

# **Ethernet 10Base-T Hub**

**EH-500**

**EH-800A**

**EH-1600**

**Rev. 3.0**

## Trademarks

Copyright © PLANET Technology Corp. 1998.

PLANET is a registered trademark of PLANET Technology Corp. The information in this manual is subject to change without notice. All other trademarks belong to their respective owners.

Contents subject to revision without prior notice.

## CE Marking 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.

## FCC Warning

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.

## Revision

This user's manual is for PLANET SOHO hub model --

**EH-500 , EH-800A , EH-1600**

Rev: 4.0 (Jun, 1998)

Part No: EMH-5/8/16V4

# TABLE OF CONTENTS

<b>CHAPTER 1 INTRODUCTION</b> .....	<b>5</b>
PRODUCT INTRODUCTION .....	5
PRODUCT FEATURES .....	5
UNPACKING THE HUB .....	6
<b>CHAPTER 2 GENERAL DESCRIPTION</b> .....	<b>7</b>
COVER PANEL OF EH-500/EH-800A/EH-1600 .....	7
LED INDICATOR .....	8
FRONT & REAR PANEL .....	8
<i>Front Panel</i> .....	8
<i>Rear Panel</i> .....	9
<b>CHAPTER 3 INSTALLATION</b> .....	<b>11</b>
GETTING READY TO INSTALL THE HUB .....	11
<i>Power Requirement</i> .....	11
PREPARE TO INSTALL .....	11
<i>STP port and STP/UTP Cable</i> .....	11
<i>BNC port and Coaxial Thin Cable</i> .....	12
<i>AUI port</i> .....	12
INSTALLATION, STEP BY STEP .....	13
<b>CHAPTER 4 TROUBLESHOOTING</b> .....	<b>15</b>

**CHAPTER 5..... 17**

**PRODUCT SPECIFICATION ..... 17**

# CHAPTER 1 INTRODUCTION

## Product Introduction

---

EH-500, EH-800A and EH-1600 is a standard Ethernet concentrator that re-times and re-transmits the signal to each network station on the LAN. It simplifies the implementation of twisted-pair Ethernet compatible networks following the IEEE 802.3 10Base-2/5/T CSMA/CD standard. Each Hub has 5/8/16 modular RJ-45 STP ports and one BNC port; EH-1600 also have an AUI port for attaching network devices (file server, bridge, and workstations) or additional concentrators.

## Product Features

---

EH-500/EH-800A/EH-1600 provides all the functions necessary to support the requirements of Ethernet networks. These function includes the following features:

- ◆ 5/8/16-port STP RJ-45 connector and one port BNC, one port AUI(EH-1600).
- ◆ Manchester decoder for clock and data recovery
- ◆ Automatic preamble regeneration to compensate for any bit loss
- ◆ Lockup and auto-partition for jabber to isolate network failures
- ◆ Auto-Polarity correction
- ◆ LEDs for Power, Collision, and Link, TX/RX per port
- ◆ Desktop or wall-mountable(EH-500/EH-800A).

## **Unpacking the Hub**

---

Carefully unpack the package and check its contents against the checklist given below.

### **Checklist of EH-500/EH-800A/EH-1600 10Base-2/5/T Hub**

- 5/8/16-port 10BASE-2/5/T Ethernet Hub
- Power Adapter
- User's Manual
- T-connector

Please inform your dealer immediately for any wrong, missing, or damaged part if possible, retain the carton including the original packing materials, and use them against to repack the product in case there is a need to return it to us for repair.

# CHAPTER 2 GENERAL DESCRIPTION

## Cover Panel of EH-500/EH-800A/EH-1600

On the cover panel, there are Power, Collision LED. And one LEDs for each RJ-45 STP & BNC, AUI port (EH-1600);. These LED indicators help in diagnosing line troubles and indicate the status of data transmission.

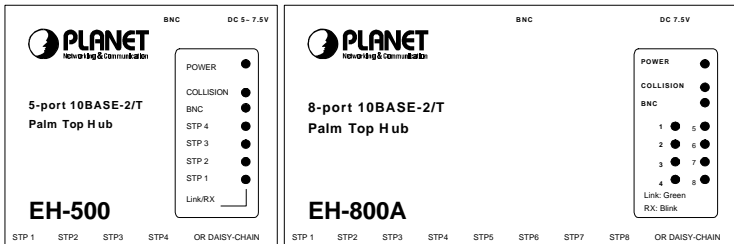


Figure 2-1 Cover Panel of EH-500 / EH-800A



Figure 2-2 Cover Panel of EH-1600

## LED indicator

---

LEDs	Status	Description
Power	Steady Green	Indicates hub is power on
Collision	Blinking Red	Blinks when network collision are detected
Link/RX	Steady Orange Blinking Orange	Indicates Link integrity pulses are being received Blinks when data is received
BNC	Blinking Orange	Blinks when data is receiving / transmitting
AUI	Blinking Orange (EH-1600)	Blinks when data is receiving / transmitting

## Front & Rear Panel

---

### Front Panel

As shown in Figure 2-3.

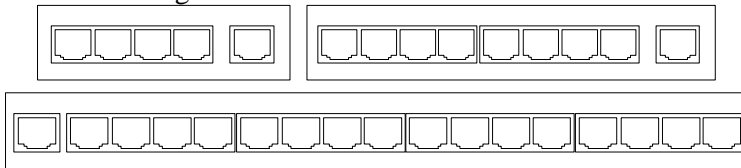


Figure 2-3 Front Panel of EH-500/ EH-800A/EH-1600

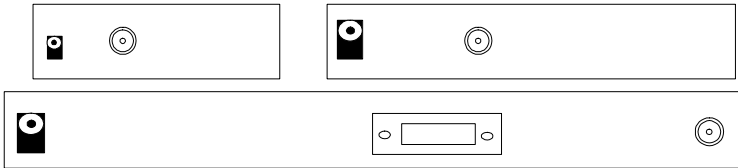
5/8/16-port RJ-45/STP connector and one daisy chain port.

**Note:** Use of both “DAISY-CHAIN” port and STP1 of EH-1600, STP8 of EH-800A or STP4 of EH-500 will make these two ports malfunction.



## Rear Panel

As shown in Figure 2-4.



Fi

Figure 2-4 Rear Panel of EH-500/ EH-800A/ EH-1600

There are one DC power connector, one BNC connector for the hub, and one AUJ connector for EH-1600.

**Note:** Please check the AC adapter bundled with this hub. The DC output should be 5V~7.5VDC (EH-500) 7.5VDC (EH-800A) or 12VDC (EH-1600). And its polarity should be  $\ominus$   $\bullet$   $\oplus$ .



# CHAPTER 3 INSTALLATION

## Getting Ready to Install the hub

---

### Power Requirement

EH-500/EH-800A/EH-1600 designed with 5V/7.5V/12V DC power requirement. Make sure you are using the AC adapter accompany with this package which labeled with correct DC output. Use of incorrect voltage and incorrect polarity power connector may cause malfunction of this hub.

### Prepare to Install

---

This hub support 5/8/16-port 10Base-T, one port BNC, and one port AUI connection. Extra “**DAISY CHAIN**” port for hub cascade. Each port is printed with its port number on the location.

### STP port and STP/UTP Cable

Connect to the STP port with non cross-over cable to any LAN cards. If connect to a hub through port 1 to port 16, a cross-over cable is required. Users can use a non cross-over cable to cascade to another hub through “**DAISY CHAIN**” port. Users should use **ONLY ONE** of these two port (port 1 of EH-1600, port4 of EH-500, port8 of EH-800A and “**DAISY CHAIN**” port) at the same time. Plug two twisted-pair cable to these two ports will cause this hub malfunction.

The STP/UTP cable should be 22, 24, or 26 AWG with a minimum of one twist per foot. 24 AWG is recommended. The

cable should have a nominal impedance of 100 ohms at 10 MHz, a maximum segment loss of 11.5 dB between 5 and 10 MHz, and a maximum end-to-end propagation delay of 1 microsecond. You can use a STP/UTP cable that complies with AT&T's Premises Distribution System (PDS) wiring standard.

For hub to hub STP/UTP cascading, the limitation in cascading is no more than 5 hubs.

## **BNC port and Coaxial Thin Cable**

The BNC, thin coaxial port can be connected to either a computer or another hub. In order to use the thin coaxial port, you will need one thin coaxial cable, two 50-ohm terminators and T-connectors.

Thin coaxial cable is a 50-ohm coaxial cable with a copper or tinned center conductor, solid inner dielectric (insulating material), and braided wire (not foil) shielding. It can be an RG-58, RG-58/A, RG-58/U, or RG-58A/U cable.

## **AUI port**

The AUI port of EH-1600, beside the feature of BNC port, can be connected to external transceivers, like AUI to BNC, AUI to TP, or AUI to fiber-optic transceiver, and then connected to a computer, a hub or another repeater.

## **Installation, step by step**

---

Follow the instructions below to set up the hub.

- Step 1.** Select a suitable place to put the hub or to install. Make sure there is an AC outlet nearby the AC adapter and the hub.
- Step 2.** Power off all of the computers, hubs, or other devices that will be connected to the hub.
- Step 3.** Connect the AC adapter to the AC outlet on the wall.
- Step 4.** Connect the DC power cord from AC adapter to the hub. The power LED should light up.
- Step 5.** Connect all the cables and connectors.



## CHAPTER 4 TROUBLESHOOTING

**SYMPTOM:** The power LED is not lit.

**SOLUTION:**

If the power LED is not lit after the power cord is plugged into the concentrator and the power outlet, there may be a power fault.

1. First verify if there is power at the power outlet by plugging in a device which is known to operate.
2. If a volt meter is available, measure the DC voltage from the AC adapter.
3. If a volt meter is not available and the second power adapter does not fix the problem, contact the authorized dealer from whom you purchased your concentrator for assistance.

**SYMPTOM:** The Link LED is not lit.

**SOLUTION:**

The Link LED is not on after a workstation is connected to the STP port of the concentrator.

1. Verify if the workstation and the concentrator are powered up.
2. Verify if the network cable has been attached to the workstation.
3. Verify if the network cable from the Hub to workstation is straight-through and is not cross-over.
4. Verify if the wires to the phone jack pins are

connected correctly and the connections are not faulty.

**SYMPTOM:** When port auto-partitioned out.

**SOLUTION:**

1. Use another Ethernet adapter to verify if the original Ethernet adapter malfunctions.
2. Connect the twisted-pair cable to another concentrator to verify if the twisted-pair cable can work well.



## CHAPTER 5

### PRODUCT SPECIFICATION

		EH-500	EH-800A	EH-1600
<b>Standard Compliance</b>		IEEE 802.3, Ethernet 10Base-2/5/T		
<b>Media Supported</b>		Category-3/4/5 STP/UTP cable Thick Cable RG-58 coaxial cable		
<b>Port</b>	<b>STP</b>	4	8	16
	<b>Uplink</b>	1	1	1
	<b>BNC</b>	1	1	1
	<b>AUI</b>	None	None	1
<b>LEDs</b>	<b>Power</b>	1	1	1
	<b>Col</b>	1	1	1
	<b>Link/Rx</b>	5	9	18
<b>Power System</b>		5~7.5V DC	7.5V DC	12V
<b>Dimension(mm)</b>		92 x 81x 28	152 x 81x 28	279 x 149x 33
<b>Weight(N.W)</b>		0.27 kg	0.43 kg	0.95kg
<b>Temperature</b>		0~55 degree C (Operation) -10~70 degree C (Storage)		
<b>Humidity</b>		10%~80% (Operation) 5 %~ 90% (Storage)		
<b>Emission</b>		FCC Class A, CE		

