

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.

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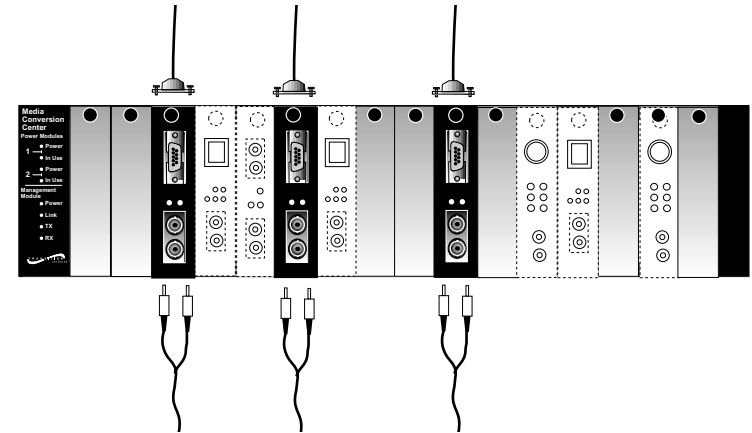
Minneapolis, MN 55344 USA

RS-232 Serial-Port Fiber Extension Slide-In-Module Media Converters

C/RS232-CF-01

USER'S GUIDE

Designed to be installed in the TRANSITION Networks E-MCC-1600 Media Converter Chassis, C/RS232-CF-01 RS-232 serial-port fiber extension media converters extend distances between Data Terminal Equipment (DTE) and Data Channel Equipment (DCE) OR between Data Terminal Equipment (DTE) and Data Terminal Equipment (DTE) up to two (2) kilometers over *multimode* fiber (62.5/125) @ 850 nM.



C/RS232-CF-01

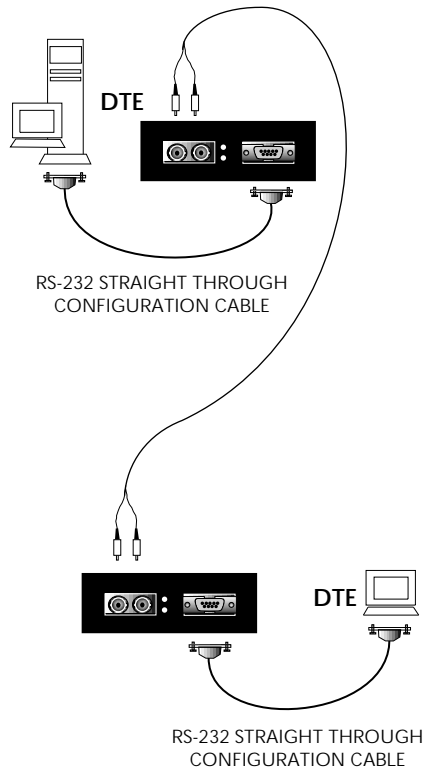
Provides one (1) DB-9 RS-232 copper connector and one (1) set of RX (receive) and TX (transmit) ST 100BASE-FX connectors to *multimode* fiber (62.5/125) @ 850 nM.

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C/RS232-CF-01 IN THE NETWORK

The C/RS232-CF-01 can be used to install a fiber network extension between DTEs or between a DTE and a DCE.


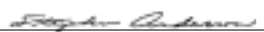
A straight-through cable configuration is required for installation between DTEs. A null modem cable configuration is required for installation between a DTE and a DCE. (See page 6.)



TECHNICAL SPECIFICATIONS

Standards	TIA/EIA-574	
Data Rate	1200-115,000 bits per second	
Optical Loss Budget	^a 10dB	
Case Dimensions	5.7" x 3.0" x 1.8"	(145mm x 76mm x 46mm)
Shipping Weight	3 pounds	(1.4 kilograms)
Power Consumption	<100mA	
Environment	Temperature:	0-50°C (32° to 122° F)
	Humidity	10-90%, non condensing
	Altitude	0-10,000 feet
Warranty	Lifetime	

NOTE: SHIELDED CABLES REQUIRED ON DB-9 FOR EMC COMPLIANCE.

 DECLARATION OF CONFORMITY	
Name of Mfg:	Transition Networks 6475 City West Parkway, Minneapolis MN 55344 USA
Model:	C/RS232-CF-01 Series Serial-Port Extension Media Converters
Part Number(s):	C/RS232-CF-01, C/RS232-CF-01(SM)
Regulation:	EMC Directive 89/336/EEC
Purpose: To declare that the C/RS232-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>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	July 1, 1999 Date

CABLE SPECIFICATIONS

The physical characteristics of the media cable must meet or exceed TIA/EIA-232-F (2.1.4) specifications.

Fiber Cable

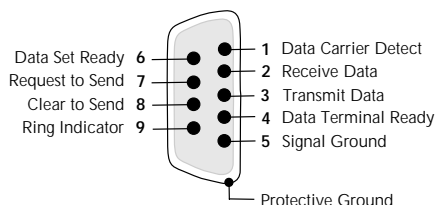
MULTIMODE

Fiber Optic Cable Recommended:	62.5 / 125 μm multimode fiber
Optional:	100 / 140 μm multimode fiber
	85 / 125 μm multimode fiber
	50 / 125 μm multimode fiber
Fiber Optic Transmitter Power:	-28.0 dBm
Fiber Optic Receiver Sensitivity:	-38.0 dBm
Wavelength :	850nm
Bit error rate:	$\leq 10^{-9}$
Maximum Cable Distance:	2 kilometers

RS-232 Copper Cable

Gauge	24 to 22 AWG
Attenuation	20 dB/1000' @ 10 MHz
Differential Characteristic Impedance	100 $\Omega \pm 10\%$ @ 10 MHz
Maximum Cable Distance:	<15 feet

RS-232 SIGNALS



INSTALLATION

NOTE: Ensure that two (2) recessed switches located at side of media converter are set to the UP position. (Use small flatblade screwdriver or similar device to set switch position, if necessary.)

Install Slide-In-Module in E-MCC-1600 Chassis

NOTE: Media Converter Slide-in-Modules can be installed in any installation slot, in any order.

- Remove Media Converter Slide-in-Module protective plate from selected installation slot by removing two (2) screws that secure plate to front of E-MCC-1600.
- Carefully slide Media Converter Slide-in-Module into installation slot, aligning Media Converter Slide-in-Module with installation guides.

NOTE: Ensure that the Media Converter Slide-in-Module is firmly seated against the backplane.

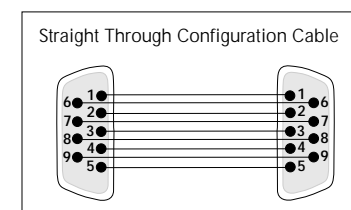
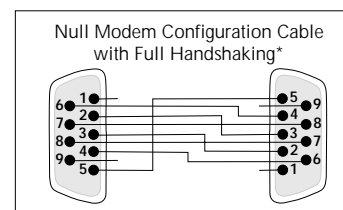
- Secure Slide-in-Module by securing panel fastener screw attached to Slide-in-Module to E-MCC-1600 chassis.

Install Cable

COPPER

NOTE: **Shielded cables required on DB-9 for EMC compliance.**

- Locate or build TIA/EIA-574 compliant cables with male DB-9 connectors and with straight-through cable configuration for connection



*Particular requirements for different equipment may vary.

to DTE and/or with null-modem cable configuration for connection to DCE. (See below.)

- Connect male DB-9 connector at one end of cable to media converter female DB-9 connector.
- Connect male DB-9 connector at other end of cable to DTE female DB-9 connector (using straight-through cable configuration) or to DCE female DB-9 connector (using null-modem cable configuration).

FIBER

- Connect male **TX** and **RX** cable connectors at one end of cable to **TX** and **RX** female connectors, respectively, on media converter.

OPERATION

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

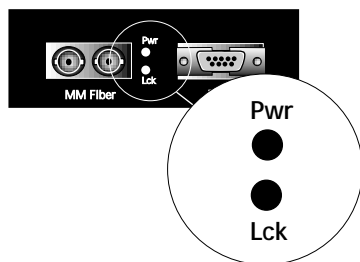
NOTE: A temporary interruption of data flow during some types of transients may require the software to recover. No operator intervention is required at media converter.

Status LEDs:

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

P(o)w(e)r Steady green LED indicates connection to external power

L(o)ck Steady green LED indicates that fiber link is in functional "lock" condition.



FAULT ISOLATION and CORRECTION

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 P(o)w(e)r LED on the media converter illuminated?

NO

- Ensure that media converter is seated firmly in E-MCC-1600 chassis?
- Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

YES

- Proceed to step 2.

2. Is the L(o)ck LED illuminated?

NO

- Check fiber cables for proper connection.
- Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

YES

- Proceed to step 3.

3. Does data fail to move across link, even though both LEDs are illuminated?

YES

- Check RS-232 cables for proper connection.
- Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.