

GS-SR 222
Rack Mount Server
System
Installation Guide

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1. Safe, Care and Regulatory Information

Important safety information

Read and follow all instructions marked on the product and in the documentation before you operate your system. Retain all safety and operating instructions for future use.

- The product should be operated only from the type of power source indicated on the rating label.
- If your computer has a voltage selector switch, make sure that the switch is in the proper position for your area. The voltage selector switch is set at the factory to the correct voltage.
- The plug-socket combination must be accessible at all times because it serves as the main disconnecting device.
- All product shipped with a three-wire electrical grounding-type plug only fits into a grounding-type power outlet. This is a safety feature. The equipment grounding should be in accordance with local and national electrical codes. The equipment operates safely when it is used in accordance with its marked electrical ratings and product usage instructions
- Do not use this product near water or a heat source.
- Set up the product on a stable work surface or so as to ensure stability of the system.
- Openings in the case are provided for ventilation. Do not block or cover these openings. Make sure you provide adequate space around the system for ventilation when you set up your work area. Never insert objects of any kind into the ventilation openings.
- To avoid electrical shock, always unplug all power cables and modem cables from the wall outlets before removing covers.
- Allow the product to cool before removing covers or touching internal components.

Precautions for Products With Laser Devices

Observe the following precautions for laser devices:

- Do not open the CD-ROM drive, make adjustments, or perform procedures on a laser device other than those specified in the product's documentation.
- Only authorized service technicians should repair laser devices.

Precautions for Products With Modems, Telecommunications, or Local Area Network Options

Observe the following guidelines when working with options:

- Do not connect or use a modem or telephone during a lightning storm. There may be a risk of electrical shock from lightning.
- To reduce the risk of fire, use only No. 26 AWG or larger telecommunications line cord.
- Do not plug a modem or telephone cable into the network interface controller (NIC) receptacle.
- Disconnect the modem cable before opening a product enclosure, touching or installing internal components, or touching an uninsulated modem cable or jack.
- Do not use a telephone line to report a gas leak while you are in the vicinity of the leak.

Federal Communications Commission (FCC) Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment

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generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, 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 his own expense.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Neither the provider nor the manufacturer are responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

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.

FCC part 68 (applicable to products fitted with USA modems)

The modem complies with Part 68 of the FCC Rules. On this equipment is a label that contains, among other information, the FCC registration number and Ringer Equivalence Number (REN) for this equipment. You must, upon request, provide this information to your telephone company.

If your telephone equipment causes harm to the telephone network, the Telephone Company may discontinue your service temporarily. If possible, they will notify in advance. But, if advance notice is not practical, you will be notified as soon as possible. You will be informed of your right to file a complaint with the FCC.

Your telephone company may make changes in its facilities, equipment, operations, or procedures that could affect proper operation of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

The FCC prohibits this equipment to be connected to party lines or coin-telephone service.

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The FCC also requires the transmitter of a FAX transmission be properly identified (per FCC Rules Part 68, Sec. 68.381 (c) (3)).

/ for Canadian users only /

Canadian Department of Communications Compliance Statement

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of Industry Canada.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de Classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par Industrie Canada.

DOC notice (for products fitted with an Industry Canada-compliant modem)

The Canadian Department of Communications label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements. The Department does not guarantee the equipment will operate to the user satisfaction.

Before installing this equipment, users ensure that it is permissible to be connected to the facilities of the local Telecommunications Company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions might not prevent degradation of service in some situations.

Repairs to certified equipment should be made by an authorized Canadian maintenance facility designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal

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metallic water pipe system, if present are connected together. This precaution may be particularly important in rural areas.

Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

NOTICE: The Load Number (LN) assigned to each terminal device denotes the percentage of the total load to be connected to a telephone loop which is used by the device, to prevent overloading. The termination on a loop may consist of any combination of devices subject only to the requirement that the sum of the Load Numbers of all the devices does not exceed 100.

/ for European users only /

2. Preface

This installation guide will assist you in installing all the essential components for rack mount server system. For your protection, please read and understand all of the safety and operating instructions regarding your Gigabyte Server and retain for future reference. The procedures in this guidebook assume that you are a system or network administrator experienced in installing similar hardware.

The user's guide is organized as follows:

Chapter 3 “**Introduction**” provides the basic product information and the key features of the product.

Chapter 4 “**Contents Package**” lists the essential hardware installation components.

Chapter 5 “**System Installation Procedure**” provides the fully instructions for configuration hardware to your system.

3. Introduction

Welcome to the Gigabyte GS-SR222 Rack mount Server System Installation Guide. The guidebook provides instructions for configuration hardware for the GS-SR222 to your system.

In order to get the optimal usage of your server, please pay attention to the following tips:

- Go through the installation guide carefully before starting the system installation processes.
- Keep the system away from static and magnetic field.
- Do not apply any cleaning solutions directly to the system.

3.1. Features

The Gigabyte GS-SR222 is a rack-optimized server that offers superior performance and scalability to your networking system. It contains the several features that provide respective performance for your networking solutions. The key features of the server include:

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Features	Description
Motherboard	<ul style="list-style-type: none"> ● GA-8IPXDR
Processor Supported	<ul style="list-style-type: none"> ● Support Dual Intel P4 Xeon Processors (Prestonia) at FSB 400Mhz and 533 Mhz Design Compliance
BIOS	<ul style="list-style-type: none"> ● PC2001/Win9x/ME/2000/XP, ACPI compliance
Chipset	<ul style="list-style-type: none"> ● Intel E7500 (Plumas) Chipset (MCH+ICH3) ● Intel P64H2
Memory Supported	<ul style="list-style-type: none"> ● Dual Memory Channel Support 12GB Register DDR memory on 6 DDR sockets
Integrated SCSI Controller	<ul style="list-style-type: none"> ● Adaptec 7899w dual channel SCSI controller ● 160MB/s data transfer rate
Integrated Intel® Network Adapter Features	<ul style="list-style-type: none"> ● Dual Intel® 82544GC Gigabit Controllers ● Supports PxE, WOL, AFT, ALB, GEC/FEC
Intelligent Management System	<ul style="list-style-type: none"> ● Standard supports IPMI v 1.0 for system monitoring.
Hot Swap Hard Disk Drive Bays	<ul style="list-style-type: none"> ● 6 SCSI Ultra-160/320 Hot-Swap HDD
Mass Storage System	<ul style="list-style-type: none"> ● Six low-profile shelves for hot-swappable drives ● One slim type flexible FDD drive ● One slim type CD-ROM drive

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System Form Factor	<ul style="list-style-type: none">● 2U, Rack-optimized design
I/O expansion slots	<ul style="list-style-type: none">● 2 full-length 64-bit/100 MHz PCI slots● 1 low-profile 32bit/33 MHz PCI slots
Power supply	<ul style="list-style-type: none">● 460W maximum continuous required power
Operating temperature	<ul style="list-style-type: none">● 41 to 95 degrees F (5 to 35 degrees C)


4. Contents Package

When opening the package, please ensure the system components are not damaged during the shipping. Using the following checklist to verify the contents. If any component is missing or damaged in the system, please contact your vendor immediately.

Component Content List

- Chassis
- Power Supply (Installed)
- 8IPXDR Motherboard (Installed)
- Slim type CD-ROM drive (Installed)
- Slim type Floppy drive (Installed)
- Six Hard Disk Drive Trays
- Two CPU heat sinks
- Two Dock Handle with two tow screws
- Driver and Application CD
- System Installation Guidebook
- GA-8IPXDR Motherboard manual

5. System Installation Procedures

 Please remove the protective thin films (Top and bottom) from the system when installing.

5.1. Chassis Removal

Step 1. Unscrew the two thumbscrews from the back of the system. (Fig-1)



Figure 1



Figure 2

Step 2. Standing at the front of the system. Gently apply force to the indentures with your thumbs and push toward the rear of the chassis for about 3/4 of an inch. Top cover may be lifted straight up. (Fig-2)

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Step 3. After removing the top cover, you will see a plastic airflow duct over the CPU and Memory. Rise up the airflow duct as the clip circle shown in the picture. (Fig-3)

Step 4. Install CPU and other essential components.

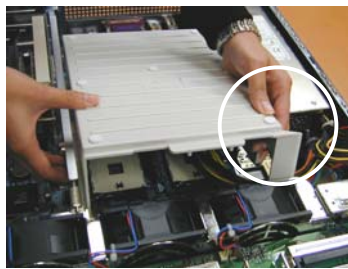


Figure 3

5.2. CPU Installation

Step 1. Please make sure the CPU type and speed that are supported by the motherboard.

Step 2. To Install the CPU(s), lift up the bar that located next to the socket. (Fig-4)

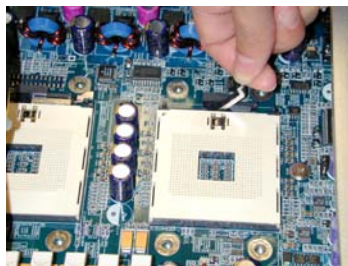


Figure 4

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Step 3. The noticed corner should point toward the end of lever.
The CPU will only fit in the orientation as shown. (Fig-5)

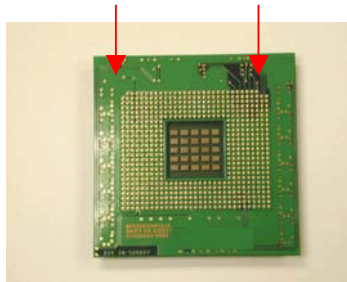


Figure 5

Step 4. Then, align the CPU insert it into the socket. (Fig-6) Push the lever back to the original position. (Fig-7)



Figure 6

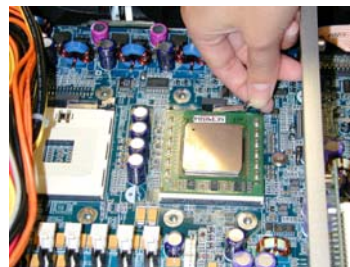


Figure 7

5.3. Heat Sink Installation

Step 1. Put the Heat sink on the CPU.

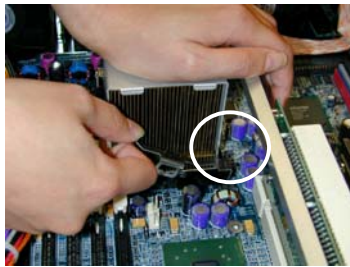


Figure 8



Figure 9

Step 2. There are for screws hold the retention modules. Seat the heat sink firmly in the retention modules with the two cooler brackets.

Step 3. First, hook one end of the cooler bracket to the CPU socket as shown in the **Fig-8**. Make sure the middle part of bracket is push into the desired position. (Fig-9)

Step 5. Hook the other end of the cooler bracket by gripping it to another side of retention module. (Fig-10)

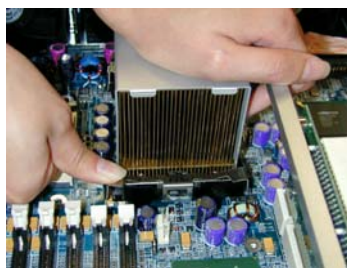


Figure 10

5.4. Memory Installation

The motherboard contains six DIMM (Dual Inline Memory Module) sockets. The systems BIOS will auto detect the size if the memory after installing. To install memory, simply push the memory modules into the DIMM sockets. (Fig -11 to12)



Figure 11



Figure 12

5.5. PCI Expansion Card Installation

GS-SR222 provides expansion riser slots for two peripheral cards, 64Bit/66 MHz full-height. To install the peripheral, please go through the following steps.

Step 1. There are three screws holding the riser bracket. First, remove the screw on the top of the bracket, then, remove another two screws located at the rear of the server. (Fig -13 to 15).

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Figure 13



Figure 14

Step 2. Then, unscrew the raiser card firming screw as the stable clip circle pointed. (Fig-16)



Figure 15

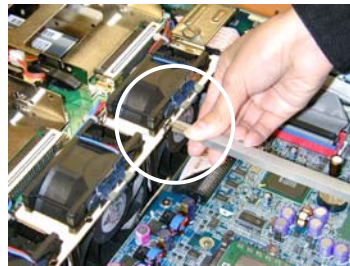


Figure 16

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Step 3. Carefully pull up and remove the PCI riser bracket. (Fig-17).



Figure 17

Step 4. Install the card into place. There are two standoff copper pillars to hold the raiser card. Secure the card with screw. Make sure it is seated properly into PCI slot.

Step 5. Replace the riser bracket into the PCI slot on the motherboard (Fig-18)



Figure 18



Figure 19

Step 6. Push down the bracket firmly. The card is seated properly into PCI slot. (Fig-19)

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Figure 20

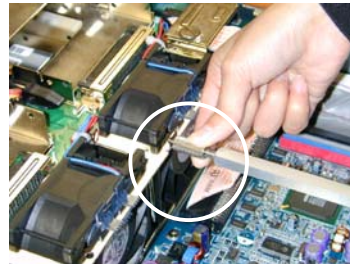


Figure 21

Step 7. Put the PCI raiser bracket into the server system. (Fig-20)

Step 8. Securing the bracket with tighten the raiser card firming screw. (Fig-21)

5.6. Air Flow Duct Installation

GS-SR222 is enhanced a new device which called Airflow Duct. The main function of the airflow duct is to increase the capability of driving out the excessive system heat (Especially the CPU heat). In order to maintain the system operating smoothly, please note that the **CPU** and **Memory** are installed in advance. Remember to install the airflow duct back to into the system to ensure the consistency of system operation.

To install the airflow duct properly, please take the following steps:

Step 1. There are two holes on locate on the system module.
(Fig-22) There are two stable racks on the airflow duct.

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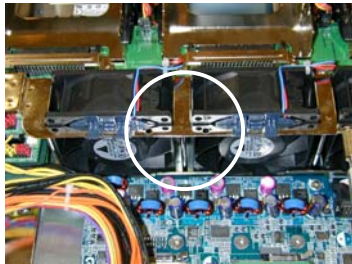


Figure 22



Figure 23

Step 2. Place the airflow duct; ensuring the two stable racks are inserted correctly into the system module. (Fig-23) After inserting the airflow duct, please pay attention to the table clip circle shown in Figure 24. Make sure the airflow duct is firmly inserted in the airflow stable rack.



Figure 24



Figure 25



Figure 25 indicates the airflow duct should be flat and completely placed into the system. When the upper case is placed, please be aware that the power supply header and the motherboard should be completely placed under the duct cover. Otherwise the upper case might not be able to close tightly.

5.7. Reinstall Top Cover

When complete the installation of the entire essential components (from subsection 5.1 to 5.6), replace the plastic air duct. This will secure the airflow is inside the chassis. Failure to do so may cause CPU and Memory over heating.

Replace top cover, insuring that the thumbscrews are tightened.
(Fig-26)



Figure 26

5.8. SCSI ID Setting

The SCSI ID is shown in Figure 27. If there occurs an abnormal SCSI hard disk drive behavior (e.g. does not detect the hard disk drive properly), please make sure that the each HDD has different ID.

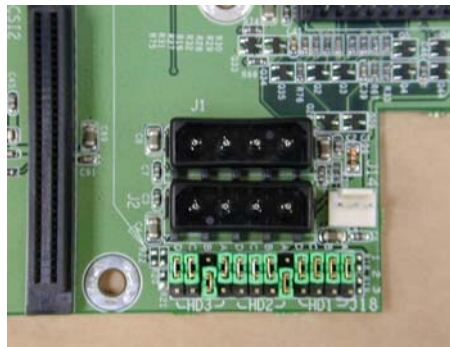


Figure 27

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Jumper Setting For HD1, HD2, and HD3

ID \ Jumper	D	C	B	A
0	ON	ON	ON	ON
1	ON	ON	ON	OFF
2	ON	ON	OFF	ON
3	ON	ON	OFF	OFF
4	ON	OFF	ON	ON
5	ON	OFF	ON	OFF
6	ON	OFF	OFF	ON
7	ON	OFF	OFF	OFF
8	OFF	ON	ON	ON
9	OFF	ON	ON	OFF
A	OFF	ON	OFF	ON
B	OFF	ON	OFF	OFF
C	OFF	OFF	ON	ON
D	OFF	OFF	ON	OFF
E	OFF	OFF	OFF	ON
F	OFF	OFF	OFF	OFF

ON (Jumper Close): 1-2

OFF (Jumper Open): 2-3

5.9. Dock Handle Installation

Remove the dock handles from the package. Put two on each side of the chassis, secure with screws provided. (Fig-28)



Figure 28

5.10. Hard Disk Drive Installation

Step 1. Pull the hard disk drive tray handle and remove the tray from the chassis (Fig-29). Insert the hard disk drive into the tray. Secure each hard disk drive with screws (Fig-30).



Figure 29



Figure 30

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Step 2. After securing the hard disk drive with the screws, hold the hard drive handle at open position, place the tray into chassis (Fig-31) and push the hard disk drive tray handle to the closed position. (Fig-32)



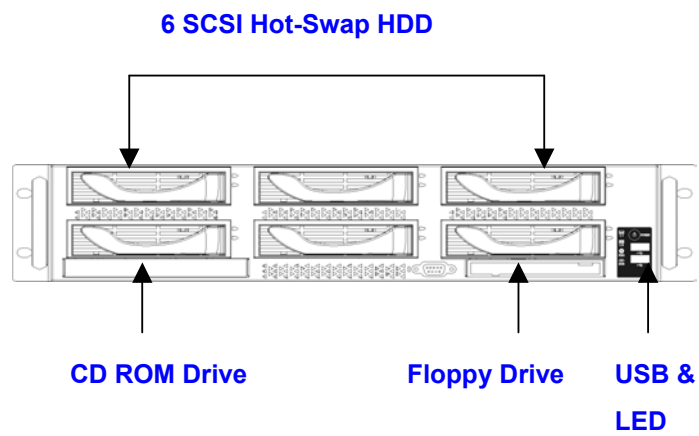
Figure 31



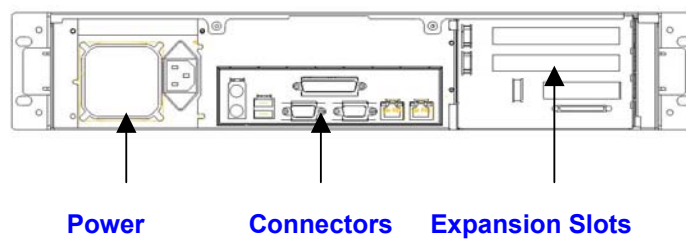
Figure 32

5.11. Appearance of GS-SR222

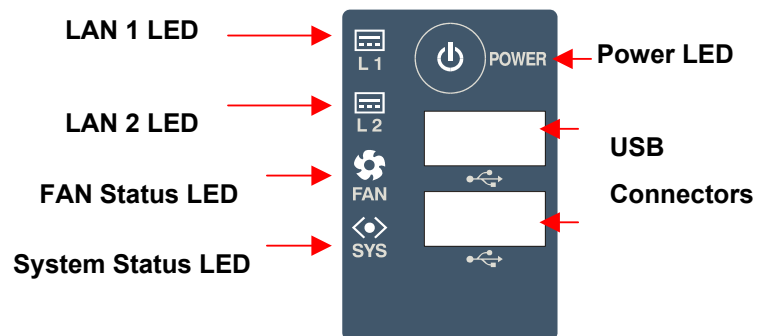
5.11.1. Front View of GS-SR222



5.11.2. Rear View of GS-SR222



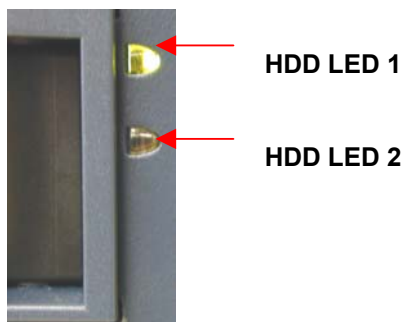
5.11.3. LED Indicator Description



	<i>Acting</i>	<i>Color</i>	<i>Status</i>
Power LED	On	Green	System power on
	Off	N/A	System power off
LAN LED	On	Green	LAN online
	Off	N/A	LAN offline
	Blink	Green	LAN acting
Fan LED	On	Amber	Fan fail
	Off	N/A	Fan acting
System LED	N/A	N/A	No definition

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HDD LED:



	<i>Acting</i>	<i>Color</i>	<i>Status</i>	<i>Condition</i>
HDD LED 1	Off	N/A	No HDD Installed	Non-RAID
HDD LED 1	On	Green	HDD Installed	
HDD LED 2	Off	N/A	HDD idle	Non-RAID
HDD LED 2	Blink	Green	HDD acting	Non-RAID
HDD LED 1	Off	N/A	No HDD installed/ RAID fail or Rebuild	RAID
HDD LED 1	On	Green	HDD installed	RAID
HDD LED 2	Off	N/A	HDD idle	RAID
HDD LED 2	Blink	Green	HDD acting	RAID
HDD LED 2	On	Amber	RAID fail under OS or no HDD	RAID
HDD LED 2	Blink	Amber	HDD RAID rebuild or system booting	RAID

5.12. Dual LAN Card Installation (Optional)

GS-SR222 provides optional 64bit/66 MHz dual LAN card. To install dual LAN card please follow these few steps.

Step 1. There are three screws holding the riser bracket. First, remove the screw on the top of the bracket (Fig-33) then remove the two screws located at the rear. (Fig-34)



Figure 33

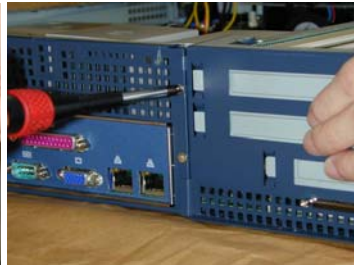


Figure 34

Step 2. Then, unscrew the raiser card firming screw as the stable clip circle pointed. (Fig-35)

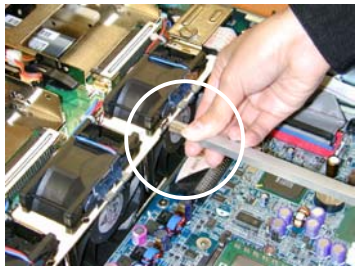


Figure 35



Figure 36

Step 3. Carefully pull up and remove the PCI riser bracket. (Fig-36)

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Step 4. Install the dual LAN card into place. (Fig-37)



Figure 37



Figure 38

Step 5. Push down the bracket firmly. The card is seated properly into PCI slot. (Fig-38)










Figure 39



Figure 40

Step 6. Put the PCI raiser bracket into the server system.
Securing the bracket with tighten the raiser card firming screw.
(Fig 39 – to 40)

5.13. Connector Icon Description

Suggested icons	Description
	Keyboard
	VGA
	Mouse
	LAN
	Parallel Port
	Serial Port
	USB