## **USING LANVIEW**

LANVIEW is Cabletron Systems' built-in diagnostic and status monitoring system. The following describes the LANVIEW LEDs.

**Power (PWR) -** When this green LED is lit, the TPFOT-2 adapter is receiving power. If the PWR LED is not lit, check that the power cord is plugged into the TPFOT-2 adapter and into a wall outlet that has power.

**Transmit (XMT) -** When this green LED flashes, the TPFOT-2 adapter is receiving data at the fiber port and transmitting data out the RJ45 port. The LED flash is pulse-stretched for better viewing.

**Receive (RCV) -** When this yellow LED flashes, the TPFOT-2 adapter is receiving data at the RJ45 port and transmitting data out the fiber port. The flash is pulse-stretched for better viewing.

**Collision (CLN) -** When this red LED flashes, the transceiver has detected a collision condition or a jabber packet on the network. The flash frequency may increase as network activity increases since more collisions are likely to occur. The LED flash is pulse-stretched for better viewing.

Link OK (LNK) - When this green LED is lit, a link exists between the TPFOT-2 adapter and the device at the other end of the twisted pair segment. LNK remains lit as long as the link is maintained.

**Fiber Link OK (FLNK) -** When this green LED is lit, a link has been established between the TPFOT-2 adapter and the device at the other end of the fiber optic segment. The LED remains lit as long as the link is maintained.

## **GETTING HELP**

If you have questions, or need additional help, contact Cabletron Systems Technical Support as follows:

By Phone:	Monday through Friday 8 A.M. to 8 P.M. Eastern Time at (603) 332- 9400.
By CompuServe:	GO CTRON from any ! prompt

By Internet mail: support@ctron.com

#### FCC NOTICE

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 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 uses, generates, and can radiate radio frequency energy and if not installed in accordance with the operator's manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause interference in which case the user will be required to correct the interference at his own expense.

**WARNING**: Changes or modifications made to this device which are not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

#### DOC NOTICE

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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#### NOTICE

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The hardware, firmware, or software described in this manual is subject to change without notice.

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# TPFOT-2 10BASE-T to 10BASE-FL/FOIRL Extended Media Adapter

The TPFOT-2 adapter is a twisted pair to fiber optic transceiver used to connect an Ethernet 10BASE-T twisted pair cable segment to a 10BASE-FL/FOIRL fiber optic cable segment. The TPFOT-2 adapter has ST type fiber optic connectors and an RJ45 connector that is switch selectable for straight-through or crossover operation.

TPFOT-2 10BASE-T TO 10BASE-FL/FOIRL MEDIA ADAPTER WITH LANVIEW®	P W R	X M T	R C V	C L N	LZK	F L N K	
						ТХ	
X CABLETRON SYSTEMS The Complete Networking Solution SN						RX	

# REQUIREMENTS

The TPFOT-2 adapter complies with the IEEE 802.3 10BASE-FL/FOIRL specifications. For the best network performance, observe the following network guidelines for segment length, type, and attenuation.

#### **Twisted Pair Segment Length**

The IEEE 802.3 10BASE-T standard requires that the devices support a 100-meter minimum segment length using 22-26 AWG unshielded twisted pair wire. If the signal loss is less than 11.5 dB at all frequencies between 5 and 10 MHz, longer segments of up to 200 meters are possible.

#### Fiber Optic Segment Type and Length

The TPFOT-2 adapter supports 50/125, 62.5/125 and 100/140  $\mu$ m fiber optic cables with a maximum segment length of up to 1 kilometer (1093.6 yards) in a FOIRL environment or up to 2 kilometers (2187.2 yards) in a 10BASE-FL environment. These maximum lengths may vary depending on the cable type and the number of connectors in the segment. The absolute

maximum segment length can be determined by measuring the segment attenuation and comparing it to the worst case budget.

#### Fiber Optic Segment Attenuation

At an 850-nm wavelength, the segment attenuation can be no more than the following:

- 13.0 dB for 50/125 μm cable
- 16.0 dB for 62.5/125 μm cable
- 19.0 dB for 100/140 μm cable

## **OPERATING SPECIFICATIONS**

Cabletron Systems reserves the right to change these specifications at any time without notice.

## **Fiber Optic Interface**

Receive Sensitivity:	-29.5 dBm worst case
Peak Input Power:	-8.2 dBm worst case
Bit Error Rate:	Better than 10 <sup>-9</sup> error rate
Transmitter Peak	
Wavelength:	820 nm typical
	790 nm rate minimum
	860 nm maximum
Spectral Width:	75 nm maximum
Rise Time:	10 nsec maximum
Fall Time:	10 nsec maximum

# Fiber Optic Transmitter Power

50/125 μm:	-13.0 dBm
	16.5 dBm worst case budget
62.5/125 μm:	-10.0 dBm
	19.5 dBm worst case budget
100/140 μm:	-7.0 dBm
	22.5 dBm worst case budget

**Note:** The transmitter power and receive sensitivity levels are peak power levels. To convert to average power levels, subtract 3 dBm.

# **Power Supply**

Input power, USA:	100 to 125 Vac, 50 to 60 Hz
Input power, UK:	220 to 240 Vac, 50Hz
Input power, Europe:	200 to 220 Vac, 50 Hz
Output power:	0.8 A at 12 Vdc

**Note:** The TPFOT-2 power source is to be certified for use in the country of installation with a standard (SELV) output of 12 Vdc, and capable of providing a minimum output of 800 mA (connector polarity: center pin positive, sleeve negative). The output connector is to be compatible with TOTAL POWER or MORFOR RJ-01-E connectors.

# RJ45 Port

The TPFOT-2 adapter has a switch to set the RJ45 pin configuration for crossover (X) or straight-through (=) operation as shown below.



## **Operating Environment**

Operating Range: Heat Output: Humidity Range: Storage Range: 5° to 40°C (41° to 104°F) 17 Btu/hr 5 to 95% (non-condensing) -30° to +80°C (-22° to 176°F)

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# Safety

Designed in accordance with UL1950, CSA 22.2 No. 950, and EN 60950.

# Emissions

Meets the requirements of EN 55022 Class A; FCC Part 15, Class A; and VCCI, Class I emission limits.

## Immunity

Meets the requirements of EN 50082-1, including Electrostatic Discharge (IEC 801-2), Radiated Susceptibility (IEC 801-3), and Electric Fast Transient (IEC 801-4).

**Note**: It is the responsibility of the person who sells the system to which the TPFOT-2 adapter will be a part to ensure that the total system meets allowed limits of conducted and radiated emissions.

# INSTALLATION

Unpack the TPFOT-2 adapter and verify that the following items were received.

- One TPFOT-2 10BASE-T to 10BASE-FL/FOIRL Extended Media Adapter
- One wall mount transformer with power cord
- One 1.5-inch x 3-inch Velcro strip
- Two 6-inch tie wraps
- Two cable mounts

## Mounting the TPFOT-2 Adapter

Use the adhesive backed Velcro strips to attach the TPFOT-2 adapter to a convenient mounting surface.

## **Connecting and Applying Power**

*Caution:* Do not use a power cord/converter other than the one shipped with the TPFOT-2 adapter. Not all converters supply the same voltage and current. Using the wrong converter can damage the adapter.

The TPFOT-2 adapter has an ac-to-dc converter. Connect the TPFOT-2 adapter to an appropriate ac power source. The TPFOT-2 LANVIEW PWR indicator should light, indicating that the TPFOT-2 adapter is receiving power and is ready for operation.

# Attaching the Fiber Optic Cables

Connect one fiber optic cable from the TPFOT-2 TX port to the Ethernet device RX port. Connect another fiber optic cable from the TPFOT-2 RX port to the Ethernet device TX port.

## Attaching a Twisted Pair Cable

The TPFOT-2 adapter has a switch to select either a crossover (X) or straight-through (=) pin configuration for the RJ45 port. When attaching a twisted pair cable, check the pin configuration of the RJ45 crossover connector on the device to be connected. Make sure that the twisted pair TX and RX signal pairs connect as follows:

тү⊥	1		PY.
INT			IVV
TX-		<b>→</b>	RX
<u>ру</u> .	2	ί.	TV
К <b>Х</b> +			17-
PY-	1		TY.
11/1-			17-

## **Cable Strain Relief**

Secure the data cables and the power cord to reduce the possibility of network interruption. The TPFOT-2 comes with adhesive backed mounting brackets and tie wraps for securing the TPFOT-2 cables.