

## FCC Certifications



This Equipment 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 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.

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.

## CE Mark Warning



This equipment complies with the requirements relating to electromagnetic compatibility, EN 55022 class A for ITE, the essential protection requirement of Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Company has an on-going policy of upgrading its products and it may be possible that information in this document is not up-to-date. Please check with your local distributors for the latest information. No part of this document can be copied or reproduced in any form without written consent from the company.

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## Table of Contents

<b>Unpacking Information .....</b>	<b>1</b>
<b>Introduction to 100/1000Mbps Ethernet Switch .....</b>	<b>2</b>
General Description .....	2
Key Features.....	3
The Front Panel.....	4
LEDs Definition .....	4
The Rear Panel .....	6
Power Receptacle.....	6
<b>Installation of 100/1000Mbps Ethernet Switch.....</b>	<b>7</b>
Desktop Installation .....	7
Station connection .....	8
Switch connection .....	8
Rack-mount Installation.....	8
Backbone Network Application.....	9
Jumbo frame.....	9
<b>Product Specifications .....</b>	<b>10</b>

## **Unpacking Information**

Thank you for purchasing the 100/1000Mbps Ethernet Switch. Before you start, please check all the contents of this package.

The product package should include the following:



- 1. One Gigabit Ethernet Switch**
- 2. One power cord**
- 3. Rubber foot and screws**
- 4. Rack-mount brackets (for 19" model)**
- 5. User's Manual**

## **Introduction to 100/1000Mbps Ethernet Switch**

### ***General Description***

The device is a 100/1000Mbps Ethernet Switch.

Compare to the traditional 10/100Mbps Ethernet, the switch delivers a dedicated Gigabit connection to every attached client with no congestion issue. The gigabit ports also provide the fat pipe to the server or backbone connectivity for boosting the total system performance. Moreover, the NWay auto-negotiation operation automatically negotiates with the connected partners on the network speed and duplex mode; that provides an easy way to integrate 10/100/1000Mbps networks with no pain. It is ideal for micro-segmenting large networks into smaller, connected subnets for improved performance, enabling the bandwidth demanding multimedia and imaging applications.

Store-and-forward switching mode promises the low latency plus eliminates all the network errors, including runt and CRC error packets. To work under full-duplex mode, transmission and reception of the frames can occur simultaneously without causing collisions as well as double the network bandwidth.

The switch is plug-n-play without any software to configure and also fully compliant with all kinds of network protocols. Moreover, the rich diagnostic LEDs on the front-panel provide the operating status of individual port and whole system.

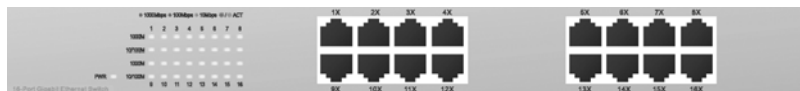
## *Key Features*

- Complies with 10BASE-T specifications of the IEEE802.3 standard
- Complies with 100BASE-TX specifications of the IEEE802.3u standard
- Complies with 1000BASE-T specifications of the IEEE802.3ab standard
- 16/24 \* 10/100/1000Mbps RJ-45 Nway ports
- Supports NWay protocol for speed (10/100/1000Mbps) and duplex mode (Half/Full) auto-detection
- Supports MDI/MDI-X auto crossover
- Supports full and half duplex operation on all ports
- Supports back-pressure (half duplex) and flow control (IEEE 802.3x)
- Wire-speed packet filtering and forwarding rate
- Store-and-forward architecture filters fragment & CRC error packets
- Supports 4K(16-port)/8K(24-port) MAC address entries in whole system
- 272K(16-port)/400K(24-port) Bytes buffer memory
- Support up to 9K bytes jumbo Frames (24-port only)
- Supports extensive LED indicators for network diagnostics
- 13"/19" rack mountable
- Internal power adapter
- FCC Class A, CE

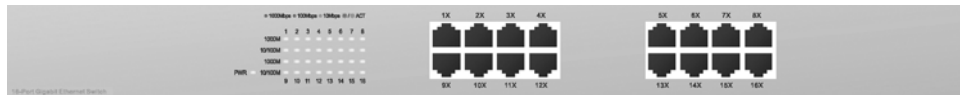
## *The Front Panel*

The front panel of the switch is shown as below

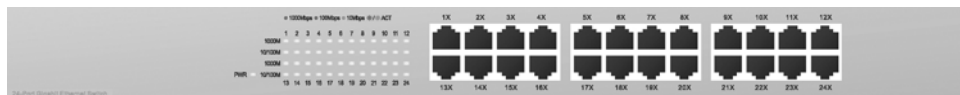
Please refer to the following table for LED definition



13-inch Model (16-port)



19-inch Model (16-port)



19-inch Model (24-port)

## LEDs Definition

The rich diagnostic LEDs on the front panel can provide the operating status of individual port and whole system.

### **Power LED**

This indicator lights green when the switch is receiving power; otherwise, it is off.

<b>Power</b>	Steady Green	Power is on
	Off	Power is off

***Port LEDs***

Port LEDs indicators locate on the front panel for showing the operating status of 10/100/1000Mbps Ethernet switching ports.

*Speed LED*

**10Mbps:** The 10/100M LEDs will show steady amber. The LEDs will blink amber while data receiving or transmitting.

**100Mbps:** The 10/100M LEDs will show steady green. The LEDs will blink green while data receiving or transmitting.

**1000Mbps:** The 1000M LEDs will show steady green. The LEDs will blink green while data receiving or transmitting.

<i>10/100M</i>	Steady /Blinking Amber	Connected as 10Mbps/ Active
	Steady/Blinking green	Connected as 100Mbps/ Active
<i>1000M</i>	Steady/Blinking green	Connected as 1000Mbps/ Active

## The Rear Panel

The rear panel of the switch is shown as below



13-inch Model (16-port)



19-inch Model (16-port)



19-inch Model (24-port)

## Power Receptacle

For compatibility with electric service in most areas of the world, the switch's power supply automatically adjusts to line power in the range (100~240VAC, 50/60Hz).

Plug the female end of the power cord firmly into the receptacle on the rear panel of the switch. Plug the other end of the power cord into an electric service outlet then the power will be ready.

## **Installation of 100/1000Mbps Ethernet Switch**

This switch can be placed directly on your desktop, or mounted in a rack. After completing the device installation, and you can immediately use the switch simply by attaching the cables and turning the power on.

### ***Desktop Installation***

For desktop installation, the switch needs to put on a clean, flat desk or table close to a power outlet. Plug in all network cables and the power cord, then the system is ready.

Before installing the switch, you must ensure:

1. It is accessible and cables can be connected easily
2. Cabling is away from:
  - \*Sources of electrical noise such as radios, transmitters and broadband amplifiers
  - \*Power lines and fluorescent lighting fixtures.
3. Keep water or moisture off
4. Airflow around the unit and through the vents in the side of the case is great for heat radiation (company recommends that you provide a minimum of 25 mm clearance)

To prolong the operational life of your units:

1. Never stack unit more than eight sets high if freestanding
2. Do not place objects on top of any unit or stack
3. Do not obstruct any vents at the sides of the case

### **Station connection**

Connect each station to the switch by twisted-pair cable. Plug one RJ-45 connector into a RJ-45 port of the switch, and plug the other RJ-45 connector into the station's network adapter. Power on the switch and then system is ready.

### **Switch connection**

In making a switch interconnection, you could use any port to connect another switch with straight or crossover cable. As all the ports support auto MDI / MDI-X function, using a straight cable to make a switch-to-switch connection is allowed.

For cable selection, refer to the following table :

Media	Speed	Wiring
10/100/1000Mbps copper	10Mbps	Category 3,4,5 UTP/STP
	100Mbps	Category 5 UTP/STP
	1000Mbps	Category 5,5e UTP/STP

### ***Rack-mount Installation***

The 19" model may stand alone, or may be mounted in a standard 19-inch equipment rack. Rack mounting produces an orderly installation when you have a number of related network devices. The switch is supplied with rack mounting brackets and screws. These are used for rack mounting the unit.

Rack Mounting the Switch in the 19-inch rack:

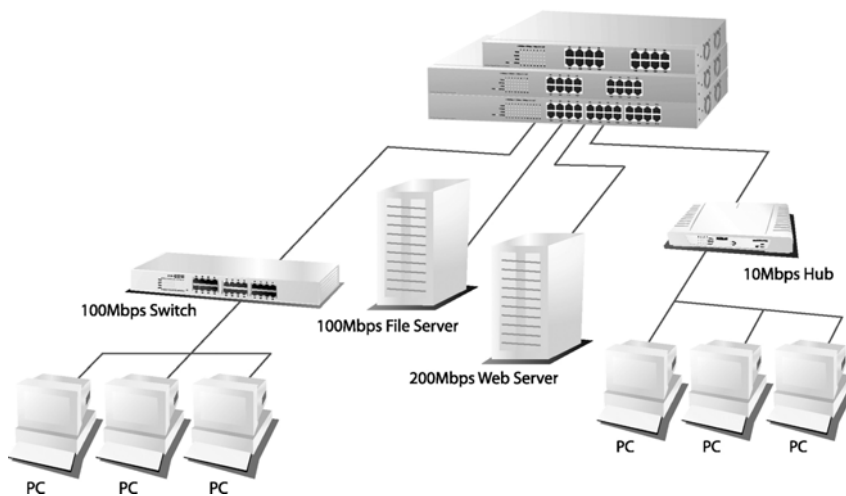
1. Disconnect all cables from the switch before continuing.
2. Place the unit the right way up on a hard, flat surface with the front facing toward you.
3. Locate a mounting bracket over the mounting holes on one side of the unit.
4. Insert the screws and fully tighten with a suitable screwdriver.
5. Repeat the two previous steps for the other side of the unit.

6. Insert the unit into the 19" rack and secure with suitable screws (not provided).
7. Reconnect all cables.

### ***Backbone Network Application***

This page provides a sample of network topology as a high-bandwidth backbone. For upgrading the 100Mbps network, it's the ideal choice.

You can connect the switch with existing switches, hubs, and any PCs or servers with 1000Mbps NIC.



### **Jumbo frame (For 24-port Model)**

The 24-port model provides 9K jumbo frames, which means the frames size is larger than normal 1.5K. With the Jumbo frame function, you can get better network performance, because the switch can send more data at the same time with lower CPU usage.

## Product Specifications

	16Port	24Port
<b>Standard</b>	IEEE802.3 10BASE-T IEEE802.3u 100BASE-TX IEEE802.3x full-duplex operation IEEE802.3ab 1000BASE-T	
<b>Interface</b>	16 * 10/100/1000Mbps auto MDI/MDI-X RJ-45 switching ports	24 * 10/100/1000Mbps auto MDI/MDI-X RJ-45 switching ports
<b>Cable Connections</b>	RJ-45 (10BASE-T): Category 3,4,5 UTP/STP RJ-45 (100BASE-TX): Category 5 UTP/STP RJ-45 (1000BASE-T): Category 5,5e or enhanced UTP/STP	
<b>Network Data Rate</b>	10/100/1000Mbps Auto-negotiation	
<b>Transmission Mode</b>	10/100Mbps Full-duplex, Half-duplex 1000Mbps Full-duplex	
<b>LED indications</b>	System Power RJ-45 Port 10/100M; 1000M link/act	
<b>Memory</b>	4K MAC entries 272K Buffer Memory	8K MAC entries 400K Buffer Memory
<b>Jumbo frame</b>	N/A	9K bytes
<b>Emission</b>	FCC Class A, CE	
<b>Operating Temperature</b>	0° ~ 50°C (32° ~ 122°F)	
<b>Operating Humidity</b>	10% - 90%	
<b>Power Supply</b>	Internal power supply 5V 8A 100-240V/ 50-60Hz	Internal power supply 5V 10A 100-240V/ 50-60Hz