

# **User's Manual**

***5 / 8 / 16 / 24 Ports***

***10 / 100Mbps***

***N-Way Ethernet Switch***

***Wall mount/Desktop/Rackmount***

***BayLan®***

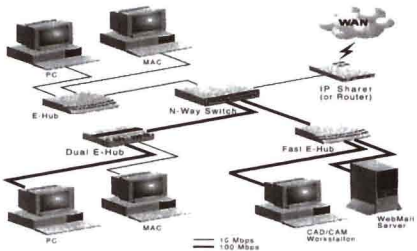
The Brightest Choice of Networking & Communication

***Fast Ethernet Switch (SOHO)  
MIGRATION TO HIGH SPEED NETWORKING***

## Introduction

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This Manual describes how to install and use the 5 or 8 or 16 or 24 port 10/100Mbps N-Way Switch. It features 10/100Mbps Auto-negotiation switch ports, provides the flexibility to fit into your working space and network environment. The switch can be served to connect with PCs, Servers, Hubs, Bridges, other Switches and Routers. It can also act as a bridge between 10Mbps and 100Mbps networks segments.



Thanks to the switching technology, it supports 10Mbps and 100Mbps dedicated bandwidths with each port. The device is built with plug & play, auto-negotiation on all ports, as well as half and full-duplex operations, store-and forward transmission scheme IEEE802.3x flow control and back pressure operation for easy installation and smooth transition from legacy 10Mbps to 100 Mbps Switched-Network. One MDI port to facilitate your network expansion.

To ensure maximum safety and good function, please read carefully and follow all the directions in this manual to obtain successful installation and operation. It is recommended that you should have a basic understanding of Local Area Networking (LAN) concepts such as bridging, IEEE802.3 10BASE-T Ethernet, and IEEE802.3u 100BASE-TX Fast Ethernet.

## Package Contents

The 5 or 8 or 16 or 24 port switch package includes:

- One 5 or 8 or 16 or 24 port 10/100Mbps N-Way Switch
- One Rackmount Kit (for 11/13" model only)
- One AC power cord (Internal PS)
- One DC switching power Adapter (External PS)
- One User's manual
- Four Rubber feet

## Mounting the Switch

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Before you start installing the Switch, be sure you find a suitable location at the center of the devices you want to link and near a power outlet.

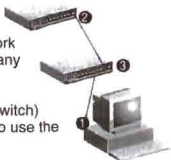
Place the switch on any convenient flat surface, such as a desktop or nearby shelf.

## Attach Computers to the Switch ports

The Switch has 10/100Mbps (10/100BASE-Tx) N-Way RJ-45 ports that can be connected to any workstation or server with a standard Ethernet or Fast Ethernet network interface.

1. Install a 10/100Mbps (10/100BASE-TX) network adapter card and driver in each computer you want to network.
2. Prepare twisted-pair cables with RJ-45 plugs. Use Category-5 cable for all connections. Make sure each cable length does not exceed 100 meters (328 feet).

3. Attach one end of the cable to the RJ-45 port of the computer's network adapter card and the other end to any available port on the Switch.  
When using Port 5 (5 port switch) or 8 (8 port switch) or 16 (16 port switch) or 24 (24 port switch) be sure not to use the MDI/Uplink port.



## Cascading to another Switch or Hub

You can cascade the Switch to another Switch or a Hub. (When attaching the Switch to a Router or other device, verify the port type implemented before connecting any cabling.)

1. Prepare straight-through Category 5 twisted-pair cable with RJ-45 plugs. Make sure the cable length does not exceed 100 meters (328 feet).
2. Connect one end of the cable to the Switch's MDI/Uplink port. When using the MDI/Uplink port be sure not to use Port 5 (5 port switch) or 8 (8 port switch) or 16 (16 port switch) or 24 (24 port switch).
3. Connect the other end of the cable to an MDI-X RJ-45 port on the other device (not an MDI-X/Uplink port).
  - Alternatively, you can connect from any MDI-X/Uplink port on the switch to an MDI/Uplink port on the other device.
  - You may also attach to MDI-X/Uplink ports at both ends if you use crossover cabling.

## Verify System Operation

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Check each connection by viewing the port status indicators shown in the following table. The Switch monitors the link status for each port. If the Link indicator fails to light when you connect a device to the Hub, follow the trouble-shooting advice detailed in the next section.

## Troubleshooting

### Diagnosing LED indicators

LED	State	Indication
Power	On (green)	Switch is powered
Speed (100M)	On (green) Off	Port has a valid network connection 100Mbps Port has a valid network connection 10Mbps
Link/Activity	On (green) Off Flashing (green)	Port has established a valid network connection Port has not established any network connection Traffic is traversing the port
FDX/Col	On (green) Off Flashing (green)	Port operates in full-duplex mode Port operates in half-duplex mode Port has detected Collision on the port

The operation of the switch can be easily monitored through panel indicators to assist the network manager in identifying problems. This section describes common problems you may encounter and possible solutions.

**Symptom:** Link indicator does not light up after making a connection.

**Cause :** Network interface (e.g., a network adapter card on the attached device), network cable, or Switch port is defective.

**Solution :** Verify that the Switch and attached device are powered. Be sure the cable is correctly plugged into both the switch and corresponding device. Verify that the proper cable type is used and its length does not exceed specified limits. Each twisted-pair cable should not exceed 100m (328 ft). Check the adapter on the attached device and cable connections for possible defects. Replace the defective adapter or cable if necessary.

**Symptom :** Power indicator does not light up (green) after power adapter attached.

**Cause :** Defective power outlet, power cord, or power adapter.

**Solution:** Check the power outlet by plugging in another device that is functioning properly. Check the power cord with another device. If these measures fail to resolve the problem, have the unit's power adapter replaced by a qualified distributor.

## **EMI Warning**

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### ***FCC Class as Certification***

Warning : This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A/B digital device pursuant to Subpart B of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures are needed to correct the interference.

### ***EN55022 Declaration of Conformance***

This is to certify that this device is shielded against the generation of radio interference in accordance with the application of Council Directive 89/336/EEC, Article 4a. Conformity is declared by the application of EN55022: 1987 Class A (CISPR 22:1985/BS 6527:1988).

### ***CE Mark Declaration of Conformance***

This is to certify that this product complies with ISO/IEC Guide 22 and EN45014. It conforms to the following specifications:

EMC : EN55022(1988)/CISPR-22(1985)	Class A/B
IEC 1000-4-2(1995)	4k V CD, 8kV AD
IEC 1000-4-3(1995)	3V/m
IEC 1000-4-4(1995)	1k V - (power line) 0.5kV - (signal line)
IEC 1000-4-6(1995)	3Vrms

This product complies with the requirements of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC. Do not plug a phone jack connector into any of the RJ-45 ports. This may damage the switch.

## Product Specifications

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Access Method	CSMA/CD
Standards Conformance	IEEE 802.3u 100BASE-TX IEEE 802.3 10BASE-T
Media Supported	100 Ohm Cat. 5 twisted-pair
Number of Ports	5 or 8 or 16 or 24 RJ-45 ports, 1 MDI/Uplink port
Switching Method	Store-And-Forward
Transmission Mode	Auto-negotiation (10/100Mbps. full/half-duplex)
Flow Control	Full duplex - IEEE 802.3x Half duplex - Back pressure
Filtering/Forwarding Rate	Line speed
Power Requirement	Universal power input, 100~240VAC, 50/60Hz (Internal) 9V DC 1A power adapter (External) 5V DC 2.4A Switching power adapter (External)
Operating Temperature	0 to 40 degree C
Humidity	10% to 90% non-condensing
Status LEDs	Per port LED: speed, link/activity, and full/half duplex operation Per Unit LED: Power
Dimensions / Weight	100x82x27mm 0.30kg (5port Wallmount/Ext PS) 146x85x27mm 0.40kg (8port Wallmount/Ext PS) 251x37x118mm 0.90kg (8port 9" Desktop/Int PS) 273x43x166mm 1.70kg (8/16port 11/13" Desktop+Rackmount/Int PS) 440x43x172mm 2.40kg (16/24port 19"Rackmount/Int PS)
Certification	
Emissions	FCC Class A/B, CE Mark, CISPR22 Class A/B
Immunity	IEC 1000-4-2/3/4/6

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