

**100Base-FX to 100Base-TX  
TP to Fiber  
Fast Ethernet Converter**

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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 Fast Ethernet Converter

**Multi-mode: FT-701B, FT-702B, FT-703, FT-704**

**Single-mode: FT-702S, FT-703S, FT-704S**

**Rev 1.0** (Feb. 2000)

**Part No. EMFT70XV1**

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## **1. Overview**

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Thank you for purchasing PLANET FT-70X family Fast Ethernet Twisted pair to 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 19" media chassis (up to 10 units) for a TP and Fiber combined networks at a central wiring closet. Please contact with your sales representative for more about the 19" media chassis.

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## **2. Model List**

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

- ⇒ FT-701B : on board ST fiber connector
- ⇒ FT-702B/S : on board SC fiber connector
- ⇒ FT-703/S : on board MT-RJ fiber connector
- ⇒ FT-704/S : on board VF-45 fiber connector

Models with last character "S" indicate the fiber-port is with "Single-Mode" optic fiber connector.

In the following sections, the term "FT-70X" indicates the product family above.

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## **3. Checklist**

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

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

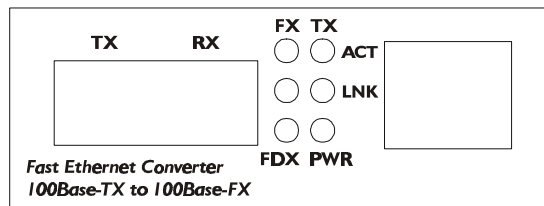
If any item is missing or damaged, please consult the dealer from whom you purchased your Fast Ethernet Converter.

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## 4. Product Outlook

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### Right View (FT-701B/FT-702B)



One RJ-45 Twisted-Pair jack, one fiber-optic connector and six LED indicators.

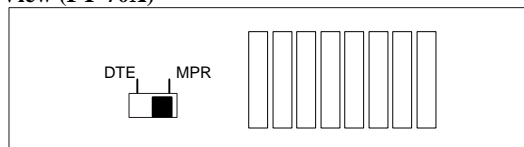
For FT-703/S, FT-704/S, the outlook of fiber port is accordant to its related port, i.e. MT-RJ or VF-45.

### Left View (FT-70X)



One DC jack for DC power input.

### Side View (FT-70X)



One DIP Switch for TP Device selection.

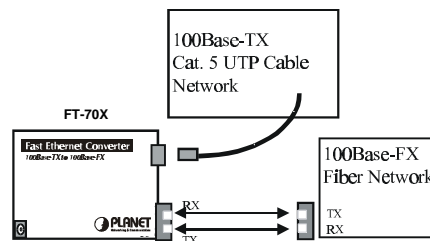
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## 5. Installing the Converter

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Please follow these steps to install the converter:

- Turn off the power of the device/station in a network to which the FT-70X will be attached
- Ensure that there is no activity in the network
- Attach fiber cable from the FT-70X to the fiber network. TX, RX must be paired at both ends
- Attach a Cat. 5 UTP cable from the 100Base-TX network to the RJ-45 port on the FT-70X.
- Connect the 5VDC power adapter to the FT-70X and verify that the Power LED lights up.
- Turn on the power of the device/station, the TX Link and FX Link LEDs should light when all cables are attached



### Note:

- RJ-45/STP, UTP Cat 5, straight-through cable is accepted
- Cabling from FT-70X TP port to a TP device is as below:
  - To Workstation: DIP switch on DTE
  - To Hub/Switch: DIP switch on MTR
- Please refer to section 8 for more about the wiring distance of your TP, Optic-fiber networks.

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## 6. Duplex Mode setting

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The FT-70X support duplex mode selection by Auto-Negotiation (A-N). The following is the duplex mode parameters:

<b>Fast Ethernet Device</b>	<b>FT-70X Duplex Mode support</b>
Fast Ethernet Hub	Half-Duplex
Fast Ethernet Switch (without A-N)	Half-Duplex
Fast Ethernet Devices *	Full-Duplex /
Support Auto-Negotiation	Half-Duplex

**Note:** Normally, an A-N switch will detect and set to Full-duplex where a dual-speed hub will detects Half.

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## 7.LED indication

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<b>LED</b>	<b>COLOR</b>	<b>DESCRIPTION</b>
FX ACT	Green	Blinks when any FX packets transmitting
FX Link	Green	Lit when Fiber connection is good Blinks when any FX packets receiving
TP ACT	Green	Blinks when any TP packets transmitting
TP Link	Green	Lit when TP connection is good Blinks when any TP packets receiving
FDX*	Green	Lit when Full-duplex mode is detected in TP port
PWR	Green	Lit when +5VDC power detected

**Note:** Fiber-optic Partner should be set to the correct mode according to this FDX indicator for optimal network performance.

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## 8. Cable Connection Parameter

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Fast Ethernet 100Base-X networks allows 512bit time delay between any two node stations in a collision domain.

The overall bit time of TP/Fiber wires and devices must be within 512 bit time in a segment.

To extend the distance, you may use switch to break up a collision domain and extend the distance.

The limitations are as below:

<b>Duplex</b>	<b>Connection</b>	<b>Limitation (max.)</b>
<b>Twisted Pair</b>		
Half / Full	Node to Node Node to Switch/Hub	100 meters
<b>Multi-Mode Converters</b>		
MM Half	Node to Node Node to Switch	412 meters
MM Full	Node to Node Node to Switch	2 kilometers
<b>Single-Mode Converters (FT-70XS)</b>		
SM Full	Node to Node Node to Switch	20 kilometers

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## 9. FT-70X Technical Specifications

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

- **Standard** : IEEE802.3u, 100Base-TX and 100Base-FX
- **Connectors** :
  - ⇒ One RJ-45 Twisted Pair, EIA568
  - ⇒ One Fiber-optic, 1300nm wavelength, connector-type vary with model
- **Data Transfer Rate** : 100Mbps

- **Duplex mode support** : Full or half-duplex mode by Auto-Negotiation
- **LED indicators** : PWR, TX Link/ACT, FX Link/ACT, FDX
- **Power Requirement** : 5V ,1A
- **Ambient Temperature** : 0° to 70°C
- **Humidity** : 5% to 90%
- **Dimension** : 26 x 70 x 97mm (HxWxD)
- **Cable** :
  - ⇒ UTP : Cat 5 UTP cable
  - ⇒ Fiber : MM: 50/125 **mm** or 62.5/125 **mm** optic fiber
  - ⇒ Fiber : SM: 8.3/125, 8.7/125, 9/125 **mm** optic fiber

Connecting to Router, Bridge, or Switch, Hub, please refer to the device's Technical Manual.

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## 10. Power information

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The power jack of FT-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 FT-70X is installed to a Media Chassis.

Part No.:EM-FT70XV1

