# GS-SR 113
# Rack Mount Server
# System
# Installation Guide

REV.1.0

# Contents

**The author assumes no responsibility for any errors or omissions that may appear in this document nor does the author make a commitment to update the information contained herein.**

**Third-party brands and names are the property of their respective owners.**

**Due to the rapid change in technology, some of the specifications might be out of date before publication of this booklet.**

# 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 products 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

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.

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

metallic water pipe system, if resent 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 the 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.

**Manual Organization:**

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-SR113 Rack mount Server System Installation Guide. The guidebook provides instructions for configuration hardware for the GS-SR113 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-SR113 is an ultra thin, 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:

| Features | Description |
|---|---|
| *Motherboard* | ●   GA-8IRXRR-D |
| *Processor Supported* | ●   Supports Single Intel P4 Northwood Processor up to 2.20 Ghz and above<br>●   400MHz FSB |
| *BIOS* | ●   Award BIOS on 4Mb flash RAM<br>●   Multiple boot options<br>●   Supports user setting for hardware monitoring<br>●   Support PXE<br>●   DMI 2.0 compliant |
| *Chipset* | ●   Intel Brookdale 845 D (MCH+ICH2) |
| *Memory Supported* | ●   2*25 degree angle DIMM sockets<br>●   Supports 2 DDR-266 up to 2 GB<br>●   Supports ECC memory module<br>●   No registered DIMM support |
| *Integrated Intel® Network Adapter Features* | ●   Dual Intel® 82550PM Ethernet controllers<br>●   Supports Wake on LAN<br>●   Adapter Fault Tolerance (AFT)<br>●   Adaptive Load Balancing (ALB)<br>●   Fast EtherChannel (FEC) |
| *Intelligent Management System* | ●   Standard supports IPMI v 1.0 for system monitoring.<br>●   Integrated Winbond W83910F BMC chips |
| *Hot Swap Hard Disk Drive Bays* | ●   1 Easy Swap<br>●   2 IDE ATA100/133 Hot Swap HDD |
| *RAID Supported* | ●   Promise PDC 20267 IDE Raid 0,1,10 |

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| | | |
|---|---|---|
| | ● | Dual ATA100 Channels |
| **Mass Storage System** | ● | Three low-profile shelves for hot-swappable drives |
| | ● | One slim type flexible FDD drive |
| | ● | One slim type CD-ROM drive |
| **System Form Factor** | ● | 1U, ultra thin, rack-optimized design |
| **System Dimensions** | ● | 19" W*23" D*1.74" H |
| **I/O expansion slots** | ● | 4 full-length 32bit/33 MHz PCI slots |
| **Built-in I/O ports** | ● | One Floppy Port (up to 2.88MB) |
| | ● | One 25pin Parallel Port (EPP/ECP) |
| | ● | Two 9pin 16550 based serial Ports |
| | ● | 4 USB ports |
| | ● | One standard 15pin VGA connector |
| | ● | Two RJ45 LAN ports |
| | ● | P/S 2 Keyboard and Mouse Connectors |
| **Power supply** | ● | 250W maximum continuous required power |
| **Operating Temperature** | ● | 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)
- 8IRXR-D Motherboard (Installed)
- Slim type CD-ROM drive (Installed)
- Slim type Floppy drive (Installed)
- Three Hard Disk Drive Trays
- One CPU heat sink pack (including one heat sink, one thermal conductivity compound, and two cooler bracket)
- Two Dock Handle with two tow screws
- Driver and Application CD
- System Installation Guidebook
- GA-8IRXRR 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)

**Step 3.** After removing the top cover, you will see a plastic airflow duct over the CPU and Memory. Rise up the airflow duct. (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, lift up the bar that located next to the socket. (Fig-4)



Figure 4

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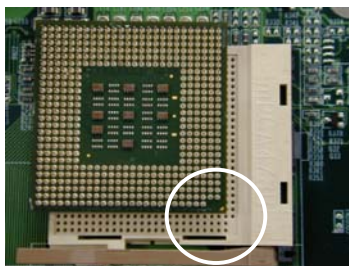
Figure 5

**Step 4.** Then, align the CPU and insert it into the socket. (Fig-6)
**Step 5.** Push the lever back to the original position to finish the
CPU installation. (Fig-7)



Figure 6                          Figure 7

## 5.3. Heat Sink Installation

**Step 1.** Put the Heat sink on the CPU.
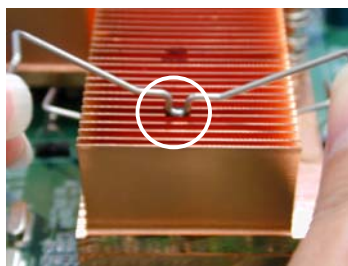


Figure 8                    Figure 9

**Step 2.** Before putting the heat sink on the CPU, please well remember to apply the thermal conductivity compound on the CPU.

**Step 3.** Seat the heat sink in the retention modules with the four screws. (Fig-8)

**Step 3.** Secure the heat sink firmly with two cooler brackets. There are two dark mark printed on the heat sink. Align the center of the cooler bracket to the dark mark and push it down (Fig-9).

**Step 4.** Hook one end of the cooler bracket to the CPU socket as shown in the **Fig-10**. Hook the other end of the cooler bracket by gripping it to another side of retention module.
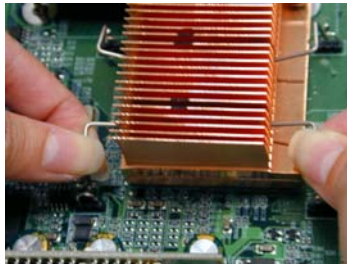
Figure 10

## 5.4. Memory Installation

The motherboard contains two slanted 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)



Figure 11

## 5.5. PCI Expansion Card Installation

GS-SR113 provides one expansion riser slot for two peripheral cards, 32Bit/33 MHz full-height. To install the peripheral, please go through the following steps.

**Step 1.** There are two screws holding the riser bracket. First, remove the screw on the top of the bracket, then, remove another screw located at the rear of the server. (Fig -12 & 13).



Figure 12                        Figure 13

**Step 2.** Carefully pull up and remove the PCI riser bracket. (Fig-14).



Figure 14

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**Step 3.** Install the card into place. (Fig-15)



Figure 15

**Step 4.** Replace the riser bracket into the PCI slot on the motherboard. Push down the bracket firmly. The card is seated properly into PCI slot.



Figure 16

**Step 5.** Put the PCI raiser bracket into the server system. (Fig-16)

**Step 6.** Secure the PCI slot bracket with the screws.

## 5.6.  Air Flow Duct Installation

GS-SR113 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.** Insert the airflow duct follow the arrow direction. (Fig-17)
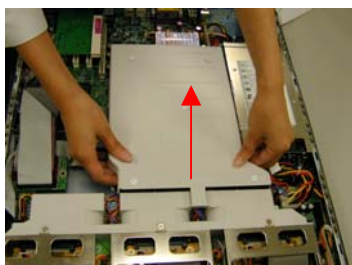
Figure 17                              Figure 18

**Step 2.** After inserting the airflow duct, please pay attention to the
stable clip circle shown in Figure 18. Make sure the airflow duct is
firmly inserted in the airflow stable rack.

Figure 19

Figure 19 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-20)

Figure 20

## 5.8. Dock Handle Installation

Remove the dock handles from the package. Put two on each side of the chassis, secure with screws provided. (Fig-21)



Figure 21

## 5.9. Hard Disk Drive Installation

**Step 1.** Pull the hard disk drive tray handle and remove the tray from the chassis (Fig-22). Insert the hard disk drive into the tray. Secure each hard disk drive with screws (Fig-23).

Figure 22                                    Figure 23

**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-24) and push the hard disk drive tray handle to the closed position. (Fig-25)



Figure 24                                    Figure 25
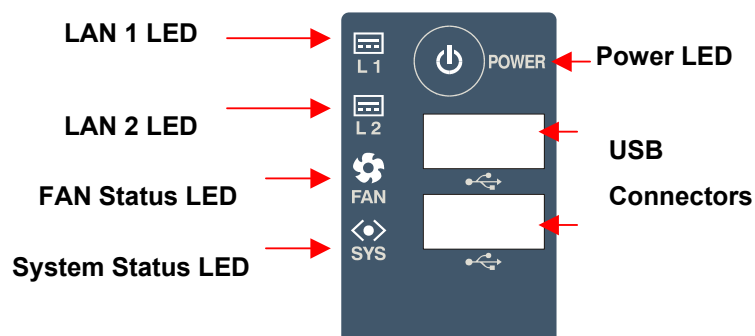
# 5.10. Appearance of GS-SR113

## 5.10.1. Front View of GS-SR113

**2 IDE ATA Hot-Swap HDD**

**1 Easy Swap HDD**

**Secondary**    **Primary**

**CD ROM Drive**    **Floppy Drive**    **USB & LED**
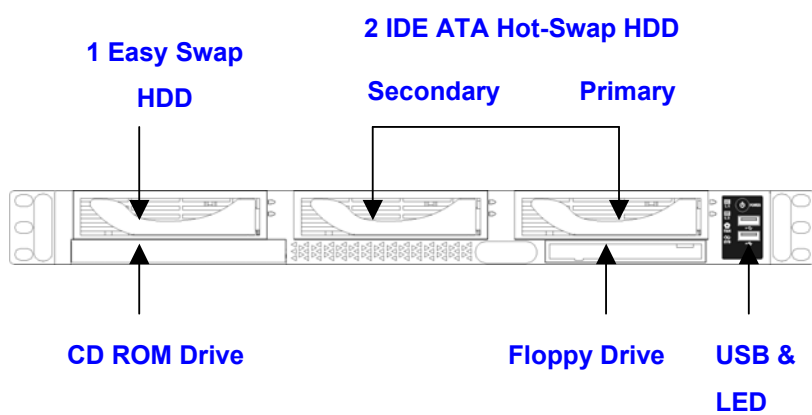
## 5.10.2. Rear View of GS-SR113

**Power**    **Connectors**    **Expansion**
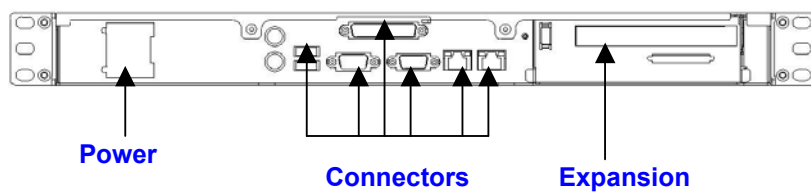
### 5.10.3. LED Indicator Description



| | *Acting* | *Color* | *Status* |
|---|---|---|---|
| **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 |

**HDD LED:**
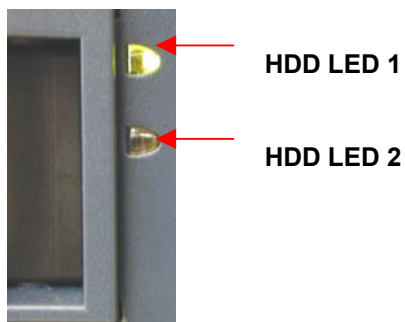


**HDD LED 1**

**HDD LED 2**

|  | *Acting* | *Color* | *Status* | *Condition* |
|---|---|---|---|---|
| **HDD LED 1** | Off | N/A | No HDD Installed | Non-RAID |
| **HDD LED 1** | On | Green | HDD Installed | *Non-RAID* |
| **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 detected | RAID |
| **HDD LED 2** | Blink | Amber | HDD RAID Rebuiid | RAID |
| **HDD LED 2** | Blink | Amber | System booting | RAID |

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## 5.11. Connector Icon Description

| Suggested icons | Description |
|:---:|:---:|
|  | Keyboard |
|  | VGA |
|  | Mouse |
|  | LAN |
|  | Parallel Port |
|  | Serial Port |
|  | USB |