5port 10/100Mbps Auto-MDI/MDIX

8port 10/100Mbps Auto-MDI/MDIX

Ethernet Switch

Quick Start Guide

41NE-1705M0-201

Package Contents

Your package includes the following:

- 5/8-port Nway Switch
- DC Adapter
- Accessory
- Quick Start Guide

Specification:

Standard	IEEE802.3, IEEE802.3u
Flow Control	Half duplex: back pressure Full duplex: IEEE 802.3x optional
Media	100Base-TX, UTP/ STP category 5 cable 10Base-T, UTP/ STP category 3 or 5 cable
Interfaces	5/8 RJ-45 station ports
Power Supply	DC adapter
Temperature	0℃ to 50℃(Operating) -20℃ to 70℃ (Storage)
Humidity	10% to 90% RH (Operating) 5% to 90% RH (Storage)
Certifications	FCC Class B, and CE Mark

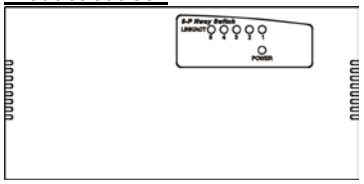
Hardware Description

LED Indicators

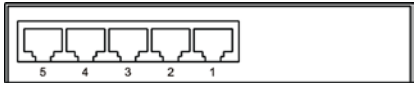
This switch provides LED indicators for monitoring various network conditions. A glance at the cover allows you to instantly monitor the status of each station port plus the overall condition of the switch.

LED Function	Color	Description
PWR	Green	Lit: Power on
LINK/ ACT	Green	Steadily Lit: Connection between hub and adapter is good. Blinking Lit: Indicates data in or out the port

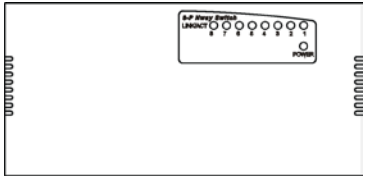
Product outlook



■5port 10/100Mbps ethernet switch: Upper view



■5port 10/100Mbps ethernet switch: Rear view



■8port 10/100Mbps ethernet switch: Upper view

■8port 10/100Mbps ethernet switch: Rear view

Hardware Installation

- Place the 5/8-port Ethernet Switch on a smooth surface
- Connect the output cord of DC Adapter to the DC-jack of 5/8-port Ethernet Switch
- Connect hub or PC to one port of the 5/8-port Ethernet Switch using Category 5 UTP/ STP cabling.
- Connect another hub or PC to the other port of 5/8-port Ethernet Switch by following the same process as described in Step 3.

Notice:

Cable distance for 5/8-port Ethernet Switch

The cable distance between 5/8-port Ethernet Switch and hub/ PC should not exceed 100 meter.

Make sure the wiring is correct

It can be used Category 3/4/5 cable in 10Mbps operation. To reliably operate your network at 100Mbps, you must use an Unshielded Twisted-Pair (UTP) Category 5 cable, or better Data Grade cabling. While a Category 3 or 4 able may initially seem to work, it will soon cause data loss.

Switch Operation

Address Table

The 5/8-port Ethernet Switch is implemented with an address table. This address table composed of many entries. Each entry is used to store the address information of some node in network, including MAC address, port no. etc. This information comes from the learning process of Ethernet Switch.

Learning

When one packet comes from some port of the Ethernet Switch, it will also check the destination address besides the source address learning. The Ethernet Switch will lookup the address-table for the destination address. If not found, this packet will be forwarded to all the other ports except the port, which this packet comes in. And these ports will transmit this packet to the network it connected. If found, and the destination address is located at different port form this packet comes in, the Ethernet Switch will forward this packet to the port where this destination address is located according to the information from address table. But, if the destination address is located at the same port with this packet comes in, when this packet will be filtered. Thereby increasing the network throughput and availability.

Store-and-Forward

Store-and-forward is one type of packet-forwarding techniques. A Store-and-forward Ethernet Switch stores the incoming frame in an internal buffer, do the complete error checking before transmission. Therefore, no error packets occurrence, it is the best choice when a network needs efficiency and stability.

The 5/8-port Ethernet Switch scans the destination address from the packet-header, searches the routing table provided for the incoming port and forwards the packet, only if required. The fast forwarding makes the switch attractive for connecting servers directly to the network, thereby increasing throughput and availability. However, the switch is most commonly used to segment existing hubs, which nearly always improves overall performance. An Ethernet Switch can be easily configured in any Ethernet network environment to significantly boost bandwidth using conventional cabling and adapters.

Due to the learning function of the Ethernet switch, the source address and corresponding port number of each incoming and outgoing packet are stored in a routing table. This information is subsequently used to filter packets whose destination address is on the same segment as the source address. This confines network traffic to its respective domain, reducing the overall load on the network.

The 5/8-port Ethernet Switch performs “Store-and-forward” therefore, no error packet occurred. More reliably, it reduces the re-transmission rate. No packet loss will occur.

Auto-Negotiation

The STP ports on the 5/8-port switch have built-in “Auto-negotiation”. This technology automatically sets the best possible bandwidth when a connection is established with another network device (usually at Power On or Reset). This is done by detect the modes and speeds at the second of both device is connected and capable. Both 10Base-T and 100Base-TX devices can connect with the port in either Half or Full-duplex mode.

If attached device is:	The port will set to:
10Mbps, no auto-negotiation	10Mbps
10Mbps, auto-negotiation	20Mbps (10Base, Full-duplex)
100Mbps, no auto-negotiation	100Mbps
100Mbps, auto-negotiation	200Mbps (100Base, Full-duplex)

Troubleshooting

This Chapter contains information to help you solve problems. If the 5/8-port Ethernet Switch is not functioning properly, make sure the 5/8-port Ethernet Switch was set up according to instructions in this manual.

The Link LED is not lit

Solution:

a. Make sure the switch configuration is consistent with the connecting device.
b. Check the cable connections.

Performance is bad

Check the full-duplex status of the Ethernet Switch. If the Ethernet Switch is set to full duplex and the partner is set to half-duplex, then the performance will be poor.

Some station cannot talk to other station located on the other port
Solution:
The address table may contain older information than of the address table of the node. Please power down to refresh the address information.

Hub’s RJ-45 Pin Assignment

Pin	Station Ports 1-8	Uplink Port
1	Input Receive Data+	Output Transmit Data+
2	Input Receive Data-	Output Transmit Data-
3	Output Transmit Data+	Input Receive Data+
6	Output Transmit Data-	Input Receive Data-
4,5,7,8	Not used	Not used