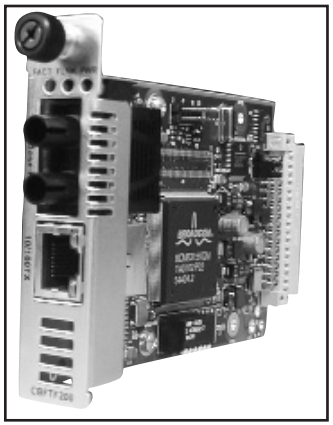
TRANSITION NETWORKS



User's Guide

CBFTF10xx-10x

Slide-in-Module Media Converter

- ***Copper to Fiber***
- ***10/100 Bridging (2-Port)***
- ***10/100Base-TX to 100Base-FX***

The CBFTF10xx-10x 2-port Ethernet/fast Ethernet bridging media converter is designed to be installed in a Transition Networks *PointSystem™* chassis and connects 10Base-T Ethernet or 100Base-TX fast Ethernet twisted-pair copper network devices to network devices on a 100Base-FX fast Ethernet fiber network.

Part Number	**Port One -** *Copper* *10Base-T/100Base-TX*	**Port Two -** *Duplex Fiber-Optic* *100Base-FX*
CBFTF1011-100	*RJ-45* *100 m (328 ft)**	*ST, 1300 nm multimode* *2 km (1.2 miles)**
CBFTF1013-100	*RJ-45* *100 m (328 ft)**	*SC, 1300 nm multimode* *2 km (1.2 miles)**
CBFTF1014-100	*RJ-45* *100 m (328 ft)**	*SC, 1310 nm single mode* *20 km (12.4 miles)**
CBFTF1015-100 *(long haul)*	*RJ-45* *100 m (328 ft)**	*SC, 1310 nm single mode* *40 km (24.8 miles)**
CBFTF1016-100 *(extra long haul)*	*RJ-45* *100 m (328 ft)**	*SC, 1310 nm single mode* *60 km (37.2 miles)**
CBFTF1017-100 *(long wave length)*	*RJ-45* *100 m (328 ft)**	*SC, 1550 nm single mode* *80 km (49.7 miles)**
CBFTF1018-100	*RJ-45* *100 m (328 ft)**	*MT-RJ, 1300 nm multimode* *2 km (1.2 miles)**
CBFTF1019-100	*RJ-45* *100 m (328 ft)**	*LC, 1310 nm single mode* *20 km (12.4 miles)**

*Typical maximum cable distance. Actual distance is dependent upon the physical characteristics of the network installation.

The **stand-alone version** of the media converter is SBFTF10xx-10x. For more information, see the SBFTF10xx-10x user's guide on-line at: www.transition.com.

CBFTF10xx-10x

Part Number	Port One - *Copper*	Port Two - *Simplex Fiber-Optic*
CBFTF1029-100 **	*RJ-45 100 m (328 ft)**	*SC, 1310 nm (TX)/1550 nm (RX) single mode, 20 km (12.4 miles)**
CBFTF1029-101 **	*RJ-45 100 m (328 ft)**	*SC, 1550 nm (TX)/1310 nm (RX) single mode, 20 km (12.4 miles)**
CBFTF1029-102 **	*RJ-45 100 m (328 ft)**	*SC, 1310 nm (TX)/1550 nm (RX) single mode, 40 km (24.8 miles)**
CBFTF1029-103 **	*RJ-45 100 m (328 ft)**	*SC, 1550 nm (TX)/1310 nm (RX) single mode, 40 km (24.8 miles)**
CBFTF1035-100 Long Wave length	*RJ-45 100 m (328 ft)**	*SC, 1550 nm single mode, 120 km (74.6miles)**
CBFTF1039-100	*RJ-45 100 m (328 ft)**	*LC, 1300 nm multimode, 2 km (1.2 miles)**

*Typical maximum cable distance. Actual distance is dependent upon the physical characteristics of the network. (TX) = transmit (RX) = receive

**CBFTF1029-100/101 pair or -102/103 pair should be installed in the same network where one as local and the other is the remote converter.

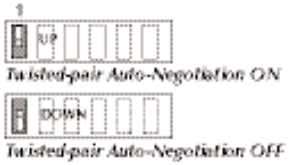
Installation

Set the Configuration Switches

The configuration switches are located on the circuit board of the media converter. Use a flat-blade screwdriver or a similar device to set each switch.

NOTE:
- Switches 1, 2, 3, and 5 apply to the copper port.
- Switch 4 applies to the fiber port.
- Switch 6 applies to the media converter.

1. Twisted-Pair Auto-Negotiation



UP (Enabled) - The media converter "advertises" ALL rate and mode capabilities to the network:
- 100Mb/s full-duplex,
- 100Mb/s half-duplex,
- 10Mb/s full-duplex, and
- 10Mb/s half-duplex.

DOWN (Disabled) - The bridging media converter does not "advertise" the rate and mode capabilities to the network. **Switch #2** and **switch #3** are then used to set the twisted-pair rate and mode.

2. Twisted-Pair Rate

UP - Sets the twisted-pair rate to 100Base-TX.

DOWN - Sets the twisted-pair rate to 10Base-T.

Installation - Continued

Set the Configuration Switches - Continued

3. Twisted-Pair Mode

UP (Full-Duplex):

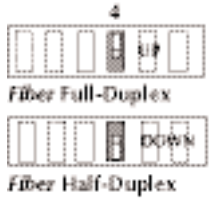
The twisted-pair cable distances are constrained by the cable requirements (see pages 1 and 2).

DOWN (Half-Duplex):

At the **100Base-TX rate**, the twisted-pair cable distances are constrained by the 512-Bit Rule (see page 9).

At the **10Base-T rate**, the twisted-pair cable distances are constrained by the 5-Segment Rule (see page 10).

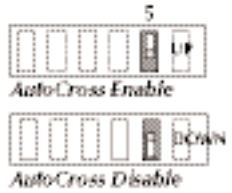
4. Fiber Mode



UP (Full-Duplex) - The fiber cable distances are constrained by the cable requirements (see pages 1 and 2).

DOWN (Half-Duplex) - The fiber cable distances are constrained by the 512-Bit Rule (see page 10).

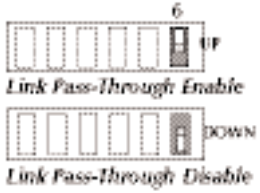
5. AutoCross



UP (Enable) - The media converter connects automatically to either straight-through or crossover twisted-pair copper cable.

DOWN (Disable) - Either straight-through or crossover twisted-pair copper cable must be installed, according to the site requirements.

6. Link Pass-Through



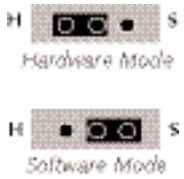
UP (Enable) - When Link Pass-Through is enabled, a fault on one side of the media converter **stops** the signal and data transmission on the other side.

DOWN (Disable) - When Link Pass-Through is disabled, a fault on one side of the media converter **does not stop** the signal and data transmission on the other side.

Installation - Continued

Set the Hardware/Software Jumper

The hardware/software jumper is located on the circuit board and is labeled "H" and "S". Use a pair of needle-nose pliers to set the jumper to the desired location.

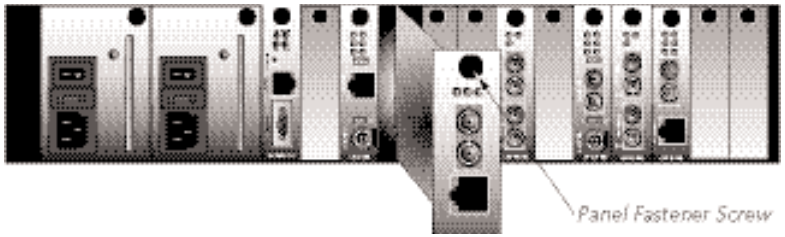


Hardware The media converter settings are determined by dip switch settings (p. 3-5).

Software The media converter settings are determined by the most-recently saved, on-board microprocessor settings.

Install the Slide-in-Module

1. Carefully slide the slide-in-module into two adjacent installation slots, aligning the module with the installation guides.
2. Ensure that the module is firmly seated inside the chassis.
3. Push in and rotate the attached panel fastener screw clockwise to secure the module to the to the chassis front.



Install the Copper and Fiber Cables

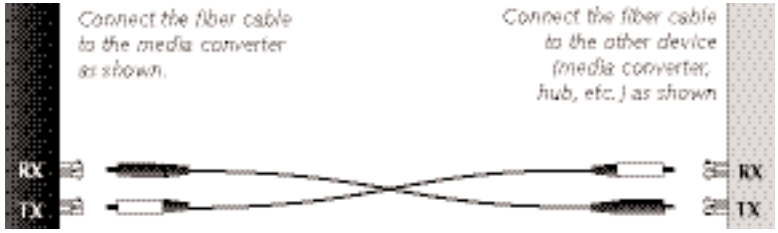
- For **10Base-T, half-duplex** mode, refer to the 5-Segment Rule (page 10) before installing the 10Base-T twisted-pair copper cable.
- For **100Base-TX, half-duplex** mode, refer to the 512-Bit Rule (page 10) before installing the 100Base-TX twisted-pair copper cable.
- For **100Base-FX, half-duplex** mode, refer to the 512-Bit Rule (page 9) before installing the 100Base-FX fiber cable.
- For **full-duplex** mode, the 512-Bit Rule does not apply. The cable lengths are constrained by the cable requirements (see pages 1 and 2).

NOTE: A fast Ethernet collision domain can have one **one** class I repeater or **two** class II repeaters.

Installation - Continued

Fiber Cable

1. Locate or build IEEE 803.2™ compliant 100Base-FX fiber cable with male, two-stranded TX to RX connectors installed at both ends.
2. Connect the fiber cables to the CBFTF10xx-10x as described:
   - Connect the male **TX** cable connector to the female **TX** port.
   - Connect the male **RX** cable connector to the female **RX** port.
3. Connect the fiber cables to the other device (another media converter, hub, etc.) as described:
   - Connect the male **TX** cable connector to the female **RX** port.
   - Connect the male **RX** cable connector to the female **TX** port.



Twisted-Pair Copper Cable

NOTE: The AutoCross feature allows either MDI (straight-through) or MDI-X (crossover) cable connections to be configured automatically, according to the network conditions.

1. Locate or build IEEE 803.2™ compliant 10Base-T or 100Base-TX cables, with 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 CBFTF10xx-10x media converter.
3. Connect the RJ-45 connector at the other end of the cable to the RJ-45 port on the other device (switch, workstation, etc.).

Installation -- Continued

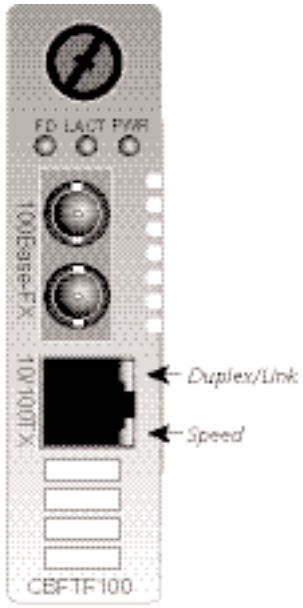
Power the Media Converter

The CBFTF10xx-10x slide-in-module media converter is powered through the Point System™ chassis.

Operation

Status LEDs

Use the status LEDs to monitor the media converter and the network connections.



The "FD" and "LACT" LEDs near the top of the media converter refer to the **fiber port**.

F(ull) D(uplex)

On = Full-duplex fiber connection.

Off = Half-duplex fiber connection.

L(ink) ACT(ivity)

On = Fiber link connection.

Flashing = Fiber network activity.

P(o)W(e)R

On = Connection to external AC or DC power.

The two-color LEDs refer to the **twisted-pair copper port**.

Duplex/Link LED

Yellow = A link on the half-duplex twisted-pair copper link.

Flashing Yellow = Activity on the half-duplex copper link.

Green = A link on the full-duplex twisted-pair copper link.

Flashing Green = Activity on the full-duplex copper link.

Speed LED

Yellow = 10 Mb/s operation.

Green = 100 Mb/s operation.

Operation -- Continued

Product Features

Rate Conversion

The media converter allows connection of ***10Mb/s*** terminal devices on a 10Base-T legacy Ethernet copper network to ***100Mb/s*** terminal devices on a 100Base-TX fast Ethernet copper network.

Auto-Negotiation

The Auto-Negotiation feature allows the CBFTF10xx-10x media converter to automatically configure itself to achieve the best possible mode of operation over a link. The media converter broadcasts its speed (10 Mb/s or 100 Mb/s) and duplex capabilities (full or half) to the other devices and negotiates the best mode of operation. Auto-Negotiation allows quick and easy installation because the optimal link is established automatically.

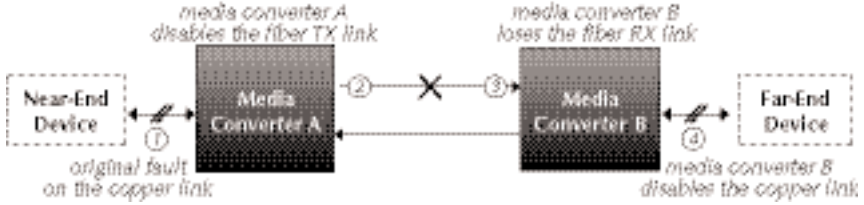
A scenario where the media converter is linked to a non-negotiating device is a case where the user may want to **disable** Auto-Negotiation. In this instance, the mode of operation will drop to the least common denominator between the two devices (e.g.: 10 Mb/s, half-duplex). Disabling this feature gives the user the ability to force the connection to the best mode of operation.

AutoCross™

When the AutoCross feature is activated, it allows either straight-through (MDI) or crossover (MDI-X) copper cables to be used when connecting to 10Base-T or 100Base-TX devices. AutoCross determines the characteristics of the connection and automatically configures the unit to link up, regardless if the copper cable is MDI or MDI-X configuration. (Transition networks recommends leaving the device in the default "enable" mode.)

Link Pass-Through

The Link Pass-Through feature allows the media converter to monitor both the fiber and copper RX (receive) ports for loss of signal. In the event of a loss of an RX signal (1), the media converter will automatically disable the TX (transmit) signal (2), thus, "passing through" the link loss (3). The far-end device is automatically notified of the link loss (4), which prevents the loss of valuable data unknowingly transmitted over an invalid link.



Operation -- Continued

Product Features -- Continued

Distance Extension

The CBFTF10xx-10x media converter segments 10Base-T copper Ethernet and/or 100Base-TX copper fast Ethernet and 100Base-FX fiber fast Ethernet collision domains.

In a **half-duplex** Ethernet or fast Ethernet environment, the CBFTF10xx-10x media converter extends network distances by **segmenting collision domains** so that the 5-Segment Rule (see page 10) or the 512-Bit Rule (see pages 9 and 10) applies separately to each collision domain.

In a **full-duplex** Ethernet or fast Ethernet environment, the CBFTF10xx-10x media converter extends network distances to the **physical cable limitations** imposed by the selected copper and fiber cables (see pages 1 and 2).

Congestion Reduction

The CBFTF10xx-10x media converter does not forward collision signals or error packets from one collision domain to another, improving baseline network performance. In addition, the media converter filters packets destined for local devices, also reducing network congestion.

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:

- Media converter power
- Fiber link status
- Copper link status
- Copper port speed
- Hardware switch settings.

Also, use SNMP to enter network commands that:

- Enable/disable Auto-Negotiation on copper
- Force 10Mb/s or 100Mb/s on copper
- Force full-duplex or half-duplex on copper
- Force full-duplex or half-duplex on fiber
- Select advertised modes (when Auto-Negotiation is enabled)
- Enable/disable pause
- Enable/disable Link Pass-Through
- Enable/disable Far End Fault
- Group control string
- Source address change

Half-Duplex Network

512-Bit Rule - 100Base-TX or 100Base-FX

Use the 512-Bit Rule to calculate the 100Base-TX or 100Base-FX half-duplex collision domain.

In a half-duplex network, the maximum cable lengths are determined by the round trip delay limitations of each fast Ethernet **collision domain**. (A collision domain is the longest path between any two terminal devices, e.g. a **terminal**, **switch**, or **router**.)

The 512-Bit Rule determines the maximum length of cable permitted by calculating the round-trip delay in **bit-times (BT)** of a particular collision domain. If the result is less than or equal to 512 BT, the path is good.

To calculate the round-trip delay for a collision domain:

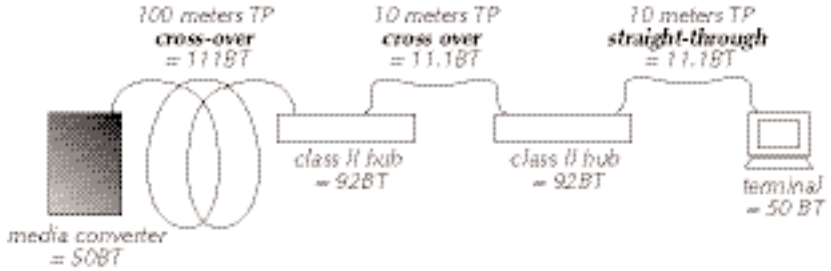
1. Find the collision domain, i.e. the longest path between any two terminal devices (e.g., terminal, switch, and/or router).
2. Calculate the round-trip delay in bit-times for each length of cable.
4. Determine the bit-time values for each device (see table to the right).
3. Add the bit-time values for each length of cable and the bit-times for each device.

Class I hub	140 BT
Class II hub	92 BT
terminal/router	50 BT
1 meter TP cable	1.11 BT
1 meter fiber cable	1 BT
Fast Ethernet switch	50 BT
CBFTF10xx-10x	**50 BT**

NOTE: The 512-Bit Rule applies separately to each collision domain.

100Base-TX Twisted-Pair Example

In the example below, the CBFTF10xx-10x 2-Port bridging media converter acts as a switch. In this case, the collision domain bound by the media converter on one end and a terminal on the other.



Since the total of the bit-times in this example is less than 512 (see chart below), the path is good.

Sum of the bit-times for the example collision domain:

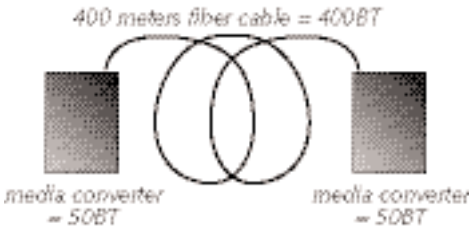
Media converter		= 50.0 BT
100 m TP cable	(100m x 1.11 BT/m)	= 111.0 BT
Two Class II hubs	(2 x 92)	= 184.0 BT
Two 10 m TP cables	(2 x 10m x 1.11 BT/m)	= 22.2 BT
Terminal		= 50.0 BT
Total		**= 417.2 BT**

Half-Duplex Network -- Continued

100Base-TX Fiber Example

The drawing to the right illustrates a collision domain where two media converters are connected via fiber cable.

Since the total of the bit-times in this example is less than 512 (50BT + 400BT + 50BT = 500BT) the path is good.



5-Segment Rule - 10Base-T

Use the 5-Segment Rule to calculate the 10Base-T half-duplex collision domain.

The **5-Segment rule** states that a transmission path of a collision domain can consist of no more than 5 segments. A "collision domain" and a "segment" are defined as follows:

A **collision domain** is the longest path in a 10Base-T network between any two terminal devices, e.g. a terminal, switch, or router. The **CBFTF10xx-10x media converter** is also a terminal device.

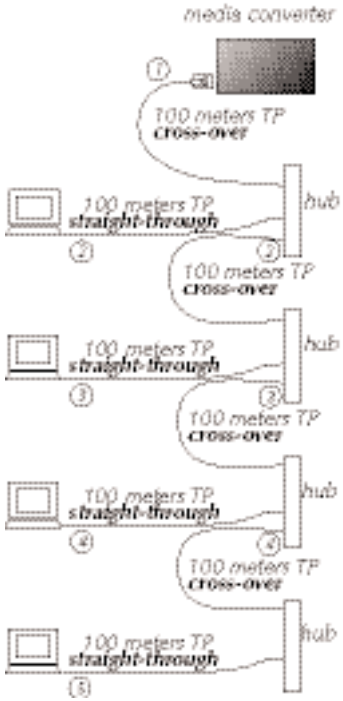
A **segment** is a cable connection between any two network interfaces within a collision domain.

10Base-T Twisted-Pair Example

The example to the right illustrates applying the 5-Segment Rule. The cable between each network device (media Converter, hub, or terminal) is numbered as a "segment".

Note that the longest transmission path (from the media converter at the top to the terminal at the bottom) is 5 segments. Therefore, the network in this example complies with the 5-Segment Rule.

NOTE: The 5-Segment Rule must be applied **separately** to each 10Base-T collision domain.



Cable Specifications

The physical characteristics must meet or exceed IEEE 802.3™ specifications.

Fiber Cable

Bit Error Rate:	<10-9	
single mode fiber (recommended):	9 µm	
Multimode fiber (recommended):	62.5/125 µm	
Multimode fiber (optional):	100/140, 85/140, 50/125 µm	
CBFTF1011-100	1300 nm multimode	
CBFTF1013-100	1300 nm multimode	
Fiber Optic Transmitter Power:	min: -19.0 dBm	max: -14.0 dBm
Fiber Optic Receiver Sensitivity:	min: -30.0 dBm	max: -14.0 dBm
Link Budget:	11.0 dB	
CBFTF1014-100	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -15.0 dBm	max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -31.0 dBm	max: -8.0 dBm
Link Budget:	16.0 dB	
CBFTF1015-100 *(long haul)*	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -8.0 dBm	max: -2.0 dBm
Fiber-optic Receiver Sensitivity:	min: -34.0 dBm	max: -7.0 dBm
Link Budget:	26.0 dB	
CBFTF1016-100 *(extra long haul)*	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -5.0 dBm	max: 0.0 dBm
Fiber-optic Receiver Sensitivity:	min: -34.0 dBm	max: -7.0 dBm
Link Budget:	29.0 dB	
CBFTF1017-100 *(long wave length)*	1550 nm single mode	
Fiber-optic Transmitter Power:	min: -5.0 dBm	max: 0.0 dBm
Fiber-optic Receiver Sensitivity:	min: -34.0 dBm	max: -7.0 dBm
Link Budget:	29.0 dB	
CBFTF1018-100	1300 nm multimode	
Fiber-optic Transmitter Power:	min: -19.0 dBm	max: -14.0 dBm
Fiber-optic Receiver Sensitivity:	min: -33.5 dBm	max: -14.0 dBm
Link Budget:	14.5 dB	
CBFTF1019-100	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -15.2 dBm	max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.5 dBm	max: -3.0 dBm
Link Budget:	17.3 dB	

Cable Specifications -- Continued

CBFTF1029-100	1310 nm (TX) / 1550 nm (RX) simplex	
CBFTF1029-101	1550 nm (TX) / 1310 nm (RX) simplex	
Fiber-optic Transmitter Power:	min: -13.0 dBm	max: -6.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.0 dBm	max: -3.0 dBm
Link Budget:	19.0 dB	
CBFTF1029-102	1310 nm (TX) / 1550 nm (RX) simplex	
CBFTF1029-103	1550 nm (TX) / 1310 nm (RX) simplex	
Fiber-optic Transmitter Power:	min: -8.0 dBm	max: -3.0 dBm
Fiber-optic Receiver Sensitivity:	min: -33.0 dBm	max: -3.0 dBm
Link Budget:	25.0 dB	
CBFTF1035-100 *(long wave)*	1550 nm multimode	
Fiber Optic Transmitter Power:	min: 0.0 dBm	max: +5.0 dBm
Fiber Optic Receiver Sensitivity:	min: -36.0 dBm	max: -3.0 dBm
Link Budget:	36 dB	
CBFTF1039-100	1300 nm multimode	
Fiber Optic Transmitter Power:	min: -19.0 dBm	max: -14.0 dBm
Fiber Optic Receiver Sensitivity:	min: -30.0 dBm	max: -14.0 dBm
Link Budget:	11 dB	

The fiber optic transmitters on this device meet Class I Laser safety requirements per IEC-825/CDRH standards and comply with 21 CFR1040.10 and 21CFR1040.11.

Copper Cable

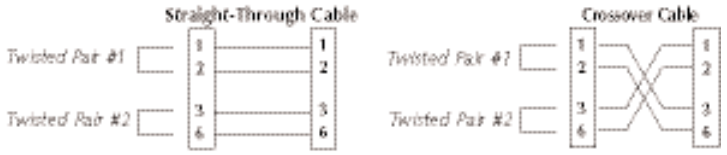
Category 3: (Minimum requirement for 10 Mb/s operation)

Gauge	24 to 22 AWG
Attenuation	11.5 dB/100m @ 5-10 MHz
Maximum Cable Distance	100 meters

Category 5: (Minimum requirement for 100 Mb/s operation)

Gauge	24 to 22 AWG
Attenuation	22.0 dB /100m @ 100 MHz
Maximum Cable Distance	100 meters

- 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 .
- 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.



Technical Specifications

For use with Transition Networks Model CBFTF10xx-10x or equivalent.

Standards	IEEE 802.3™	
Data Rate	10 Mb/s, 100 Mb/s	
Dimensions	3.4" x 0.87" x 5.0" (86 x 22 x 182 mm)	
Weight	3 oz. (91 g) (approximate)	
Power Consumption	4.95 watts	
MTBF	426,000 hours (MIL217F2 V5.0) (MIL-HDBD-217F) 1,326,000 hours (Bellcore7 V5.0)	
Packet Size:	Memory: 256K bytes (2 Mbit) Unicast MAC addresses: 4K Maximum packet size: 1536 bytes	
Environment	Tmra*:	0 to 60°C (32 to 122°F)
	Storage Temp:	-20 to 85°C (-4 to 185°F)
	Humidity:	5 to 95%, non condensing
	Altitude:	0 to 10,000 feet
Warranty	Lifetime	

*Manufacturer's rated ambient temperature: Tmra range for this device depends on the physical characteristics and the installation configuration of the Transition Networks PointSystem™ chassis in which this slide-in-module will be installed.

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

Product is certified by the manufacturer to comply with DHHS Rule 21/CFR, Subchapter J applicable at the date of manufacture.

CAUTION: Visible and invisible laser radiation when open. Do not stare into the beam or view directly with optical instruments.

CAUTION: Use of controls, adjustments or the performance of procedures other than those specified herein may result in hazardous radiation exposure.

Troubleshooting

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

1. **Is the power LED illuminated?**

   NO
   - Is the media converter inserted properly into the chassis?
   - Is the power cord properly installed in the chassis and at the external power source and 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.

Troubleshooting

2. Is the "Duplex/Link" LED illuminated on the twisted-pair copper port?

NO

- Check the copper cables for proper connection.
- Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

YES

- Yellow = The media converter has selected half-duplex mode.
- Green = The media converter has selected full-duplex mode.
- If the mode is not correct, disconnect and reconnect the twisted pair cable to restart the initialization process.
- Proceed to step 3.

3. Is the "LACT" LED illuminated on the fiber port?

NO

- Check the fiber cables for proper connection.
- Verify that the TX and RX cables are connected to the RX and TX ports, respectively, on the 100Base-FX device.
- Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

YES

- Proceed to step 4.

4. Is the "Speed" LED illuminated on the twisted-pair cable port?

NO

- Check the copper cables for proper connection.
- Contact Tech Support: 1-800-260-1312, Int'l: 00-1-952-941-7600.

YES

- Yellow = The media converter has selected 10Mb/s operation.
- Green = The media converter has selected 100Mb/s operation.
- If the speed is not correct, disconnect and reconnect the twisted pair cable to restart the initialization process.
- Proceed to step 5.

5. Is the Link in the proper position?

NO

- The link may "flap" (go from "link up" to "link down") when the link is lost (if the media converter has the Link Pass-Through function enabled and is in forced 10/100 Mb mode).
- To remedy the situation in ***software*** mode, enable the Far-End Fault function (if it is not already enabled).
- (In ***hardware*** mode, Far-End Fault is enabled by default.)
- 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.

Compliance Information

CISPR22/EN55022 Class A + EN55024
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 Fäll ist der Benutzer für Gegenmaßnahmen verantwortlich.

Attention! Ceci est un produit de Classe A. Dans un environment domestique, ce produit risque de créer des interférences radioélectriques, il appartiendra alors à l'utilsateur de prende les measures spécifiques appropriées.

VCCI Class 1 Compliance

This equipment is in the 1st Class category (information equipment to be used in commercial and/or industrial areas) and conforms to the standards set by the Voluntary Control Council For Interference by Data Processing Equipment and Electronic Office Machines aimed at preventing radio interference in commercial and/or industrial areas. When used in a residential area or in an adjacent area thereto, interference may be caused to radio and TV receivers, etc. Read the instructions for correct handling.

この装置は，第一種情報装置（商工業地域において使用されるべき情報装置）で商工業地域での電波障害防止を目的とした情報処理装置等電波障害自主規制協議会（ＶＣＣＩ）基準に適合しております。

従って、住宅地域またはその隣接した地域で使用すると、ラジオ，テレビジョン受信機等に受信障害を与えることがあります。

取扱説明書に従って正しい取り扱いをして下さい。

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 öffentlickes Telekommunikationsnetz in den EG-Mitgliedstaaten verstösst gegen die jeweligen 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

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.

Web-Based Seminars

Transition Networks provides seminars via live web-based training.
Log onto **www.transition.com** and click the **Learning Center** link.

E-Mail

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

Address

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TRANSITION NETWORKS®

Declaration of Conformity

Name of Mfg:	Transition Networks 10900 Red Circle Drive, Minnetonka MN 55343 U.S.A.
Model:	CBFTF10xx-10x Series Media Converters
Part Number(s):	CBFTF1011-100, CBFTF1013-100, CBFTF1014-100, CBFTF1015-100, CBFTF1016-100, CBFTF1017-100, CBFTF1018-100, CBFTF1019-100, CBFTF1029-100, CBFTF1029-101, CBFTF1029-102, CBFTF1029-103, CBFTF1035-100,CBFTF1039-100
Regulation:	EMC Directive 89/336/EEC

Purpose: To declare that the CBFTF10xx-10x to which this declaration refers is in conformity with the following standards.

CISPR 22:1993; EN 55022:1998 Class A; EN 55024:1998; FCC Part 15 Subpart B; CFR 21 subpart J; EN 61000-3-2:1995 + A14:2000; EN61000-3-3:1995

I, the undersigned, hereby declare that the equipment specified above conforms to the above Directive(s) and Standard(s).

Stephen Anderson, Vice-President of Engineering

January , 2008
Date

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