

Compliance Information

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.



In accordance with European Union Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003, Transition Networks will accept post usage returns of this product for proper disposal. The contact information for this activity can be found in the 'Contact Us' portion of this document.

Trademark Notice

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User's Guide

J/E-CF-02

Stand-Alone Media Converter

- Ethernet
- Copper to Fiber
- 10Base-T to 10Base-FL

Transition Networks J/E-CF-02 series Ethernet 10Base-T to 10Base-FL media converters connect 10 Mb/s twisted-pair copper cable to 10 Mb/s fiber-optic cable.

Part Number	Port One - Copper	Port Two - Duplex Fiber-Optic
J/E-CF-02	RJ-45, 10Base-T 100 m (328 ft)*	ST, 10Base-FL, 850 nm multimode 2 km (1.2 miles)*
J/E-CF-02(SC)	RJ-45, 10Base-T 100 m (328 ft)*	SC, 10Base-FL, 850 nm multimode 2 km (1.2 miles)*
J/E-CF-02(SM)	RJ-45, 10Base-T 100 m (328 ft)*	SC, 10Base-FL, 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.

Optional Accessories: (sold separately)

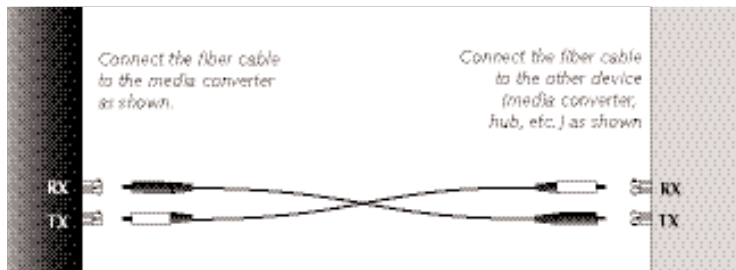
Part Number	Description
E-MCR-04	12-Slot media converter rack (includes universal internal power supply) 17 x 15 x 5 in. (432 x 381 x 127 mm)
SPS-1872-SA	Optional external power supply; 18-72VDC stand-alone Output: 12.6VDC, 1.0 A
SPS-1872-CC	Optional external power supply; 18-72VDC piggy-back Output: 12.6VDC, 1.0 A
WMBS	Optional wall mount brackets; length: 3.2 in. (81 mm)
WMBD	Optional DIN Rail Mount Bracket; 5.0 in. (127 mm)
WMBD-FS	Optional DIN Rail Mount Bracket (flat, small); 3.1in. (79 mm)

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Installation

Install the fiber cable

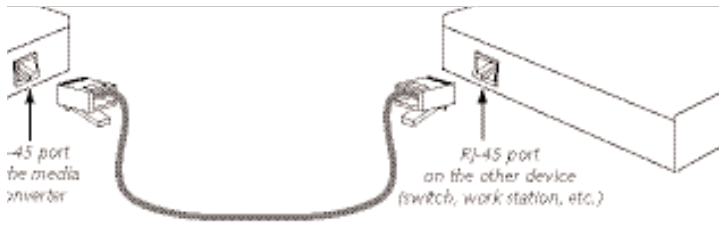
1. Locate a 10Base-FL fiber cable with male, two-stranded TX to RX connectors installed at both ends.
2. Connect the fiber cables to the J/E-CF-02 media converter as described:
 - Connect the male TX cable connector to the female TX port.
 - Connect the male RX cable connector to the female RX port.
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.



Install the copper cable

Note: Connections between the J/E-CF-02 and a hub, or a switch require straight-through cable. Connections between the J/E-CF-02 and a terminal, transceiver, router, or NIC require crossover cable. (See page 4 for copper cable specifications.) Failure to observe this caution will cause data transfer to fail.

1. Locate or build 10Base-T 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 J/E-CF-02 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.*).



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

Transition Networks
 10900 Red Circle Drive Minnetonka MN 55343, U.S.A.
 telephone: 952-941-7600
 toll free: 800-526-9267
 fax: 952-941-2322

TRANSITION NETWORKS®		Declaration of Conformity	
Name of Mfg:	Transition Networks 10900 Red Circle Drive, Minnetonka MN 55343 U.S.A.		
Model:	J/E-CF-02 Series Media Converters		
Part Number(s):	J/E-CF-02, J/E-CF-02(SC), J/E-CF-02(SM)		
Regulation:	EMC Directive 89/336/EEC; U.S.A. CFR		
Purpose:	To declare that the J/E-CF-02 to which this declaration refers is in conformity with the following standards.		
	EN 55022:1998 Class A; EN 55024:1998; FCC Part 15 subpart B; EN 61000-3-2:2000; EN 61000-3-3:1995+A1:2001		
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			April, 2007 Date

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 "Pwr" LED on the media converter illuminated?
 - NO
 - Is the power adapter the proper type of voltage and cycle frequency for the AC outlet? (See "Power Supply" on page 5.)
 - Is the power adapter properly installed in the media converter and in the outlet?
 - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.
 - YES
 - Proceed to step 2.
2. Is the "Copper" LED flashing?
 - NO
 - Check the copper cable for proper connection.
 - Contact Technical Support: US/Canada: 1-800-260-1312, International: 00-1-952-941-7600.
 - YES
 - Proceed to step 3.
3. Is the "Fiber" LED flashing?
 - NO
 - Check the fiber cables for proper connection.
 - Verify that the TX and RX cables on the media converter are connected to the RX and TX ports, respectively, on the other 10Base-FL device.
 - 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.

Installation -- Continued

Power the media converter

AC

1. Install the power adapter cord to 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.

DC

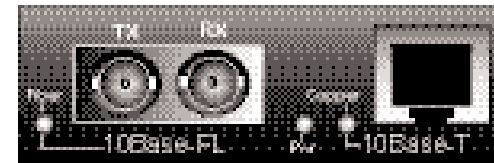
Consult the user's guide for the Transition Networks SPS1872-xx DC external power supply for powering the media converter.

Operation

Status LEDs

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

Pwr	On	= Connection to external AC power.
Fiber	On	= A fiber link connection.
	Flashing	= No link or link is down.
Copper	On	= A copper link connection.
	Flashing	= No link or link is down.



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	
J/E-CF-02	850 nm multimode	
Fiber Optic Transmitter Power:	min: -20.0 dBm	max: -10.0 dBm
Fiber Optic Receiver Sensitivity:	min: -32.5 dBm	max: -7.2 dBm
Link Budget:	12.5 dB	
J/E-CF-02(SC)	850 nm multimode	
Fiber Optic Transmitter Power:	min: -20.0 dBm	max: -10.0 dBm
Fiber Optic Receiver Sensitivity:	min: -32.5 dBm	max: -7.2 dBm
Link Budget:	12.5 dB	
J/E-CF-02(SM)	1310 nm single mode	
Fiber-optic Transmitter Power:	min: -23.0 dBm	max: -10.0 dBm
Fiber-optic Receiver Sensitivity:	min: -35.0 dBm	max: -14.0 dBm
Link Budget:	12.0 dB	

Copper cable

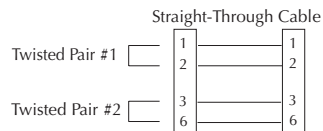
Category 3 (minimum requirement)

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

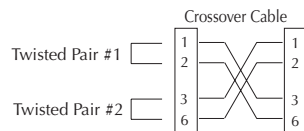
Category 5 (recommended)

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

- Straight-through OR crossover cable may be used (see below).
- Shielded twisted-pair (STP) OR unshielded twisted-pair (UTP) 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.



Use straight-through cable when connecting to a hub or switch.



Use crossover cable when connecting to a terminal, transceiver, router, or NIC.

Technical Specifications

For use with Transition Networks Model J/E-CF-02 or equivalent.

Standards	IEEE 802.3™
Data Rate	10 Mb/s
Case Dimensions	3.9" x 3.0" x 1.0" (99mm x 76mm x 25mm)
Weight	6 oz. (181 g)
Power Consumption	2.8 watts, 200 mA @ 13.9 VDC
Power Supply	12VDC, 0.5 Amp (North America)
DC Output	12VDC, 0.41 Amp (Europe, Japan, Latin Am.) 12VDC, 1.25 Amp (UK, Australia, South Africa)
MTBF	(w/ power supply)53,077 hours (MIL217F2 V5.0) (MIL-HDBK-217F) 124,650 hours (Bellcore7 V5.0)
Environment	Tmra*: 0° to 50°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

The information in this user's guide is subject to change. For the most up-to-date information on the J/E-CF-02 media converter, 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.

WARNING: Visible and invisible laser radiation when open. Do not stare into the beam or view the beam directly with optical instruments. Failure to observe this warning could result in an eye injury or blindness.

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

CAUTION: Copper based media ports, e.g., Twisted Pair (TP) Ethernet, USB, RS232, RS422, RS485, DS1, DS3, Video Coax, etc., are intended to be connected to intra-building (*inside plant*) link segments that are not subject to lightning transients or power faults. Copper based media ports, e.g., Twisted Pair (TP) Ethernet, USB, RS232, RS422, RS485, DS1, DS3, Video Coax, etc., are NOT to be connected to inter-building (*outside plant*) link segments that are subject to lightning transients or power faults.

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.