SG-3103

Security Gateway with 3 LAN

User's Manual

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Advantech Customer Service

Each and every Advantech product is built to the most exacting specifications to ensure reliable performance in the harsh and demanding conditions typical of industrial environments. Whether your new Advantech equipment is destined for your home or the factory floor, you can be assured that your product will provide the reliability and ease of operation for which the name Advantech has come to be known. Your satisfaction is our primary concern. Here is a guide to Advantech's customer services. To ensure you get the full benefit of our services, please follow the instructions on the next page carefully.

This manual is for the SG-3103.

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Technical support

We want you to get the maximum performance from your products. So if you run into technical difficulties, we are here to help. For the most frequently asked questions, you can easily find answers in your product documentation. If you still cannot find the answer, gather all the information or questions that apply to your problem, and with the product close at hand, call your dealer. Our dealers are well trained and ready to give you the support you need to get the most from your Advantech products. In fact, most problems reported are usually minor and are able to be easily resolved over the phone. In addition, free technical support is available from Advantech engineers every business day.

Additional Information and Assistance

Step 1. Visit the Advantech web site at **www.advantech.com** where you can find the latest information about the product.

Step 2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:

- Product name and serial number
- Description of your peripheral attachments
- Description of your software (operating system, version, application software, etc.)
- A complete description of the problem
- The exact wording of any error messages

Safety Instructions

1. Please read these safety instructions carefully.
2. Please keep this User's Manual for later reference.
3. Please disconnect this equipment from AC outlet before cleaning. Don't use liquid or sprayed detergent for cleaning. Use moisture sheet or cloth for cleaning.
4. For pluggable equipment, the socket-outlet should be installed near the equipment and should be easily accessible.
5. Please keep this equipment away from high humidity.
6. Put this equipment on a reliable surface when installing. A drop or fall could cause injury.
7. Do not leave this equipment in an non air-conditioned environment, storage temperature above 50 C may damage the equipment.
8. The openings on the enclosure are for air convection and protect the equipment from overheating. DO NOT COVER THE OPENINGS.
9. Make sure of the voltage of the power source when connecting the equipment to the power outlet.
10. Place the power cord in such a way that people can not step on it. Do not place anything over the power cord. The power cord must be rated for the product and the voltage and current marked on the product's electrical ratings label. The voltage and current rating of the cord should be greater than the voltage and current rating marked on the product.
11. All cautions and warnings on the equipment should be noted and followed.
12. If the equipment is not in use for long time, disconnect the equipment from main power to avoid being damaged by transient over-voltage.
13. Never pour any liquid into ventilation openings. This could cause fire or electrical shock.
14. Never open the equipment. For safety reasons, only qualified service personnel should open the equipment.
15. If one of the following situations arise, 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 can not get it work according to the user's manual.
    e. The equipment has been dropped and damaged.
    f. The equipment has obvious signs of breakage.
16. Never open equipment. Only qualified service personnel should open.
17. **CAUTION:** THE COMPUTER IS PROVIDED WITH A BATTERY-POWERED REAL-TIME CLOCK CIRCUIT. THERE IS A DANGER OF EXPLOSION IF A BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURE. DISCARD USED BATTERIES ACCORDING TO THE MANUFACTURER'S INSTRUCTIONS.

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CHAPTER 1

Introduction

This chapter gives information on the SG-3103.

Sections include:

- About the SG-3103
- Product Features
- Hardware
- Front Panel
- Rear Panel
- Packing Content

Chapter 1 Introduction

1.1 About the SG-3103

Advantech's SG-3103 Security Gateway is specially designed for internet secure connectivity. It can be used as a triple Ethernet Firewall/VPN/IDS device. The SG-3103, with its industrial grade 1 U chassis and high performance computing power, gives network security system integrators and software vendors choices when integrating their security applications. Applied to any networked environment, the SG-3103 has the processing power and reliability to handle your mission critical, network security applications. Advantech also depends on customer's requirements to provide OEM/ODM service.

1.2 Product Features

- High computing power, supports Intel® Pentium III/Celeron processors up to 850 MHz
- 3 fast Ethernet for WAN, LAN, DMZ applications
- Embedded Linux certified
- Suitable for Firewall/VPN/IDS/Security server platforms

1.3 Hardware

The SG-3103 Security Gateway platform supports Intel Pentium III/Celeron CPUs up to 850 MHz. The SG-3103 has one CompactFlash card interface and one 3.5" IDE Hard drive space available for software vendor or system integrators to apply a storage device. With two SO-DIMM sockets, the SG-3103 supports up to two 256 MB PC-100 SDRAM SO-DIMM.

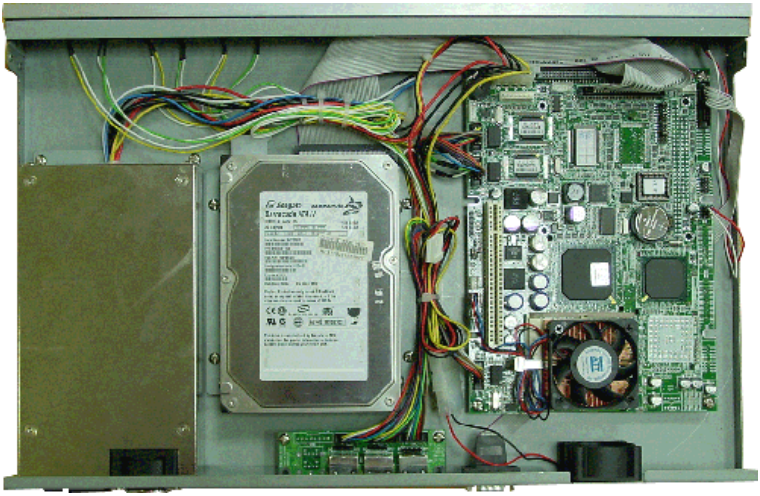


Figure 1.1: Internal View of SG-3103

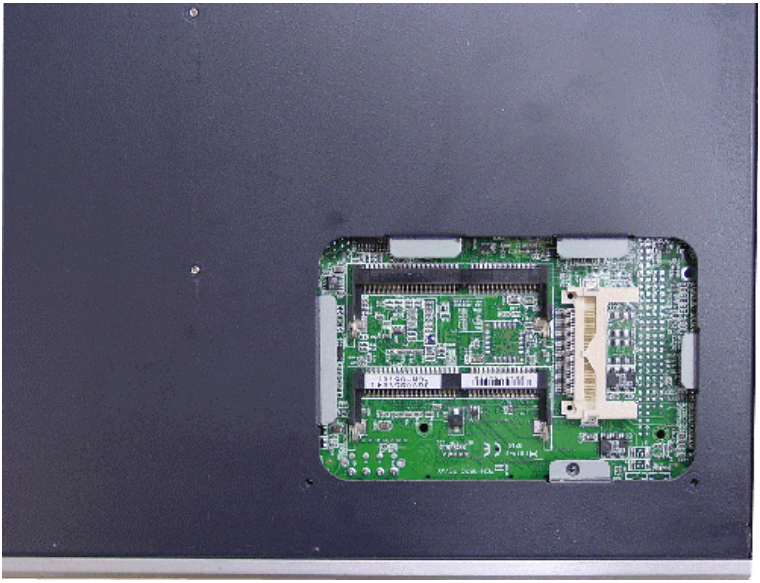


Figure 1.2: Bottom View of SG-3103

1.4 Front Panel

Seven LEDs indicate the status of the three Ethernet ports (LAN/WAN/ DMZ) and power status. Users can easily determine the system status. This design allows for easy modification, maintenance, and saves time.

Figure 1.3: Front Panel of the SG-3103

1. **Power LED**

   The POWER LED is red under normal conditions.

2. **WAN LED**

   When the cable is connected to the WAN, the LED is orange. When the SG-3103 receives data, the other LED flashes green.

3. **LAN LED**

   When the cable is connected to the LAN, the LED is orange. When the SG-3103 receives data, the other LED flashes green.

4. **DMZ LED**

   When the cable is connected to the DMZ, the LED is orange. When the SG-3103 receives data, the other LED flashes green.

1.5 Rear Panel

Figure 1.4: Rear Panel of the SG-3103

1. **DMZ port**

   The DMZ port connector is RJ-45 and supports 10/100BaseTX Ethernet (10 Mbps/100 Mbps on a twisted pair cable). This port connects non-secured/untrusted devices.

2. **LAN port**

   The LAN port connector is RJ-45 and supports 10/100BaseTX Ethernet (10 Mbps/100 Mbps on a twisted pair cable). This port connects secured/trusted devices.

3. **WAN port**

   The WAN port connector is RJ-45 and supports 10/100BaseTX Ethernet (10 Mbps/100 Mbps on a twisted pair cable). This port connects to the external network of internet.

4. **COM port**

   The console port supports a data terminal equipment (DTE) interface (cable included) with 8 data bits, no parity, and 1 stop bit, the default speed is 38400 bps.

1.6 Packing Contents

The SG-3103 package consists of the following items:

- SG-3103
- CPU cooling fan
- PS2 Keyboard/Mouse cable
- IDE cable
- Utility CD
- User's Manual
- Rack-mount Kit

CHAPTER 2

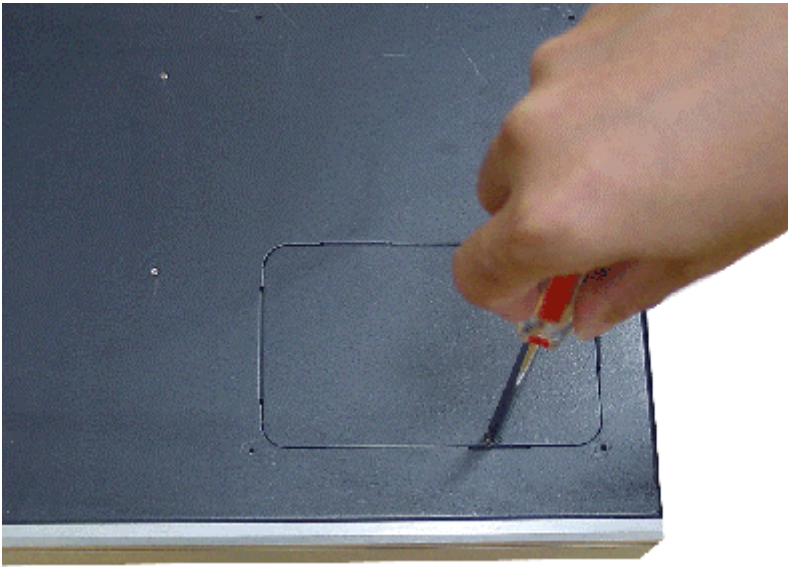
Hardware Installation

This chapter tells how to set up the SG-3103 hardware. Be sure to read all the safety precautions before you begin the installation procedure.

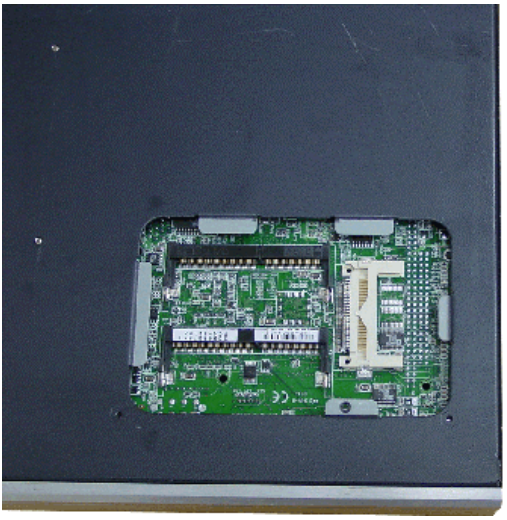
Chapter 2 Hardware Installation

2.1 RAM Module and CompactFlash Card Installation

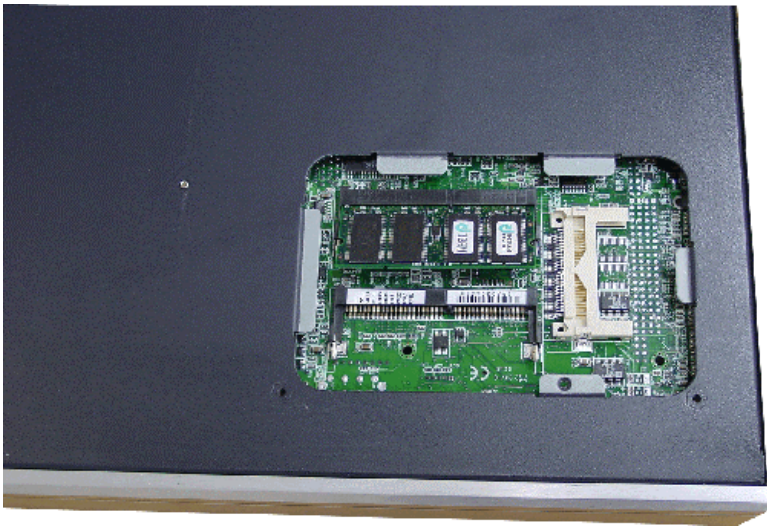
1. Using a screwdriver, remove the bottom cover.



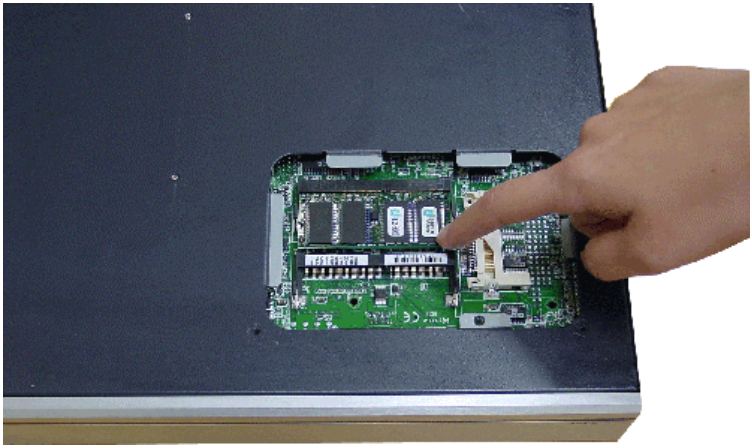
2. Once removed, the SO-DIMM sockets and CompactFlash card socket can be seen.



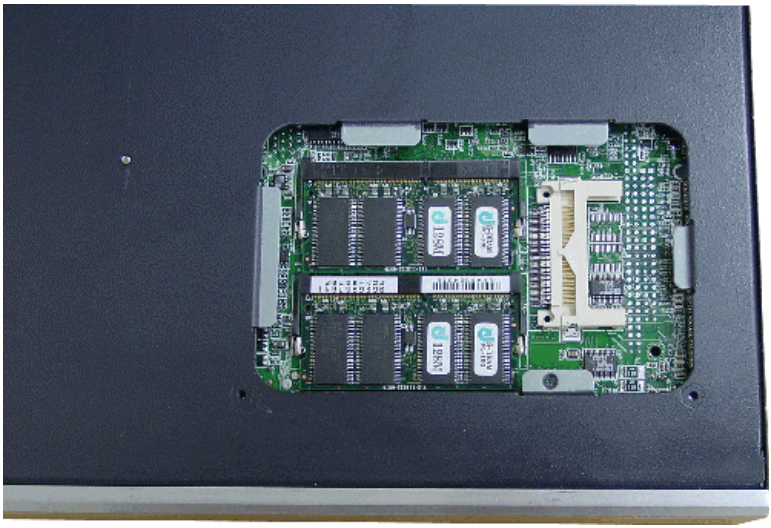
3. Insert a SO-DIMM into the upper socket first.



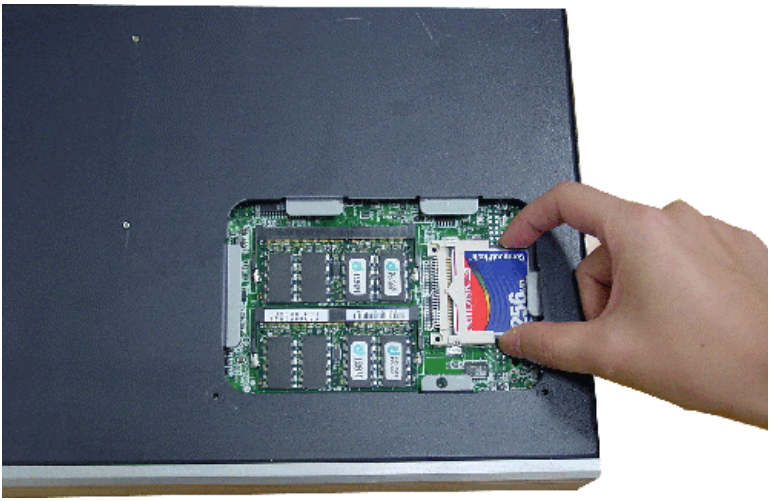
4. The socket will be tightly secured once the SO-DIMM is pressed down.



5. A second SO-DIMM can be inserted in the lower (shown) socket

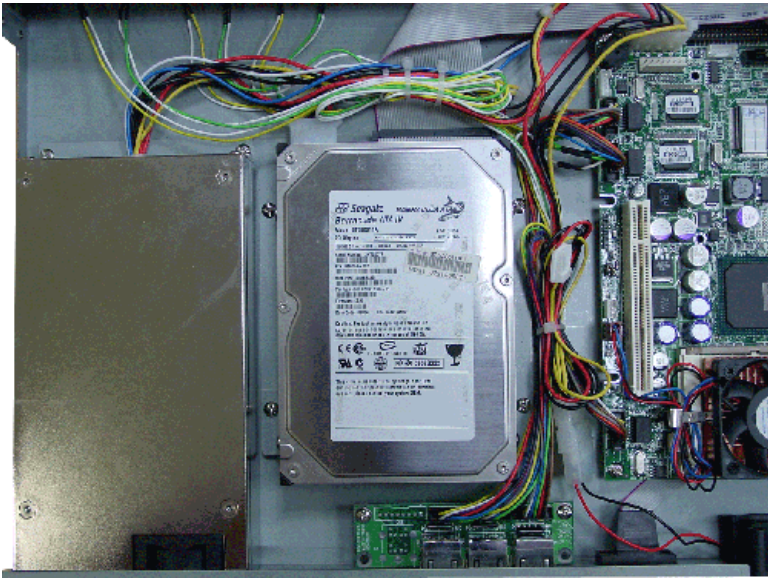


6. Insert the CompactFlash card into the socket.

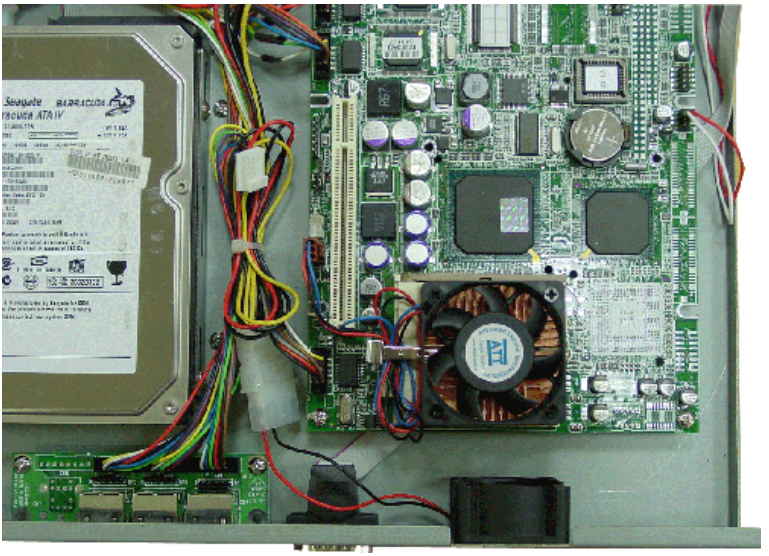


2.2 HDD Installation

The SG-3103 supports one 3.5” IDE Hard Drive.



2.3 CPU and Fan Installation



2.4 Interface Connections

2.4.1 Network Connection

Connect a Twisted Pair Ethernet (TPE) network cable to the LAN, WAN, or DMZ port.

2.4.2 Power Connection

Connect an AC power to Power connector. The system supports100 V ~ 240 V_{AC} power in.

CHAPTER 3

Product Specifications

This chapter lists the specifications of the SG-3103

Chapter 3 Product Specifications

- **CPU:** Socket 370 for Intel® Pentium III / Celeron processors up to 850 MHz
- **Chipset:** Intel 440BX chipset, support 100 MHz FSB
- **BIOS:** Award 256K flash memory
- **Memory:** Two SO-DIMM sockets support up to Max. 512 MB
- **LAN:** Triple Intel 82559ER Fast Ethernet controllers, support 10/100 Base-T
- **Storage:** One 3.5" HDD drive option and one CompactFlash option
- **I/O:** 1 x RS-232 port (Console), 3 x RJ-45 LAN ports
- **Watchdog timer:** 63 level timer intervals
- **AC power:** 150 W, 100 V ~ 240 V
- **Indicators:** LED Displays Triple LANs, and Power
- **Operating temperature:** 0 ~ 50° C (32 ~ 104° F)
- **Storage temperature:** -20 ~ 75° C (-4 ~ 167° F)
- **Transportation temperature/humidity:** -20 ~ 75° C, 5 ~ 95%
- **Operating humidity:** 5 ~ 95% @ 40° C, non-condensing
- **Storage humidity:** 5 ~ 95%
- **Dimensions:** 426 x 44 x 273 mm (W x H x D)

Appendix A

CPU Board Reference

Appendix A CPU Board Reference

The SG-3103 system includes the PCM-9576 board, for detailed PCM-9576 board specifications; please refer to user's manual of PCM-9576. Please go to this link http://eservice.advantech.com.tw/eservice/index.asp for more information.