

**1000Base-T to 1000Base-SX/LX**

**TP to fiber**

**Gigabit Ethernet Media Converter**

## **Trademarks**

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## **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.

## **Revision**

User's manual for PLANET Gigabit Ethernet Converter

**Rev 1.0** (Feb. 2002)

**Part No: 2010-000006-001**

## **1. Overview**

Thank you for purchasing PLANET GT-70X family Gigabit Ethernet Fiber-optic Converter. This converter is used to convert one type media signal to other type equivalent that allows two type segments connect easily, efficiently and inexpensively. This converter can be used as a standalone unit or as a slide-in module to the 10"/19" media chassis (up to 15 units) for a multi-mode and single-mode Fiber combined networks at a central wiring closet. Please contact with your sales representative for more about the 10"/19" media chassis.

## **2. Model List**

Your Gigabit Ethernet Converter comes with one of the following models.

- ⇒ GT-702:1000Base-T to 1000Base-SX (SC)
- ⇒ GT-702S:1000Base-T to1000Base-LX (SC)
- ⇒ GT-705:1000Base-T to 1000Base-SX (LC)

In the following sections, the term "GT-70X" indicates the product family above, the term "MM" and "SM" represent Multi-Mode and Single Mode fiber-optic mode.

## **3. Checklist**

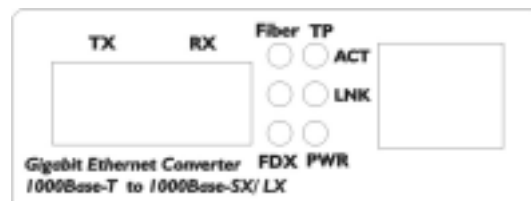
Your GT-70X carton should contain the following items:

- ⇒ The Gigabit Ethernet Converter
- ⇒ AC-DC Power Adapter (Output: 5VDC, 1 A max.)
- ⇒ This user's guide

If any item is missing or damaged, please consult the dealer from whom you purchased your Gigabit Ethernet Converter.

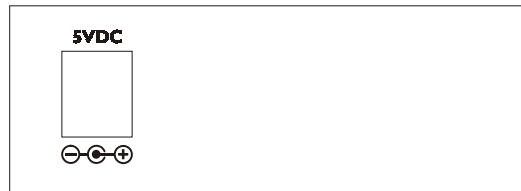
## 4. Product Outlook

### Right View (GT-70X)



One fiber-optic connectors on the left, One TP connectors on the right and three LED indicators.

### Rear View (GT-70X)



One DC jack for DC power input.

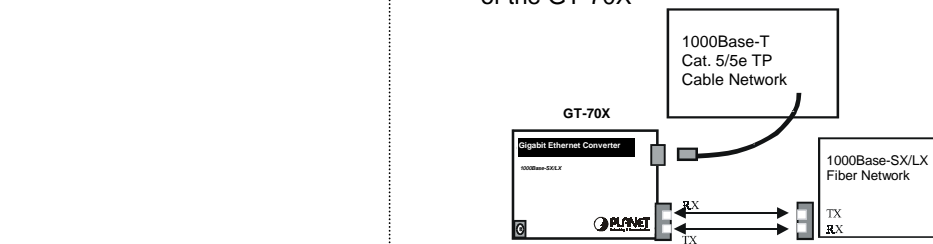
## 5. Installing the Converter

Please follow these steps to install the converter:

- Turn off the power of the device/station in a network to which the GT-70X will be attached
- Ensure that there is no activity in the network
- Attach fiber cable from the GT-70X to the fiber network. TX, RX must be paired at both ends
- Connect the 5VDC power adapter to the GT-70X and verify that the Power LED lights up.
- Turn on the power of the device/station, the PWR LEDs should light when all cables are attached

### Note:

- Please refers to section 8 for detailed wiring information of the GT-70X



- To prevent from optic acceptor malfunction, check the both wires / transmitter before power on the converter.

## 6. Duplex Mode Support

The GT-70X is one-channel media conversion between 1000Base-T and 1000Base-SX/LX.

1000Base-T port can work under Auto-negotiation and fixed 1000Mbps full duplex mode.

1000Base-SX/LX fiber port only allow to work under fixed 1000Mbps full duplex mode.

**Note:**

- It doesn't support Auto-negotiation and can not work with 1000Base-SX/LX interface that can not configure to fixed 1000Mbps full duplex.

## 7.LED indication

LED	Color	DESCRIPTION
Fiber / ACT	Green	Lit: when the fiber port run in fix 1000Mbps and packet is traveling.
TP/ ACT	Green	Lit: when the packet is traveling.
Fiber/ LNK	Green	Lit: when fiber connection is good.
TP/LNK	Green	Lit: when TP connection is good.
FDX	Green	Lit: when the TP port runs in 1000Mbps Full duplex
PWR	Green	Lit :when +5VDC power detected

## 8. Cable Connection Parameter

The wiring details are as below:

Cables:

Standard	Fiber Type	Cable Specification
1000Base-SX (850nm)	Multi-mode	50/125µm or 62.5/125µm
1000Base-LX (1300nm)	Multi-mode	50/125µm or 62.5/125µm
	Single-mode	9/125µm

Wiring Distances:

Standard	Fiber	Diameter (micron)	Modal Bandwidth (MHz * km)	Max. Distance (meters)
1000Base-SX	MM	62.5	100	220
		62.5	200	275
		50	400	500
		50	500	550
1000Base-LX	MM	62.5	5	550
		50	4	
		50	5	
	SM	9	N/A	5000*

**\*Note:** The Single-mode port (1000Base-LX port) of GT-702S is complied with LX 5 kilometers and provides additional margin allowing for a **10 kilometers** Gigabit Ethernet link on single mode fiber

## 9. GT-70X Technical Specifications

The GT-70X comes with the following standard features:

- **Standard** : IEEE802.3z, Gigabit Ethernet 1000Base-SX/LX, IEEE802.3 ab 1000Base-T
- **Connectors** :
  - ⇒ One Twisted pair 1000Base-T UTP
  - ⇒ GT-70X:one Fiber-optic, 850nm wavelength, MM
  - ⇒ GT-70XS:one Fiber-optic, 1300nm wavelength, SM/MM
- Connector-type different with models
- **Data Transfer Rate** : 1000Mbps
- **Duplex mode support** : Full duplex mode
- **LED indicators** : PWR, FDX, Fiber/LNK/ACT, TP/LNK/ACT
- **Power Requirement** : 5V ,1A
- **Ambient Temperature** : 0° to 50°C (operating)
- **Humidity** : 5% to 90%
- **Dimension** : 26 x 70 x 97mm (HxWxD)

- **Cable :**
  - ⇒ UTP: 4 pair category 5/5e
  - ⇒ MM: 50/125  $\mu\text{m}$  or 62.5/125  $\mu\text{m}$  optic fiber
  - ⇒ SM: 9/125  $\mu\text{m}$  optic fiber
- **Wiring : Please refer to Section 8**

Connecting to the Gigabit Ethernet products, please refer to the device's Technical Manual.

## 10. Power information

The power jack of GT-70X is with 2.5mm in the central post and required +5VDC power input. It will conform to the bundled AC-DC adapter and Planet's Media Chassis. Should you have the problem to make the power connection, please contact your local sales representative.

Please keep the AC-DC adapter as spare parts when your GT-70X is installed to a Media Chassis.