

User's Guide

J/E-CX-TBT-01

Stand-Alone Media Converter

- *Coax to Twisted-Pair*
- *10Base-2 to 10Base-T*

The Transition Networks J/E-CX-TBT-01 Ethernet media converter connects 10Base-T shielded or unshielded twisted-pair copper cable to 10Base-2 coaxial copper cable.

The J/E-CX-TBT-01 supports up to 24 devices daisy-chained on one coax segment per twisted-pair segment.

Part Number	Port One - <i>Twisted-Pair</i>	Port Two - <i>Coax</i>
J/E-CX-TBT-01	RJ-45, 10Base-T 100 m (328 ft)*	BNC, 10Base-2 185 m (610 ft)*

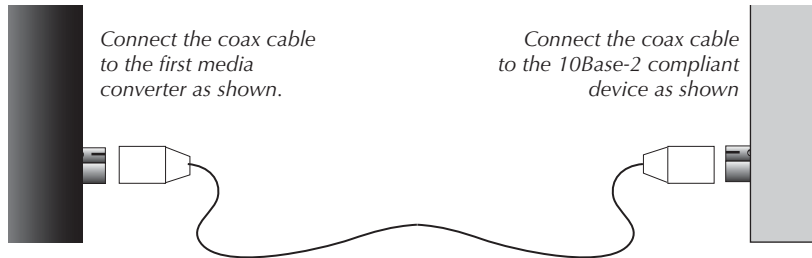
* Typical maximum cable distance. The actual maximum cable distances are dependent upon the physical characteristics of the network installation.

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Installation

Install the Coax Cable

1. Locate or build 10Base-2 compliant coax cable with female, BNC connectors installed at both ends.
2. Connect the BNC cable connector at one end of the cable to the BNC port on the media converter.
3. Connect the BNC cable connector at the other end of the cable to the BNC port on the 10Base-2 compliant device.

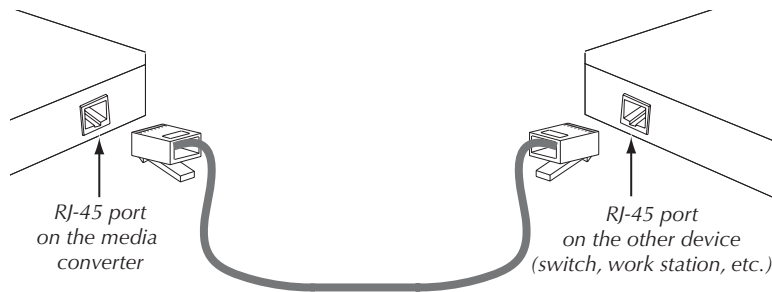


CAUTION: Ensure that the 10Base-2 coax cables are terminated properly at both ends. In a coax thinnet installation, the first and last device in a daisy-chain must be terminated using a 50 Ω terminator. Also, ensure that the 10Base-2 segment is grounded to earth ground at a single point. **Failure to observe this caution will cause data transfer to fail.**

Install the 10Base-T Cable

CAUTION: Connections between the J/E-CX-TBT-01 and a hub, switch, or router require crossover configuration cable. Connections between the J/E-CX-TBT-01 and a terminal, transceiver, or NIC require straight-through configuration cable. (See page 4.) **Failure to observe this caution will cause data transfer to fail.**

1. Locate or build 10Base-T compliant copper cables with male, RJ-45 connectors installed at both ends.
2. Connect the RJ-45 connector at one end of the cable to the RJ-45 port on the media converter.
3. Connect the RJ-45 connector at the other end of the cable to the RJ-45 port on the 10Base-T compliant device.



Operation

Power the Media Converter

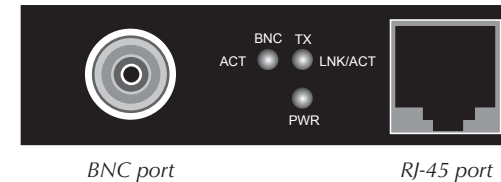
NOTE: The external power supply provided with this product is UL listed by the power supply's manufacturer.

1. Connect the barrel connector on the power adapter to the media converter's power port (located on the back of the media converter).
2. Connect the power adapter plug to AC power.
3. Verify that the media converter is powered by observing the illuminated LED power indicator light.

Status LEDs

Use the status LEDs to monitor media converter operation in the network.

PWR	On = Connection to external AC power.
BNC ACT	Flashing = 10Base-2 data traffic.
TX LNK/ACT	On = 10Base-T link connection. Flashing = 10Base-T data traffic.



BNC port

RJ-45 port

Cable Specifications

10Base-2 Cable

Cable type:	Stranded Coaxial RG-58
Impedance:	50 Ω
Maximum cable distance:	185 m (610 ft.)
Minimum cable distance:	0.5 m (1.6 ft.)
Device placement along segment	0.5 m intervals
Max length of any single series path	3 segments and 2 links
Maximum number of connections	30

10Base-T Cable

Category 3: (minimum requirement)

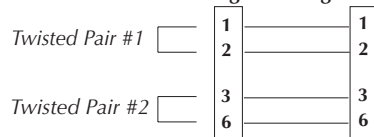
Gauge	24 to 22 AWG
Attenuation	11.5 dB/100m @ 5-10 MHz
Maximum cable distance:	100 m (328 ft)

Category 5: (recommended)

Gauge	24 to 22 AWG
Attenuation	22.0 dB/100m @ 100 MHz
Maximum cable distance:	100 m (328 ft)

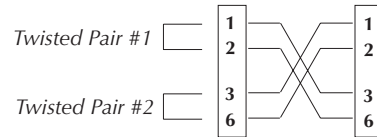
- Shielded (STP) or unshielded (UTP) twisted-pair cable may be used.
- Pins 1&2 and 3&6 are the two active pairs in an Ethernet network .
- RJ-45 Pin-out: Pin 1 = TD+, Pin 2 = TD-, Pin 3 = RD+, Pin 6 = RD-
- Use only dedicated wire pairs for the active pins:
(e.g., blue/white & white/blue, orange/white & white/orange, etc.)
- Do not use flat or silver satin wire.

Straight-Through Cable



Use straight-through cable when connecting to a **terminal**, **transceiver**, **router**, or **NIC**.

Crossover Cable



Use crossover cable when connecting to a **hub** or a **switch**.

Technical Specifications

For use with Transition Networks Model J/E-CX-TBT-01 or equivalent

Standards	IEEE 802.3™
Dimensions	1" x 3" x 4" (26 mm x 76 mm x 102 mm)
Weight	6 oz (181 g) (approximate)
Data Rate	10 Mb/s (half-duplex mode)
Power Supply	100-240 VAC 50/60 Hz 1.0 A @ 5 VDC (North America, Europe, Japan) 2.0 A @ 5 VDC (New Zealand, Australia, South Africa) (The external power supply provided with this product is UL listed by the power supply's manufacturer.)
MTBF	49,000 hours (MIL217F2 V5.0) (MIL-HDBK-217F) 129,000 hours (Bellcore7 V5.0)
Environment	Tmra*: 0 to 50°C (32 to 122° F) Storage Temperature: -20 to 85°C (-4 to 185° F) Humidity 10 to 90%, non condensing Altitude 0 to 10,000 feet
Warranty	Lifetime

*Manufacturer's rated ambient temperature.

Troubleshooting

If the media converter fails, isolate and correct the fault by determining the answers to the following questions and then taking the indicated action:

1. Is the **PWR LED on the media converter illuminated?**

NO

- Is the power cord properly installed in the media converter and at the external power source?
- Does the external power source provide power?
- Contact Technical Support. US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.

YES

- Proceed to step 2.

2. Is the **TX LNK/ACT LED on the media converter illuminated OR flashing?**

NO

- Check twisted-pair 10Base-T cables for proper connection.
- Verify that 10Base-T cable is correct (straight-through or crossover) configuration for site installation (see page 4).
- Contact Technical Support. US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.

YES

- Proceed to step 3.

3. Is the **TX LNK/ACT LED on the media converter illuminated BUT NOT flashing?**

NO

- Disconnect and reconnect the cable to restart the initialization process.
- Restart the workstation to restart the initialization process.
- Contact Technical Support. US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.

YES

- Proceed to step 4.

4. Is the **BNC ACT LED on the media converter illuminated?**

NO

- Check 10Base-2 cables for proper connection.
- Verify that 10Base-2 cable connections on media converter and on attached device are terminated properly.
- Disconnect and reconnect the cable to restart the initialization process.
- Restart the workstation to restart the initialization process.
- Contact Technical Support. US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.

YES

- Contact Technical Support. US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.

Contact Us

Technical Support

Technical support is available 24 hours a day.

US and Canada: **1-800-260-1312**

International: **00-1-952-941-7600**

Transition Now

Chat live via the Web with Transition Networks Technical Support.

Log onto **www.transition.com** and click the **Transition Now** link.

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Transition Networks provides seminars via live web-based training.

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E-Mail

Ask a question anytime by sending an e-mail to our technical support staff.

techsupport@transition.com

Address

Transition Networks


6475 City West Parkway

Minneapolis, MN 55344, USA

telephone: 952-941-7600

toll free: 800-526-9267

fax: 952-941-2322

TRANSITION networks		Declaration of Conformity	
Name of Mfg:	Transition Networks	6475 City West Parkway, Minneapolis MN 55344 USA	
Model:	J/E-CX-TBT-01 Series Media Converters		
Part Number(s):	J/E-CX-TBT-01		
Regulation:	EMC Directive 89/336/EEC		
Purpose: To declare that the J/E-CX-TBT-01 to which this declaration refers is in conformity with the following standards.			
CISPR 22:1993; EN 55022:1998 Class A; FCC part 15 subpart B			
<i>I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).</i>			
		March 16, 2001	
Stephen Anderson, Vice-President of Engineering		Date	

Compliance Information

CISPR22/EN55022 Class A
CE Mark

FCC Regulations

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 generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, 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 the user's own expense.

Canadian Regulations

This digital apparatus does not exceed the Class A limits for radio noise for digital apparatus set out on 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.

European Regulations

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.

Achtung! Dieses ist ein Gerät der Funkstörgrenzwertklasse A. In Wohnbereichen können bei Betrieb dieses Gerätes Rundfunkstörungen auftreten. In diesem Fall ist der Benutzer für Gegenmaßnahmen verantwortlich.

Attention! Ceci est un produit de Classe A. Dans un environnement domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilisateur de prendre les mesures spécifiques appropriées.



CAUTION: RJ connectors are NOT INTENDED FOR CONNECTION TO THE PUBLIC TELEPHONE NETWORK. Failure to observe this caution could result in damage to the public telephone network.

Der Anschluss dieses Gerätes an ein öffentliches Telekommunikationsnetz in den EG-Mitgliedstaaten verstößt gegen die jeweiligen einzelstaatlichen Gesetze zur Anwendung der Richtlinie 91/263/EWG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten über Telekommunikationsendeinrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

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