TE-500*plus*
TE-800*plus*
TE-910*plus*

Palm Size
10Base-T Ethernet Hub

User's Guide

FCC Warning

This equipment has been tested and found to comply with the regulations 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 this user's guide, 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.

CE Mark Warning

This is a Class A product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

注意
この装置は、情報処理装置等電波障害自主規制協議会(VCCI)の基準に基づく第一種情報技術装置です。この装置を家庭環境で使用すると電波妨害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

Table of Contents

Introduction

Thank you for choosing the PALM SIZE 10BASE-T Ethernet Hub. The hub was designed and manufactured to give you years of trouble-free and reliable service.

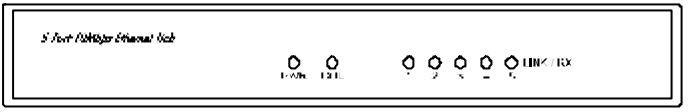
The hub is designed for plug-and-play installation and easy management. The hub provides an Uplink connection (shared with Port 1) for your network expansion via a RJ-45 MDI-II connector, making it easy to link two or more hubs together.

The hub features LINK/RX LEDs to show the network connection and packet receiving status of each twisted pair port. PWR (power) and COL (collision) indicators show the operational status of the hub.

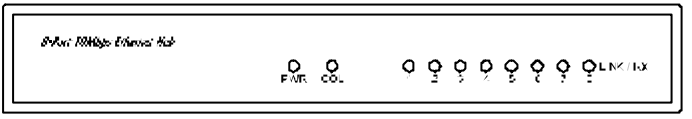
Product Features

- ✍✍ Compliance with IEEE 802.3 10Base-T and 10Base-2 (TE-910*plus* only) standard.
- ✍✍ Automatic partitioning function of each port to isolate network failure.
- ✍✍ RJ45 ports support Category 3 or better twisted-pair cable.
- ✍✍ LED indicators for each twisted pair port for link and receive status.
- ✍✍ Uplink jack for easy linking of two hubs to further expand the network.
- ✍✍ Compact in size.

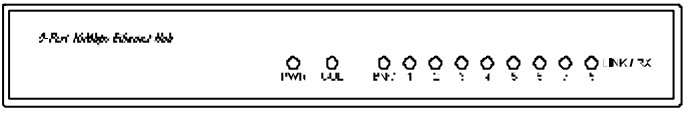
The Front Panel of The Hub



5-port Ethernet Hub

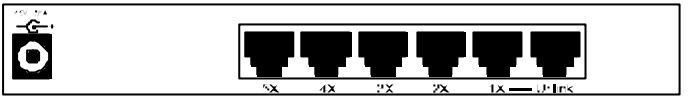


8-port Ethernet Hub

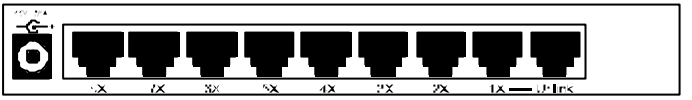


9-port Ethernet Hub with BNC port

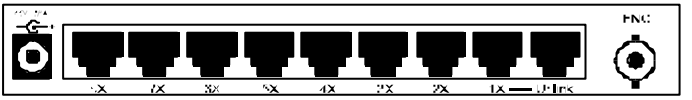
The Rear Panel of The Hub



5-port Ethernet Hub



8-port Ethernet Hub



9-port Ethernet Hub with BNC port

LED Indicators

Power (PWR):	This indicator lights green when the hub is receiving power.
Collision (COL):	This indicator indicates data collisions on the hub. Whenever a collision is detected, the respective COL indicator will briefly blink amber. *Note: Occasional collision is acceptable. If the collision LED is always on, maybe there is a problem with the network or the hub, or the network traffic is high.*
Link/Receive: (LINK/RX)	This indicator lights green when a network connection is established. This indicator blinks green when the hub is receiving data packets.
BNC: (TE-910*plus only)*	This indicator blinks green when BNC port connection has network activities (network connection is established on the BNC port).

Rear Panel Connectors

RJ45 MDI-X Twisted-pair Jacks

Use these jacks to connect Ethernet devices (server/workstation/print server) to the hub. These are MDI-X (Medium Dependent Interface, Cross-Wired) jacks, which means you can use ordinary stright-through twisted-pair cables to connect workstations and servers to the hub. If you need to connect another device with an MDI-X jack, such as another

hub or an Ethernet switch, you should use a crossver cable, or make the connection using the Uplink jack.

Uplink Jack

The Uplink jack is an MDI-II jack, which means you can connect the hub to an Ethernet device's (i.e. Hub or Switch) MDI-X port using straight-through cable.

Port1 and the Uplink port is really the same port, except their pinouts are different. **Do not use both Port-1 (1X) and the Uplink port at the same time.**

When uplinking hubs together, please do not exceed the "4-repeater (hub) count, 3 segments, and 2 populated segments" Ethernet connection rule. Basically, you can only uplink 4 hubs together using the UTP cable. The maximum CAT3, 4, or 5 twisted pair cable distance between two Ethernet devices is 100 meters. If you have question about this rule, please contact our support department at techsupport@trendware.com.

BNC Port (TE910*plus* only)

To connect the 10Base-2 network, attach the thin coax cable's BNC "T Connector" to the BNC port. Terminate the open end of the "T Connector" with a 50 Ohms Terminator. The coax cable should be marked RG58U or RG58 A/U, the maximum cable length between the two terminators is 185 meters, and you can connect up to 30 nodes on this cable.

Power Jack

For connecting the External power adapter.

Installation

Installing the Hub

The site where you install the hub may greatly affect its performance. When installing, consider the following pointers:

Install the hub in a fairly cool and dry place, for the acceptable temperature and humidity operating ranges.

- Install the hub in a site free from strong electromagnetic field generators (i.e. motors), vibration, dust, and direct exposure to sunlight.
- Leave at least 10 cm of space at the front and rear of the hub for ventilation. Note not to block the ventilation holes on the top of the hub.
- Install the hub on a sturdy, level surface that can support its weight.
- You can stack two or more hubs together by inserting the two small round legs at the bottom of the hub to the two holes on top of another hub.

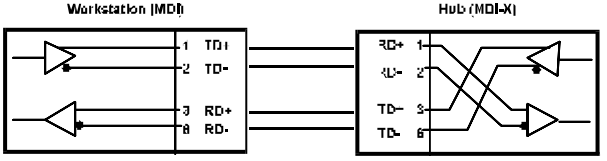
Connecting the Power Adapter

Power is supplied to the Ethernet Hub through an AC power adapter. Connect the adapter to the power outlet and then connect the plug to the hub's power jack.

Cables and Connectors

Twisted-Pair Cable: Category 3 or better unshielded twisted-pair or EIA/TIA-568 compliant, 100-ohm shielded twisted-pair data cable with 0.4 to 0.6 mm (22 to 26 AWG) wires in two or four twisted pairs (only two pairs, four wires, are used for 10BASE-T).
Maximum segment length: 100 meters.
Connectors: RJ-45.

Straight Twisted-Pair Cable Pinouts		
Contact	**MDI-X Signal**	**MDI-II Signal**
1	RD+ (receive)	TD+ (transmit)
2	RD- (receive)	TD- (transmit)
3	TD+ (transmit)	RD+ (receive)
4	Not used	Not used
5	Not used	Not used
6	TD- (transmit)	RD- (receive)
7	Not used	Not used
8	Not used	Not used



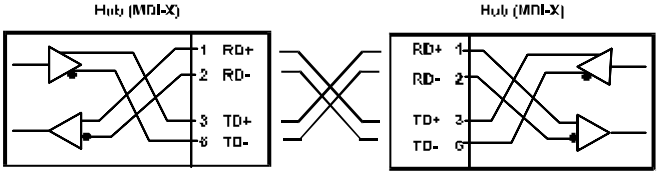
BNC Cable: Thin Coax RG-58U or RG-58A/U 50 Ohms cable. 185 meters maximum segment length (requires 50 Ohms T Connector for each connection and Terminator at the first and last nodes).

Twisted-pair Crossover Cables

When making an uplink connection between two hubs (or between a hub and a switch, a bridge, or other Ethernet device) using MDI-**X** type jacks at both ends, you must use a crossover cable. In a crossover cable, two pairs of wires are switched at one end. Carry out the following steps to create a crossover twisted-pair cable:

1. Leave one end of the cable as-is, with the wiring on the RJ-45 connector unchanged. The wiring needs to be modified at one end only.

2. At the other end of the cable, connect wire 1 from the unchanged connector to wire position 2, connect wire 3 to wire position 6, connect wires 3 to wire position 1 and connect wire 1 to wire position 2. Refer to the following diagram:



If you have question regarding making the cross-over cable, please visit our web site at http://trendware.com/support/cable/cable.htm or contact us at techsupport@trendware.com.

Specifications

General

Standards: IEEE 802.3 10BASE-T Ethernet repeater, and ANSI X3T9.5 twisted-pair transceiver

Topology: Star

Protocol: CSMA/CD

Network Data Transfer Rate: 10Mbps (Ethernet)

Number of Ports: 5 x STP / 8 x STP / 8 x STP + 1 x BNC

Network Media: Category 3 or better UTP cable, maximum length 100 meters.

Thin coax RG-58U or RG-58 A/U cable maximum 185 meters.

Environmental and Physical

Power Adapter: Output 7.5VDC/1A

Dimensions: 176mm ? 81.5mm ? 31.3mm

(TE-910*plus*): 176mm ? 91.5mm ? 31.3mm

Operating Temperature: 0 to 40?C

Storage Temperature: –20 to 70?C

Humidity: 5% to 90% (non-condensing)

Emissions: FCC Class A, CE Mark Class A, VCCI.