



GSW-1657

GSW-2457

## ***User's Guide***

16/24-port Gigabit Ethernet Switch

Ver.1.0.0-0803

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## **FCC STATEMENT**

The 16/24-port Gigabit Ethernet Switch has been tested and found to comply with the limits for a class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## **EC DECLARATION OF CONFORMITY (EUROPE)**

In compliance with the EMC Directive 89/336/EEC, Low Voltage Directive 73/23/EEC, this product meets the requirements of the following standards:

- EN55022
- EN55024
- EN60950

## **SAFETY NOTICES**



Caution:

Do not use this product near water, for example, in a wet basement or near a swimming pool.

Avoid using this product during an electrical storm. There may be a remote risk of electric shock from lightning.

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## Package Contents

The following contents should be found in your box:

- One GSW-1657 or GSW-2457 Switch
- One power cord
- This User's Guide
- Rubber footpads for Desk-mount
- Rack-mount kit for installing the switch in a 19-inch rack



**Note:**

If any of the above contents is damaged or missing, please contact the retailer from whom you purchased the GSW-1657/GSW-2457 16/24-port Gigabit Ethernet Switch for assistance.

## Chapter 1: Introduction of the Product

This chapter describes the features of the GSW-1657/GSW-2457 16/24-port Gigabit Ethernet Switch.

### 1.1 Overview of the Product

The GSW-1657/GSW-2457 16/24-port Gigabit Ethernet Switch provides you with a high-performance, low-cost, easy-to-use, seamless and standard upgrade to boost your old network to 1000Mbps. Increase the speed of your network server and backbone connections make Gigabit a reality. Power users in the home, office, workgroup, or creative production environment can now move large, bandwidth-intensive files faster. Transfer graphics, CGI, CAD, or multimedia files and other applications that have to move large files across the network almost instantly.

GSW-1657/GSW-2457 features a non-blocking switching architecture that forwards and filters packets at full wire-speed for maximum throughput. MAC address auto-learning and auto-aging, IEEE802.3x flow control for

full-duplex mode and backpressure for half-duplex mode. It is compatible with all 10,100, and 1000Mbps Ethernet devices because it is standard-based, it protects your existing network investments while providing you with a straightforward migration path to faster Gigabit speeds.

The GSW-1657/GSW-2457 is plug-and-play and no configuration is required. Auto MDI/MDI-X cable detection on all ports eliminate the need for crossover cable or Uplink port. Each port can be used as general ports or Uplink ports, and any port can be simply plugged into a server, a hub, a router or a switch, using the straight cable or crossover cable. Diagnostic LEDs which display link status and activity, allowing you to quickly detect and correct problems on the network.

## 1.2 Features

- Complies with IEEE802.3, IEEE802.3u, IEEE802.3ab standards
- 16/24 10/100/1000Mbps Auto-Sense RJ45 ports supporting Auto-MDI/MDIX
- All ports Support Full/Half Duplex transfer mode for 10/100Mbps and Full Duplex transfer mode for 1000Mbps
- Supports IEEE802.3x flow control for full-duplex mode and backpressure for half-duplex transfer mode
- Non-blocking switching architecture that forwards and filters packets at full wire-speed for maximum throughput
- Supports MAC address auto-learning and auto-aging
- LED indicators for monitoring power, fan, link, speed and activity
- Rack-mountable steel case
- Internal power supply

## Chapter 2: Installation

### 2.1 Mounting the Switch on a Desk

Before place the Switch on a desk, attach four rubber footpads to the flutes on the Switch bottom, then lay the Switch on the desktop, where can be have as much as 5kg placed on top.

**Note:**

Make sure there is a grounded AC outlet within 1.5 meters, and working well.

Make sure there is free space for radiating heat and air.

Make sure not to place anything too heavy on top of the switch.

## 2.2 Mounting the Switch in a Rack

The dimension of GSW-1657/GSW-2457 is designed according to the standard 19 rack-mountable steel case of Electronic Industries Association.

Turn off all the equipment connected to the Switch before mounting it in the rack, then rivet the two "L" brackets onto each side of the Switch, fasten it with screws in the rack.

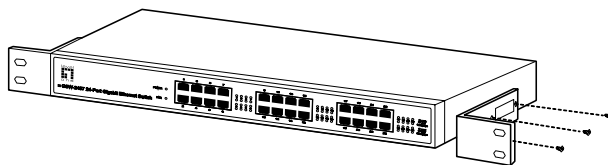


Figure 2-1 Rivet the "L" brackets onto the Switch

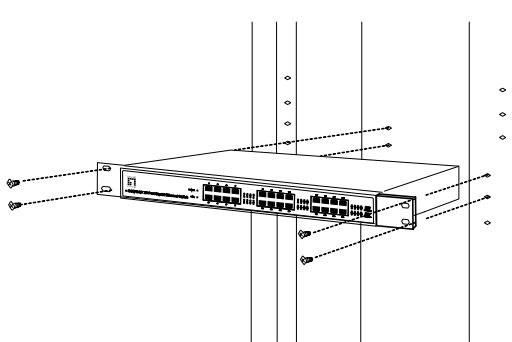


Figure 2-2 Fasten the Switch in the rack

## 2.3 Power On

GSW-1657/GSW-2457 16/24-port Gigabit Ethernet Switch is powered by AC power supply. Powering on the Switch, it will automatically initialize and its LED indicators should respond as follows:

- 1) All of the Link/Act and 1000Mbps LED indicators will flash momentarily for one second, which represent a resetting of the system.
- 2) The Power indicator will light up.
- 3) The FAN LED indicators will light up.

If the LED indicators don't respond as described above, please check the power supply and connection.

## Chapter 3: Identifying External Components

This Chapter describes the front panel, rear panel and LED indicators of the Switch. GSW-1657 and GSW-2457 just differ in the number of LED indicators and ports and all figures in this guide are of GSW-2457.

### 3.1 Front Panel

The front panel of the GSW-2457 consists of switch LED indicators, 24 10/100/1000Mbps RJ-45 ports.

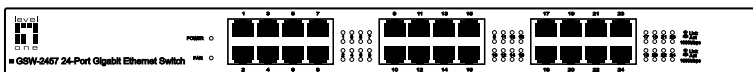


Figure 3-1 GSW-2457 Switch Front Panel sketch

### 3.2 Rear Panel

The rear panel of the GSW-2457 only features a power receptacle, which is an AC power receptacle. Connect the female of the power cord head here, and the male head to the AC power outlet.





Figure 3-2 GSW-2457 Switch Rear Panel sketch

### 3.3 LED Indicators

The LED indicators include Power, FAN, Link/Act and 1000Mbps LED indicators, which are used for monitoring and pre-troubleshooting of the Switch. The following section shows the LED indicators for the switch along with an explanation of each indicator.

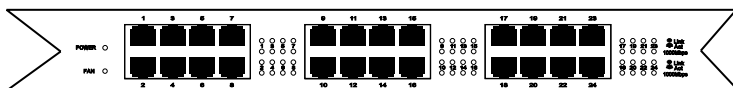


Figure 3-3 GSW-2457 Switch LEDs sketch

- **Power LED:** This indicator will light solid red when the Switch powers up. If the LED is not lit, please check the power supply and connection.
- **FAN LED:** This indicator will light solid green when the corresponding cooling fan works properly.
- **Link/Act LED:** This indicator will light solid green when the corresponding port is connected to another device and will flash green when data is being transmitted or received on the working connection.
- **1000Mbps LED:** This indicator will light solid green when the corresponding port is connected to a 1000Mbps device.

## Appendix A: Specifications

General	
Standards	IEEE802.3 10Base-T IEEE802.3u 100Base-TX IEEE802.3ab 1000Base-T
Topology	Star
Protocol	CSMA/CD
Data Transfer Rate	Ethernet: 10Mbps (Half Duplex), 20Mbps (Full Duplex) Fast Ethernet: 100Mbps (Half Duplex), 200Mbps (Full Duplex) Gigabit Ethernet: 2000Mbps (Full Duplex)
Network Media (Cable)	10Base-T: UTP category 3, 4, 5 cable (maximum 100m) EIA/TIA-568 100 STP (maximum 100m) 100Base-TX: UTP category 5, 5e cable (maximum 100m) EIA/TIA-568 100 STP (maximum 100m) 1000Base-T: UTP category 5, 5e cable (maximum 100m) EIA/TIA-568 100 STP (maximum 100m)
Number of Ports	16/24 10/100/1000Mbps Auto-Negotiation RJ-45 ports
LED indicators	Power, FAN, Link/Act, 1000Mbps
Transfer Method	Store-and-Forward
MAC Address Learning	Automatically learning, automatically aging
Frame Filter Rate	10Base-T: 14880pps/Port 100Base-Tx: 148800pps/Port 1000Base-T: 1488000pps/Port
Frame Forward Rate	10Base-T: 14880pps/Port 100Base-Tx: 148800pps/Port 1000Base-T: 1488000pps/Port

Environmental and Physical	
Dimensions	17.3×7.1×1.7in. (440×180×44mm) W×D×H
Power Supply Output	100-240V~ 50/60Hz 0.6A
Operating Temperature	0°C~40°C (32°F~104°F)
Storage Temperature	-40°C~70°C (-40°F~158°F)

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Operating Humidity	10%~90% non-condensing
Storage Humidity	5%~95% non-condensing

## Appendix B: Troubleshooting

### 1. The Power LED is not lit

- Make sure the AC power cord connected the Switch with power source properly.
- Make sure the power source is ON.

### 2. The Link/Act LED is not lit when a device is connected to the corresponding port

- Make sure that the cable connectors are firmly plugged into the Switch and the device.
- Make sure the connected device is turned on and working well.
- The cable must be less than 100 meters long(328 feet).