WARRANTY

All fiber optic transmission systems, products and accessories manufactured by Liteway, Inc. and its' subsidiaries are fully tested prior to shipment and are warranted against defective materials and workmanship for a period of five full years from the date of the original shipment. Should a problem occur, a Return Material Authorization Number (RMA) must be obtained from Liteway Inc. at (516) 931-2800 and the item returned to Liteway, Inc. 166 Haverford Road, Hicksville, NY 11801, USA, prepaid. Liteway Inc. will then, at its option repair or replace the defective item.

Liteway, Inc. maximum liability under this warranty is limited to the cost of the defective item only. No contingent liabilities of any kind are either assumed or implied.

Any items returned to Liteway, Inc. that have been misused, abused, damaged, modified, connected or adjusted in any way contrary to the instructions furnished by Liteway, Inc. or repaired by unauthorized personnel will not be covered by this warranty. Any non-warranty repairs required will be quoted at the current rate for such services.

Important Notices

CAUTION ! AVOID DIRECT EXPOSURE TO BEAM.
All -7,-8, and -9 Models use laser diodes. These solid-state laser diodes are located in the optical ports of these units. Laser diodes produce invisible radiation that may be harmful to human eyes. Never look directly into the optical port of any fiber optic unit designed to operate with single-mode optical fiber.

NOT FOR LIFE SUPPORT SYSTEMS
Liteway, Inc. does not authorize or warrant any of its products or accessories for use in critical life support systems or applications of any kind.

122884 Rev D

OPERATING INSTRUCTIONS

LiteLink®
Fiber Optic Telephone Transmission System

TLLX-2001
TLPX-2001

The TLLX/TLPX-2001 system consists of the TLPX-2001 telephone set transceiver and TLLX-2001 telephone line transceiver and is intended to connect a standard US telephone set (tone type only) to a standard US telephone line via two fiber optic conductors.

Technical Specifications

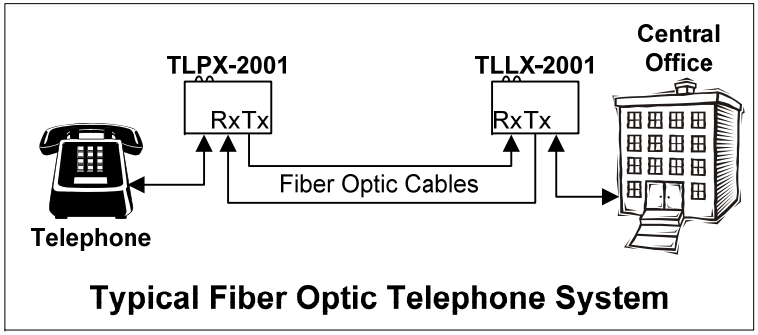
Audio Bandwidth	300 Hz to 3K Hz typical
TLLX-2001 Compatibility	Standard US tone type telephone set
TLPX-2001 Compatibility	Standard US telephone line
Signal/Noise Ratio	50 dB minimum
Electrical Connector	Modular RJ-11
Optical Loss Budget	10 dB typical
Operating Wavelength	850nm, 1300nm, or 1550nm
Fibers Accommodated	Multimode or Single-mode
Number of Fibers	2
Temperature Range	-35º to +75ºC
Operating Power Requirements	11-24 VAC/DC @350 mA max
Physical Size (mm)	5.0"(127)L x 1.0" (25.4)W x 3.0"(7)D

All specifications measured with 1Km of 62.5u multimode fiber and specifications are subject to change without prior notice.

Liteway®
Fiber Optic Transmission Systems
www.Liteway.com
USA 516-931-2800

Operating Instructions

The diagram below shows the typical installation of the TLPX/TLLX-2001 fiber optic telephone transmission system. Note that the TLPX-2001 connects to the telephone set (tone type only) and the TLLX-2001 connects to the "POTS" (Plain Old Telephone System) only. PABX systems may not operate properly).



Typical Fiber Optic Telephone System

Power Terminal Block Connections

Pin	Function
1	Alarm output for use with optional Alarm Sensing Unit ALM-1000. ***No other connections should be made to this terminal***
2	10 to 24 VAC or DC (+)
3	AC or DC (-) return (Common to Housing)

Indicator Lights

Indicator	Lights when
Pwr	Proper power is present.
Alrm	There is a loss of internal operating power.
Sig	TLPX-2001: lights when a valid link is established with the companion TLLX-2001 TLLX-2001: lights when the telephone set handset connected to the TLPX-2001 is in the “off hook” position and a valid link is established

Telephone Set and Telephone Line Connections

The telephone set and telephone line are connected by means of standard RJ 11 modular connectors.

Initial Setup and Alignment Instructions

After the initial installation the units must be adjusted to compensate for the unique losses in your fiber optic cables. This is a one-time adjustment.

1. Connect the TLPX-2001 and TLLX-2001 to each other with two fiber optic cables. Be certain the **Tx** optical ports of each unit are connected to the **Rx** optical ports of the companion unit. C the telephone set (in the “on-hook” mode) to the TLPX-2001 but not the telephone line.

2. Turn the **Gain** adjustment on both units fully counter clockwise and then apply power to both units.

3. Slowly turn the **Gain** control on the TLPX-2001 CW until the telephone set just rings and the **Sig** indicator illuminates. Then turn the **Gain** control slightly CCW until the telephone set just stops ringing. The **Sig** indicator will remain on.

4. Place the telephone set to “off-hook” mode.

5. If necessary slowly adjust the **Gain** control on the TLLX-2001 CW until the **Sig** indicator just illuminates. Do not adjust the control further.

6. Place the telephone set in the “on-hook” mode and connect the telephone line. The system is now ready for operation.

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