

COMPLIANCE INFORMATION

UL Listed
C-UL Listed (Canada)
CISPR/EN55022 Class A

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 welchen Fällen der Benutzer für entsprechende Gegenmaßnahmen verantwortlich ist.

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.

Trademark Notice

All registered trademarks and trademarks are the property of their respective owners.

Copyright Restrictions

© 1999-2001 TRANSITION Networks.

All rights reserved. No part of this work may be reproduced or used in any form or by any means – graphic, electronic, or mechanical – without written permission from TRANSITION Networks.

Printed in the U.S.A.

33119.D



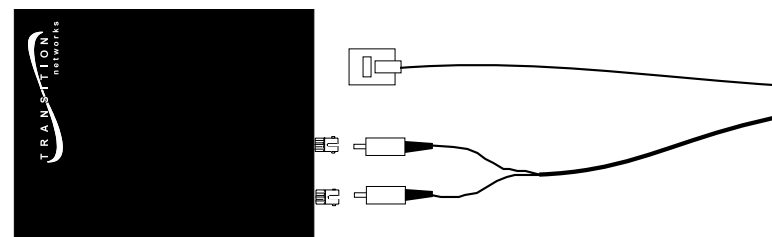
Minneapolis, MN 55344 USA

Fast Ethernet™ Media Converters

J/FE-CF-01(ST), J/FE-CF-01(SC)

USER'S GUIDE

The TRANSITION Networks J/FE-CF-01 series Fast Ethernet™ media converters connect either unshielded or shielded 100BASE-TX twisted-pair copper cable to 100BASE-FX multimode fiber-optic cable.



J/FE-CF-01(ST)

Provides an RJ-45 twisted pair copper connector and a set of RX (receive) and TX (transmit) **ST** connectors to **multimode** fiber-optic cable.

J/FE-CF-01(SC)

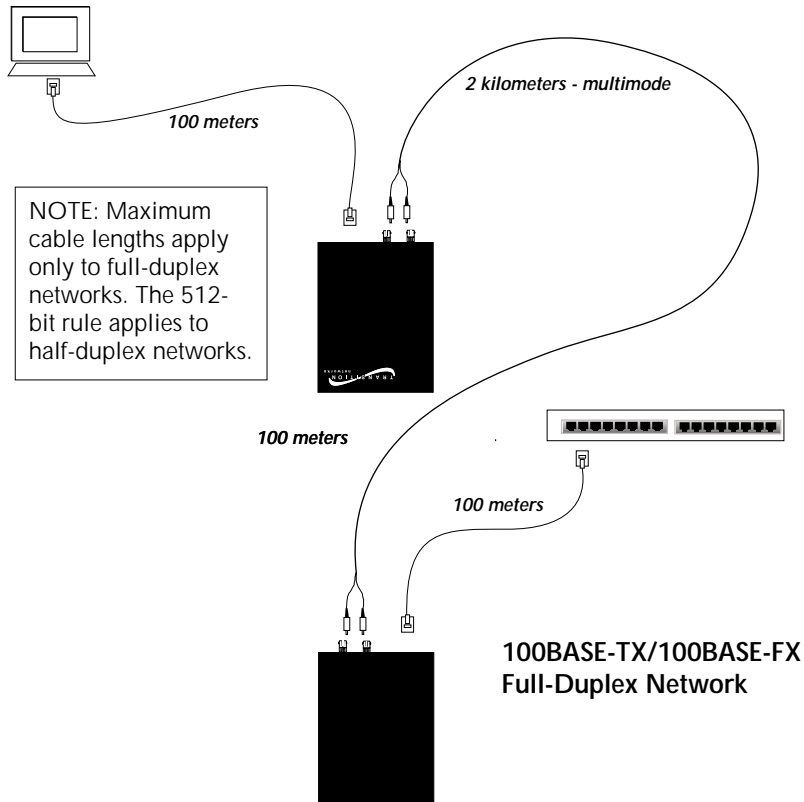
Provides an RJ-45 twisted pair copper connector and an RX (receive) and TX (transmit) **SC** connector to **multimode** fiber-optic cable.

The **AutoCross™** feature allows either straight-through (MDI) or crossover (MDI-X) cables to be used when connecting to 100BASE-TX devices, such as hubs, transceivers, or network interface cards (NICs). AutoCross™ determines the characteristics of the cable connection and automatically configures the unit to link up, regardless of the cable configuration.

The **LinkALERT™** feature allows the J/FE-CF-01 media converter to pass 100BASE-TX side link faults to the 100BASE-FX side and to pass 100BASE-FX side link faults to the 100BASE-TX side.

J/FE-CF-01 in the Network	2
Installation	3
Operation	4
Fault Isolation and Correction	4
Cable Specifications	6
Technical Specifications	7
Compliance Information	8

J/FE-CF-01 IN THE NETWORK



NOTE: Maximum cable lengths apply only to full-duplex networks. The 512-bit rule applies to half-duplex networks.

100BASE-TX/100BASE-FX Half-Duplex Collision Domain 512-Bit Rule

To calculate the round trip delay (in bit-times) in a half-duplex Fast Ethernet™ network collision domain, find the longest path in the collision domain. Calculate the round trip delay for each cable segment in the collision domain by multiplying the length of the cable (in meters) by the delay per meter (in bit-times (BT)). Calculate the total round trip delay by taking the sum of all the cable delays plus station (DTE) and repeater delays. If the result is less than or equal to 512 bit-times, the path passes the test. NOTE: The J/FE-CF-01 has a 50 BT delay.

Class I Repeater	140 BT
Class II Repeater	92 BT
Class I TX/FX Media Converter	130 BT
Class II TX/FX Media Converter	92 BT
DTE	50 BT
1 meter of CAT.5 TP cable	1.11 BT
1 meter of fiber cable	1 BT
Fast Ethernet Switch	50 BT

TECHNICAL SPECIFICATIONS

Standards IEEE 802.3u
Case Dimensions 4.0" x 3.25" x 1.0" (102 mm x 83 mm x 25 mm)
Power Supply Requirements Replace power supply with only the equivalent input rating (see below) and output rating (regulated 12VDC at 500 mA).

TN PN	Requirement	Location
25010	240 volts, 50 hertz	United Kingdom
25009	230 volts, 50 hertz	Europe
25007	120 volts, 60 hertz	USA/Canada/Mexico
25020	100 volts, 50-60 hertz	Japan
25023	240 volts, 50 hertz	Australia

Environment Typical Operating Temperature: 0° to 50°C (32° to 122°F)
 Storage Temperature: -20° to 85°C (-4° to 185°F)
 Humidity 10-90%, non condensing
 Altitude 0-10,000 feet

Warranty Lifetime



DECLARATION OF CONFORMITY

Name of Mfg: **Transition Networks**
 6475 City West Parkway, Minneapolis MN 55344 USA
 Model: **J/FE-CF-01 Series Media Converters**
 Part Number(s): **J/FE-CF-01(ST), J/FE-CF-01(SC)**
 Regulation: **EMC Directive 89/336/EEC**

Purpose: To declare that the *J/FE-CF-01* to which this declaration refers is in conformity with the following standards.

EMC-CISPR 22: 1985 Class A; EN 55022: 1988 Class A; EN 50082-1:1992; EN 60950 A4:1997; IEC 801.2, IEC 801.3, and IEC 801.4; IEC 950

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

June 8, 1999
 Date

CABLE SPECIFICATIONS

The physical characteristics of the media cable must meet or exceed IEE 802.3 specifications.

FIBER CABLE

MULTIMODE

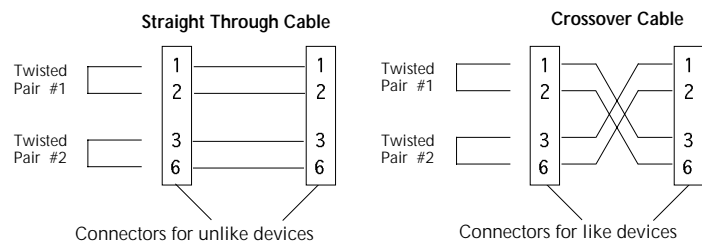
Fiber Optic Cable Recommended:	62.5 / 125 μ m multimode fiber
Attenuation:	3.7 dBm/ 1 kilometer @ 850 nm
Maximum Number of Nodes:	2 nodes
Maximum Cable Distance:	412 meters (1380 feet) / half-duplex 2 kilometers (6562 feet) / full-duplex
Media Standards:	IEC 793-2, Type A1b, category 3.5 dB/km

COPPER CABLE AND CONNECTOR

Category 5 twisted-pair copper wire is required. Either shielded twisted-pair (STP) or unshielded twisted-pair (UTP) can be used. **DO NOT USE FLAT OR SILVER SATIN WIRE.**

CATEGORY 5:

Gauge	24 to 22 AWG
Attenuation	22.0 dB /100m @ 100 MHz
Maximum Number of Nodes:	2 nodes
Maximum Cable Distance:	100 meters
RJ-45 Pin-out::	Pin 1=TD+, Pin 2=TD-, Pin 3=RD+, Pin 6=RD-



Twisted pair connection requires two active pairs configured as straight through and/or crossover. The two active pairs in an Ethernet™ network are pins 1 & 2 and pins 3 & 6. Use only dedicated wire pairs (such as blue/white & white/blue, orange/white & white/orange) for the active pins.

INSTALLATION

Install Cable

NOTE: See page 6 for cable specifications and configurations.

COPPER

NOTE: KEEP TWISTED PAIR RUNS AS SHORT AS POSSIBLE.

NOTE: AutoCross™ allows the use of either straight-through or crossover configuration cables.

- Locate or build 100BASE-TX compliant cables (either straight-through or crossover) with male RJ-45 plug connectors at both ends.
- Connect male RJ-45 plug connector at one end of cable to media converter RJ-45 jack connector.
- Connect male RJ-45 plug connector at other end of cable to 100BASE-TX terminal device RJ-45 jack connector.

FIBER

- Locate or build 100BASE-FX compliant fiber cable with male two-stranded TX to RX connectors at both ends.
- Connect male TX and RX cable connectors at one end of cable to TX and RX female connectors, respectively, on media converter.
- Connect male TX and RX cable connectors at other end of cable to RX and TX connectors of 802.3 compliant fiber device.

Connect to Power

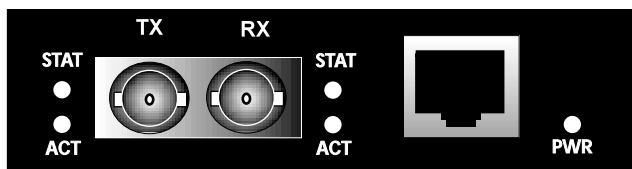
- Install Power Adapter cord at back of Media Converter.
- Connect Power Adapter plug to AC power.
- Verify that Media Converter is powered by observing illuminated LED(s).

OPERATION

After installation, the media converter should function without operator intervention.

Status LEDs

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



STAT(us) (100BASE-TX)	Steady green LED indicates normal operation. One (1) blink indicates Link Down. Two (2) blinks indicates 100BASE-TX Normal Link Pulses.
ACT(ivity) (100BASE-TX)	Flashing amber LED indicates 100BASE-TX activity.
STAT(us) (100BASE-FX)	Steady green LED indicates normal operation. One (1) blink indicates Link Down. Two (2) blinks indicates reception of Far End Fault.
ACT(ivity) (100BASE-FX)	Flashing amber LED indicates 100BASE-FX activity.
P(o)W(e)R	Steady green LED indicates power.

FAULT ISOLATION and CORRECTION

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 P(o)W(e)R LED on the media converter illuminated?

NO

- Is the power adapter the proper voltage and frequency for AC outlet? NOTE: Refer to "Power Supply Requirements" on page 7.
- Is the power adapter properly installed in the media converter and in the outlet?
- Contact Technical Support: (800) 260-1312/(800) LAN-WANS.

YES

- Proceed to step 2.

2. Does the green 100BASE-TX Status LED blink once* and go off?

YES

- Check twisted pair cables for proper connection.
- Contact Technical Support: (800) 260-1312/(800) LAN-WANS.

NO

- Proceed to step 3.

3. Does the green 100BASE-FX Status LED blink once and go off?

YES

- Check fiber cables for proper connection.
- Verify that TX and RX cables on media converter are connected to RX and TX ports, respectively, on other device.
- Contact Technical Support: (800) 260-1312/(800) LAN-WANS.

NO

- Proceed to step 4.

4. Does the green 100BASE-FX Status LED blink twice and go off?

YES

- Check fiber cables for proper connection.
- Determine cause of Far End Fault and then repair or replace faulty equipment in fiber link.
- Contact Technical Support: (800) 260-1312/(800) LAN-WANS.

NO

- Proceed to step 5.

5. Is the amber 100BASE-TX Activity LED illuminated?

NO

- Restart the workstation to restart the initialization process.
- Contact Technical Support: (800) 260-1312/(800) LAN-WANS.

YES

- Proceed to step 6.

6. Is the amber 100BASE-FX Activity LED illuminated?

NO

- Restart the workstation to restart the initialization process.
- Contact Technical Support: (800) 260-1312/(800) LAN-WANS.

YES

- Contact Technical Support: (800) 260-1312/(800) LAN-WANS.

*If 100BASE-TX Status LED blinks twice and the media converter is connected to a 100BASE-TX device, the media converter is Auto-Negotiating and no action is necessary. NOTE: The media converter will not operate properly if connected to a 10BASE-T device.