elektrischen Schlag auslösen.

13. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von authorisiertem Servicepersonal geöffnet werden.

14. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:

   a. Netzkabel oder Netzstecker sind beschädigt.

   b. Flüssigkeit ist in das Gerät eingedrungen.

   c. Das Gerät war Feuchtigkeit ausgesetzt.

   d. Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.

   e. Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.

   f. Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.

15. Bitte lassen Sie das Gerät nicht unbehehrt hinten unter −20℃(-4°F) oder oben 60℃ (140°F), weil diesen Temperaturen das Gerät zerstören könten.

Der arbeitsplatzbezogene Schalldruckpegel nach DIN 45 635 Teil 1000 beträgt 70dB(A) oder weiger.

DISCLAIMER: This set of instructions is provided according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

Appendix E GEM 318 Driver Installation

There are 1 or 2 GEM318 chips on SCSI backplane. The chips are used to detect SCSI HDD failure. Basically, it is a SCSI device on SCSI channel.

- GEM 318 driver for Windows 2000
1. Double click "My Computer" icon
2. Select "Control Panel" icon
3. Choose "Administrative Tools" icon
4. Choose "Computer Management" icon
5. Choose "Device Manger" icon
6. You can choose the "SDR GEM318 SCSI Processor Device" by right-clicking your mouse on the file icon, then select "properties"
7. Choose the "Driver" then select "Update Driver"
8. Please specify the "gem318.inf" file in the driver CD disk for driver update.