

User's Guide

CETCT1020-100

Slide-in-Module Media Converter

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

The Transition Networks CETCT1020-100 Ethernet media is designed to be installed in a Transition Networks *PointSystem*™ chassis and connects 10Base-T shielded or unshielded twisted-pair copper cable to 10Base-2 coaxial copper cable.

The CETCT1020-100 supports up to 30 devices daisy-chained on one coax segment per twisted-pair segment.

Part Number	Port One - Twisted-Pair	Port Two - Coax
CETCT1020-100	RJ-45, 10Base-T 100 m (328 ft)*	BNC, 10Base-2 185 m (607 ft)*

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

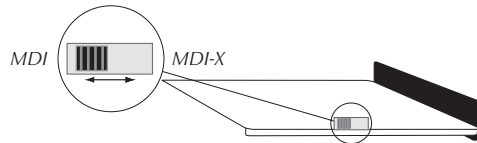
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Installation

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when setting the switches and when installing the slide-in-module. **Failure to observe this caution could result in damage to, and subsequent failure of, the media converter.**

Set the MDI / MDI-X Switch

The MDI / MDI-X switch is located on the media converter circuit board. See the drawing to the right for the different MDI/MDI-X configurations.



To satisfy the requirements for the 10Base-T connection, set the MDI / MDI-X switch as directed:

If you are using:	And you are connecting between the CETCT10xx-10x and a:	Set the MDI/MDI-X switch to
straight-through cable	hub, switch, or router	MDI
straight-through cable	terminal, transceiver, or NIC	MDI-X
crossover cable	terminal, transceiver, or NIC	MDI
crossover cable	hub, switch, or router	MDI-X

Install the Slide-in-Module

To install the CETCT10xx-10x slide-in-module media converter:

1. Locate and empty slot on the *PointSystem™* chassis.
2. Carefully slide the slide-in-module into the installation slot, aligning the module with the installation guides.
3. Ensure that the slide-in-module is firmly seated inside the chassis.
4. Push in and rotate the attached panel fastener screw clockwise to secure the slide-in-module to the chassis front.

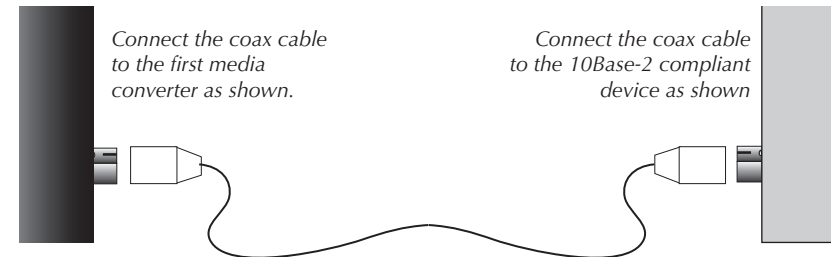


NOTE: The media converter is powered through the Transition Networks *PointSystem™* chassis.

Installation -- Continued

Install the Coax Cable

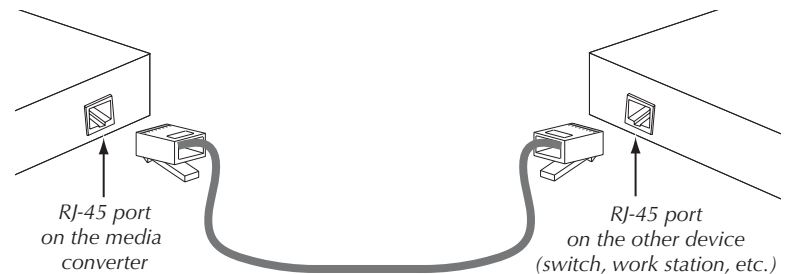
1. Locate or build 10Base-2 compliant fiber cable with female, BNC connectors installed at both ends.
 2. Connect the BNC cable connector at one end of the cable to the BNC port on the media converter.
- NOTE:** Install a 50 Ω terminator on the BNC port or ensure that the 50 Ω switch is set to “50.”
3. Connect the BNC cable connector at the other end of the cable to the BNC port on the 10Base-2 compliant device.



NOTE: 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.

Install the 10Base-T Cable

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



Installation -- Continued

Set the 0/50 Ω Switch

Use a small, flat-blade screwdriver to set the recessed switch on the front panel of the media converter.

The 0/50 Ω switch is used to satisfy the terminating/grounding requirements for the media converter.

- **0 Ω** = The 10Base-2 connection at the media converter is NOT terminated.
- **50 Ω** = The 10Base-2 connection at the media converter is terminated.



SNMP

See the on-line documentation that comes with Transition Networks FocalPoint™ software for applicable commands and usage.

Use SNMP at an attached terminal or at a remote location to monitor the media converter by monitoring:

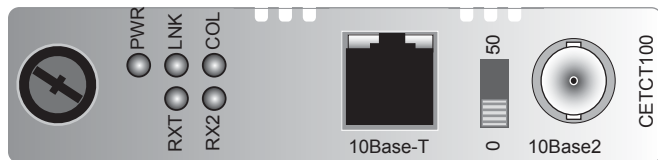
- 10Base-T link status
- 10Base-T activity status.
- 10Base-2 activity status.
- 10Base-2 collision status.

Operation

Status LEDs

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

- PWR** On = The media converter is connected to external power.
- LNK** On = 10Base-T link connection.
- RXT** Flashing = Reception of data on the 10Base-T copper link.
- RX2** Flashing = Reception of data on the 10Base-2 copper link.
- COL** Flashing = Signal collisions on the 10Base-2 port.



Cable Specifications

10Base-2 Cable

Cable type:	Stranded Coaxial RG-58
Impedance:	50 Ω @ 10 MHz
Mutual capacitance:	24 pF/ft +/- 20% @ 10 MHz
Maximum cable distance:	185 m (607 ft.)
Minimum cable distance:	0.5 m (1.6 ft.)
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

Category 5: (recommended)

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

- Straight-through or crossover twisted-pair cable may be used.
- 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.

Troubleshooting

1. Is the PWR LED illuminated?

NO

- Is the media converter inserted properly into the chassis?
- Is the power cord properly installed?
- Does the external power source provide power?
- Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

YES

- Proceed to step 2.

2. Is the LNK LED illuminated?

NO

- Check the twisted-pair 10Base-T cables for proper connection.
- Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

YES

- Proceed to step 3.

3. Is the COL LED flashing?

NO

- Restart the workstation to restart the initialization process.
- Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

YES

- Proceed to step 4.

4. Is the LA LED illuminated?

YES

- Locate and correct device connection fault.
- Restart the workstation to restart the initialization process.
- Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

NO

- Proceed to step 5.

5. Is the RXT LED flashing?

NO

- If there is no activity on the 10Base-T port, proceed to step 6.
- If there is activity on the 10Base-T port, disconnect and reconnect the 10Base-T cable to restart the initialization process.
- Restart the workstation to restart the initialization process.
- Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

YES

- Proceed to step 6.

6. Is the RX2 LED 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 Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

YES

- Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.


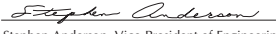
Technical Specifications

For use with Transition Networks Model CETCT1020-100 or equivalent

Standards	IEEE 802.3™	
Dimensions	3.4" x 0.86" x 5.0" (86mm x 22mm x 127mm)	
Weight	3 oz (91 g) (approximate)	
Data Rate	10 Mb/s (half-duplex mode)	
Power Consumption	2.4 watts (typical)	
MTBF	595,000 hours (MIL217F2 V5.0) (MIL-HDBK-217F) 1,471,000 hours (Bellcore7 V5.0)	
Environment	Tmra*:	0 to 60°C (32 to 140° 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: Tmra range for this slide-in-module depends on the physical characteristics and the installation configuration of the Transition Networks PointSystem™ chassis in which this module will be installed.

The information in this user's guide is subject to change. For the most up-to-date information, see the CETCT10xx-10x user's guide on-line at www.transition.com.

		Declaration of Conformity
Name of Mfg:	Transition Networks 6475 City West Parkway, Minneapolis MN 55344 USA	
Model:	CETCT1020-100 Series Media Converters	
Part Number(s):	CETCT1020-100	
Regulation:	EMC Directive 89/336/EEC	
Purpose: To declare that the CETCT1020-100 to which this declaration refers is in conformity with the following standards.		
CISPR 22:1993; EN 55022:1994, A-1:1995, A-2:1997 Class A; FCC Part 15 Subpart B; EN 55024:1998; EN 61000-3-2:1995; EN 61000-3-3:1995		
<i>I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).</i>		
 Stephen Anderson, Vice-President of Engineering		March 16, 2001 Date

Compliance Information

CISPR22/EN55022 Class A + EN55204; 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.

Contact Us:

Technical support is available 24 hours a day.

US and Canada: **1-800-260-1312** International: **00-1-952-941-7600**

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

techsupport@transition.com

Transition Networks, 6475 City West Pkwy, Minneapolis, MN 55344, USA
telephone: 952-941-7600, toll free: 800-526-9267, fax: 952-941-2322

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Printed in the U.S.A.

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