Owner's Manual

Media Converters

Models: N784-001-SC & N784-001-ST

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Overview

The N784 Series Media Converter is a standalone physical layer device that converts between 10/100BaseT(X) and 100BaseFX segments of the same network. The converter supports Link Fault Pass-through (LFP) for easy tracing of network link failures, and the LFP function enhances the integrity and conformity of twisted pair (TP)-Fiber linking to make the network easier to maintain. The converter is powered by an external power adapter or USB port on the hosting device (e.g., a PC).

Package Contents

• Media Converter
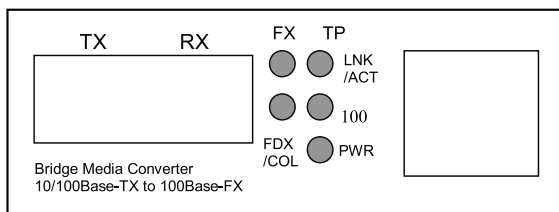
• Owner's Manual

• AC-DC Power Adapter (100-240V)

Model Description

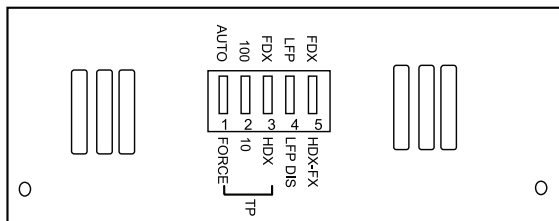**N784-001-SC** 10/100BaseT(X) to 100BaseFX media converter; multi mode, SC type fiber connection

N784-001-ST 10/100BaseT(X) to 100BaseFX media converter; multi mode, ST type fiber connection

Panel Layout

• Front Panel View

TX   RX   FX   TP   LNK/ACT   100   FDX/COL   PWR

Bridge Media Converter
10/100Base-TX to 100Base-FX

• Side Panel View

AUTO   100   FDX   LFP   FDX
1   2   3   4   5
FORCE   10   HDX   LFP DIS   HDX-FX
TP
O   O

• Rear Panel View

5VDC   USB

This device complies with Part 15 of the FCC Rules

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CE
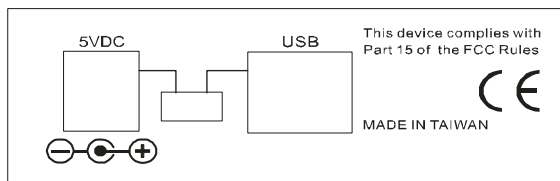
Wiring the Power Inputs

Using the Converter with the AC-DC Power Adapter

1. Use DIP switch settings to enable power through the AC-DC Power Adapter (refer to **DIP Switch Setting** section).

2. Verify that the AC-DC adapter conforms to your country's AC power requirements and then insert the power plug.

3. Connect the Converter to the network.

   Note: Wear a grounding device to safeguard against damage due to electrostatic charge.

Using the Converter with Power Over USB

1. Use DIP switch settings to enable power from the USB port (refer to **DIP Switch Setting** section).

   Note: Ensure that the DIP switch is positioned on the USB side of the slider.

2. Install the USB cable. Plug the type A connector in the PC's USB port and the type B connector in the Converter's USB port (see Fig. 1).

3. Connect the Converter to the network.

⚠️ **WARNING!**
Make sure that the PC's power is turned on.
Otherwise, the Converter will not receive power.

USB A Type Jack

USB Cable

USB B Type Jack

100FX Fiber Network

Fiber Optic Cable

RJ45 Jack

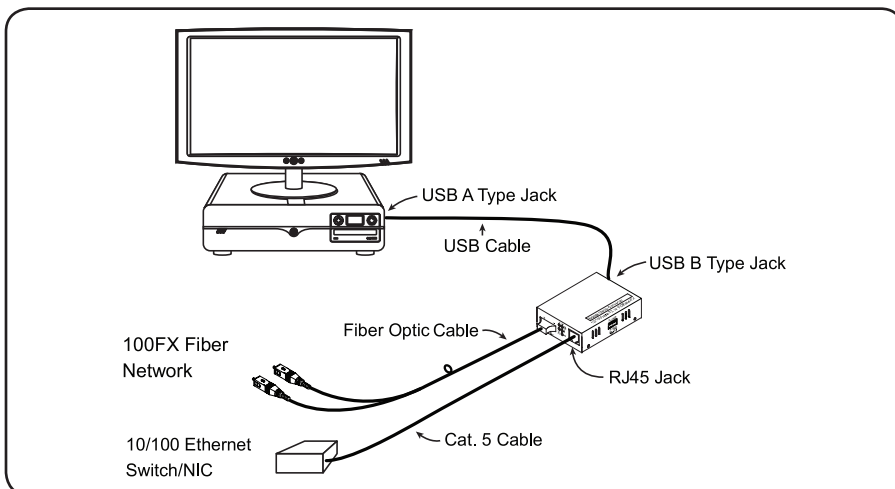10/100 Ethernet Switch/NIC

Cat. 5 Cable

Fig. 1: Media Converter with USB power source (Type B-to-Type A Plug) and FX/TP connection
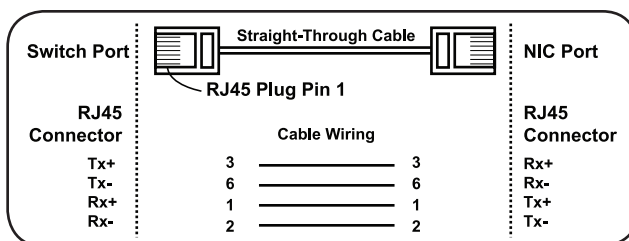
3

Communication Connection

The Media Converter has one 10/100BaseT(X) Ethernet port, and one 100BaseFX (SC or ST type connector) fiber port.
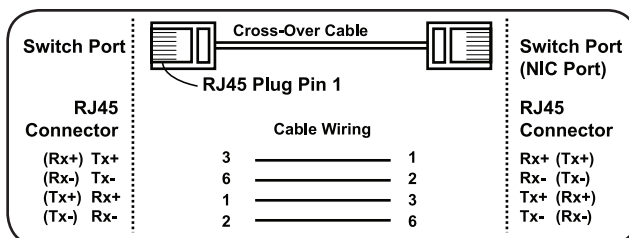
10/100BaseT(X) Ethernet Port Connection

The Converter supports auto MDI/MDI-X. Below are the pinouts for both MDI (NIC-type) ports and MDI-X (HUB/Switch-type) ports. Also shown are the cable wiring diagrams for straight-through and cross-over Ethernet cables.

• RJ45 (8-pin) to RJ45 (8-pin) Straight-Through Cable Wiring (Tripp Lite N105, N001, N002 and N201 Series Cables)
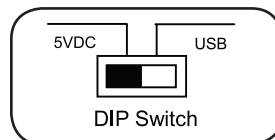
Straight-Through Cable

Switch Port   RJ45 Plug Pin 1   NIC Port

RJ45 Connector   Cable Wiring   RJ45 Connector

RJ45 Connector			RJ45 Connector
Tx+	3	3	Rx+
Tx-	6	6	Rx-
Rx+	1	1	Tx+
Rx-	2	2	Tx-

• RJ45 (8-pin) to RJ45 (8-pin) Cross-Over Cable Wiring (Tripp Lite N010 and N210 Series Cables)

Cross-Over Cable

Switch Port   RJ45 Plug Pin 1   Switch Port (NIC Port)

RJ45 Connector   Cable Wiring   RJ45 Connector

RJ45 Connector			RJ45 Connector
(Rx+) Tx+	3	1	Rx+ (Tx+)
(Rx-) Tx-	6	2	Rx- (Tx-)
(Tx+) Rx+	1	3	Tx+ (Rx+)
(Tx-) Rx-	2	6	Tx- (Rx-)

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DIP Switch Setting

Power Input Setting

• Power source from AC-DC Power Adapter enabled

5VDC　　　USB

DIP Switch

• Power over USB enabled

5VDC　　　USB

DIP Switch

Communication Setting

AUTO 100 FDX | LFP FDX

1   2   3   4   5

FORCE 10 HDX | LFP HDX
　　　　　　　　DIS

TP　　　　　　FX
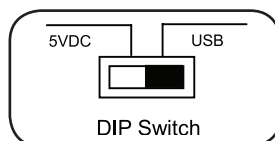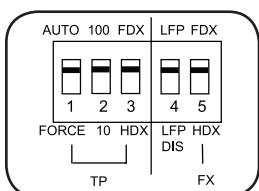
DIP Switch		DIP Function
FX	FDX	FX at full duplex (default)
	HDX	FX at half duplex
LFP		Enable Link Fault Pass-Through (default)
LFP DIS		Disable Link Fault Pass-Through
TP	FDX	TP at full duplex (default)
	HDX	TP at half duplex when TP at Force
	100	TP at 100M (default)
	10	TP at 10M when TP at Force
	AUTO	TP at auto-negotiation (default)
	FORCE	Force TP at 10M or at half duplex

Note: • *You must set DIP Switch 1 to "FORCE" when DIP Switches 2 and 3 are set to "10" and "HDX", respectively.*
• *After resetting the DIP Switches, you must reboot the Converter to activate the new settings.*

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Link Fault Pass-Through

Note: The Link Fault Pass-Through (LFP) function is enabled using the DIP switch. Disable the LFP function by setting the DIP switch to the LFP DIS position.

This media converter supports Link Fault Pass-Through (LFP) for TX/FX converter applications.

Link status on one port is propagated to the other port to notify remote nodes. If the TP port is unplugged, the Converter stops transmitting over the fiber port, causing the remote fiber link node to fail. The LED will show link failure on both the TP and fiber ports. If the fiber link fails, the Converter restarts auto-negotiation on the TP port, but stays in the link failure state. This causes the remote TP node link to fail. The LED also shows the link failure on both the TP and fiber ports. The figures below show normal status when the link succeeds, and the error status when TP Cable A, Fiber Cable B, or Fiber Cable C fails to connect.
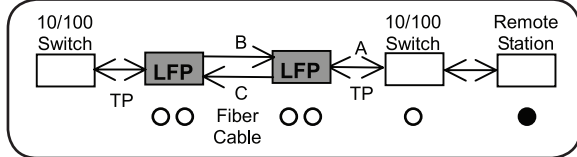
- Normal status via a pair of LFPs
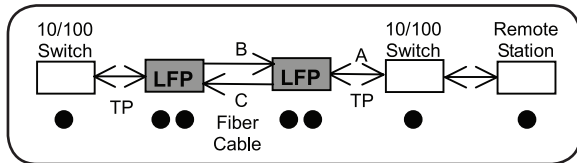
- Status if TP Cable A is broken
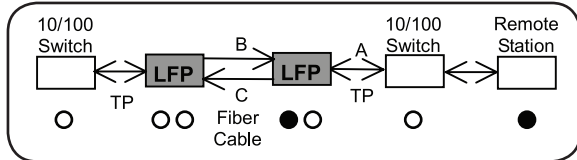
- Status if Fiber Cable B or C is broken

Note: ● indicates LNK/ACT LED is Lit. ○ indicates LNK/ACT LED is Off.

WARNING!
The LFP (Link Fault Pass-Through) function works only when two converters working as a pair have LFP capability. Furthermore, both LFP converters should be supplied by the same manufacturer/vendor. If you are using an odd number of converters, or models that don't support LFP, then the LFP function will not work.

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LED Description

LED	Color	Function
FX LNK/ACT	Green	Lit when FX port is linked Blinks when FX port is transmitting data
FX FDX/COL	Amber	Lit when full-duplex mode is active Off when half-duplex is active Blinks when a collision occurs
TP LNK/ACT	Green	Lit when TP port is linked Blinks when FX port is transmitting data
TP 100	Green	Lit when TP port is transmitting data at 100 Mbps Off when TP port is transmitting data at 10 Mbps
PWR	Green	Lit when +5V power is supplied

Cable Connection Parameters

• **TP Cable Limitations:** Cat. 5 and up to 100 m
• **Converter Fiber Cable Limitations:** Multi-mode 2 km

Specifications

Specification	Description
Standards	IEEE 802.3u, 10/100Base-TX, 100Base-FX
Flow Control	IEEE 802.3x-compliant for full-duplex back pressure flow control for half-duplex
Fiber Cable	50/125, 62.5/125 or 100/140 μm multi-mode
Wavelength	1310 nm
Power Requirement	1A@+5VDC from AC-DC Adapter, 0.5A@+5VDC from USB port
Ambient Temperature	32°F to 122°F (0°C to 50°C)
Humidity	5% to 90%
Dimensions (HxWxD)	1.03 x 2.76 3.70 in. (26.2 x 70.3 x 94 mm)

Warranty and Product Registration

1-Year Limited Warranty

TRIPP LITE warrants its products to be free from defects in materials and workmanship for a period of one (1) year from the date of initial purchase. TRIPP LITE's obligation under this warranty is limited to repairing or replacing (at its sole option) any such defective products. To obtain service under this warranty, you must obtain a Returned Material Authorization (RMA) number from TRIPP LITE or an authorized TRIPP LITE service center. Products must be returned to TRIPP LITE or an authorized TRIPP LITE service center with transportation charges prepaid and must be accompanied by a brief description of the problem encountered and proof of date and place of purchase. This warranty does not apply to equipment, which has been damaged by accident, negligence or misapplication or has been altered or modified in any way.

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Product Registration

Visit www.tripplite.com/warranty today to register your new Tripp Lite product. You'll be automatically entered into a drawing for a chance to win a FREE Tripp Lite product!*

* No purchase necessary. Void where prohibited. Some restrictions apply. See website for details.

FCC Notice, Class B

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

• Reorient or relocate the receiving antenna.

• Increase the separation between the equipment and receiver.

• Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

• Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications to this equipment not expressly approved by Tripp Lite could void the user's authority to operate this equipment.

WEEE Compliance Information for Tripp Lite Customers and Recyclers (European Union)

Under the Waste Electrical and Electronic Equipment (WEEE) Directive and implementing regulations, when customers buy new electrical and electronic equipment from Tripp Lite they are entitled to:

• Send old equipment for recycling on a one-for-one, like-for-like basis (this varies depending on the country)

• Send the new equipment back for recycling when this ultimately becomes waste

Use of this equipment in life support applications where failure of this equipment can reasonably be expected to cause the failure of the life support equipment or to significantly affect its safety or effectiveness is not recommended. Do not use this equipment in the presence of a flammable anesthetic mixture with air, oxygen or nitrous oxide.

Tripp Lite has a policy of continuous improvement. Specifications are subject to change without notice.

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