FSW-1650

FSW-2450

User Manual

16/24 10/100 Rackmount Switch

V3.0..0906

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FCC STATEMENT

The 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.

Package Contents:

The following contents should be found in your box:

- One FSW-1650 / FSW-2450 Switch
- One power cord
- This User's Guide
- Mounting screws and two “L” planks

☞ **Note:**

Make sure that the package contains the above items. If any of the listed items are damaged or missing, please contact with your distributor.

CONTENTS

Chapter 1 Introduction of the Product

This chapter describes the features of the model of FSW-1650/FSW-2450 16/24- port 10/100 Rackmount Switch. FSW-1650 and FSW-2450 just differ in the number of LED indicators and ports, all figures in this guide are of FSW-2450.

1.1 Overview of the product

FSW-1650/FSW-2450 6/24-port 10/100 Rackmount Switch provides 16/24 10/100Mbps Auto-Negotiation RJ45 ports. Each port of the FSW-1650/FSW-2450 supports auto MDI/MDI-X function, eliminating the need for crossover cables or Uplink ports. The Switch is Plug- and-Play and any port can be simply plugged into a server, a hub or a switch, using straight cable or crossover cable.

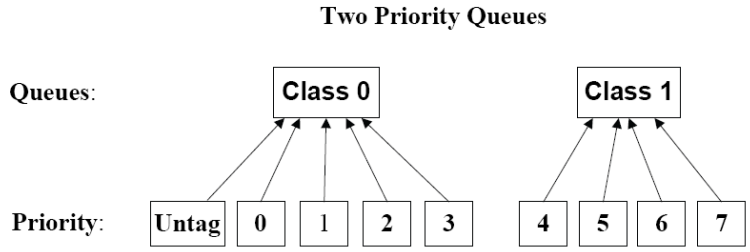
The LevelOne FSW-1650/FSW-2450 16/24-port 10/100 Rackmount switch provides you with a low-cost, easy-to-use, high-performance, seamless and standard upgrade to improve your old network to a 100Mbps network. It will boost your network performance up to full duplex data transfer.

1.2 Features

- Complies with IEEE802.3, IEEE802.3u standards
- Support IEEE 802.1p QoS
- 16/24 10/100M Auto-NegotiationRJ45portssupporting Auto-MDI/MDIX
- Supports IEEE802.3X flow control for full-duplex mode and backpressure for half-duplex mode
- LED indicators for monitoring power, link, activity, speed (FSW-2450)
- Standard 19” rack-mountable steel case
- Internal power supply

1.3 IEEE 802.1p QoS

The FSW-1650/2450 16/24-Port 10/100M switch supports 802.1p priority queuing Quality of Service, which is an implementation of the IEEE 802.1p standard. With 802.1p QoS function, you can reserve bandwidth for important functions that require a large bandwidth or have a high priority, such as VoIP (voice-over Internet Protocol), web browsing applications or video conferencing. The switch has separate hardware queues on every physical port which packets from various applications are mapped to and assigned a priority to. The illustration below shows how 802.1p priority queuing is implemented on the switch.



Mapping QoS on the Switch

The switch has two priority queues labeled 0 and 1. The untagged packets and the eight IEEE 802.1p priority levels defined by the standard are mapped to the two class queues used on the switch. Class 1 has the higher priority of the two priority queues on the switch. The untagged packets and eight priority tags, specified in IEEE 802.1p are mapped to the switch's priority as follows:

- The untagged packets and priority 0,1,2 and 3 are assigned to the switch's class 0 queue.
- Priority 4,5,6, and 7 are assigned to the switch's Class 1 queue.

The Switch uses WRR(Weighted Robin Round) for scheduling. WRR queue-scheduling algorithm schedules all the queues in turn and every queue can be assured of a certain service time. The default weight value of Class 0 queue and Class 1 queue is 1 to 8.

Chapter 2 Installation

2.1 Mounting the Switch on a Desk

Before placing the Switch on a desk, attach four rubber feet to the flutes on the Switch bottom, then lay the Switch on the desktop, where it is able to withstand 5kg of weight.

☞ **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 to heavy on top of the switch.

2.2 Mounting the Switch in a Rack

The dimension of FSW-1650 / FSW-2450 is designed according to the standard 19" rack-mountable steel case of Electronic Industries Association.

Powers 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, and fasten it with screws in the rack.

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

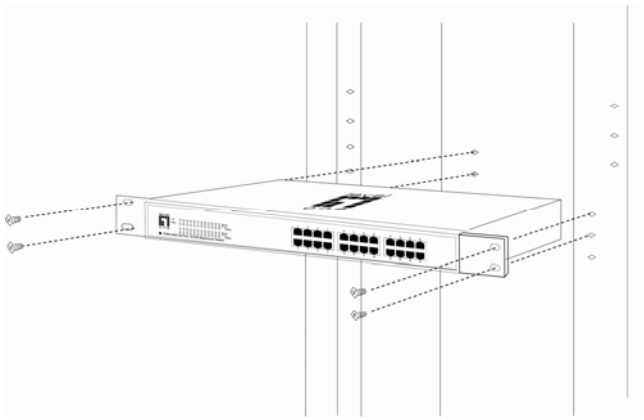


Figure 2-2 Fasten the Switch in the rack

2.3 Power on

The FSW-1650/FSW-2450 16/24-port 10/100 Rackmount switch is powered by an AC Power Supply. Connect the Switch and power outlet by power cord. Powering on the Switch, it will be automatically initialized and the LED indicators should respond as follows:

1) All of the LED indicators will flash momentarily for one second, which represent a resetting of the system.

2) The Power LED indicator will light up.

Chapter 3 Identifying External Components

This Chapter describes the front panel, rear panel and LED indicators of the Switch.

3.1 Front Panel

The front panel of FSW-2450 consists of switch model, switch LED indicators, and 24 10/100Mbps RJ-45 ports.

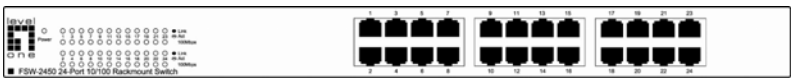


Figure 3-1 FSW-2450 Switch Front Panel sketch

3.2 Rear Panel

The rear panel of FSW-2450 only features an electrical outlet, which is an AC electrical outlet. Connect the female of the power cord head here, and the male head to the AC power.

Figure 3-2 FSW-2450 Switch Rear Panel sketch

LED indicators

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

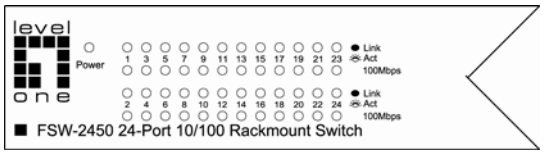


Figure 3-3 FSW-2450 Switch LEDs sketch

- **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.
- **LINK/ACT LED**: The LED indicates Link/Active status. The corresponding LED indicator will light solid green when connected to a network device. It flashes green when data is being transmitted or received on the working connection.
- **100Mbps**: The corresponding gigabit port LED indicator will light solid green when it's working on 100Mbps speed, not lit when working on 10Mbps speed.

Appendix A: Specifications

General	
Standards	IEEE802.3 10Base-T IEEE802.3u 100Base-TX
Topology	Star
Protocol	CSMA/CD
Data Transfer Rate	Ethernet: 10Mbps (Half Duplex), 20Mbps (FullDuplex)
	Fast Ethernet: 100Mbps (Half Duplex), 200Mbps (Full Duplex)
Number of Ports	16/24 10/100Mbps Auto-Negotiation RJ-45 ports
Safety & Emissions	FCC, CE

Environmental and Physical	
Operating Temperature	0°C ~40°C
Storage Temperature	-40°C ~70°C
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).