

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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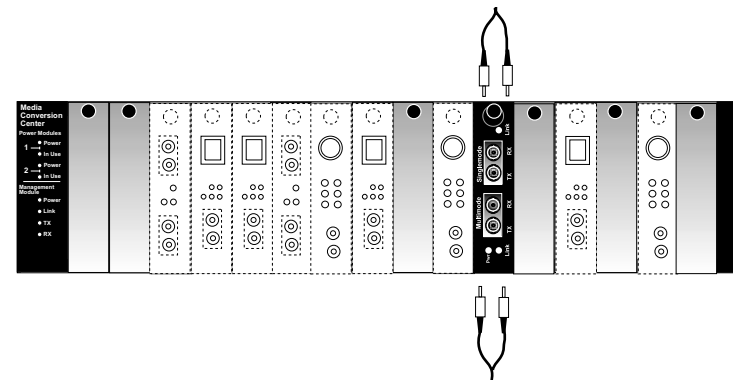
155 Mb/s Singlemode/Multimode Media Converters

C/F-SM-MM-02, C/F-SM-MM-02(LH), C/F-SM-MM-02(XL), C/F-SM-MM-02(LW)

USER'S GUIDE

Designed to be installed in the TRANSITION Networks E-MCC-1600 Media Converter Chassis, the protocol-independent TRANSITION Networks C/F-SM-MM-02 series 155 Mb/s Singlemode/ Multimode media converters connect singlemode fiber-optic cable to multimode fiber-optic cable.

C/F-SM-MM-02

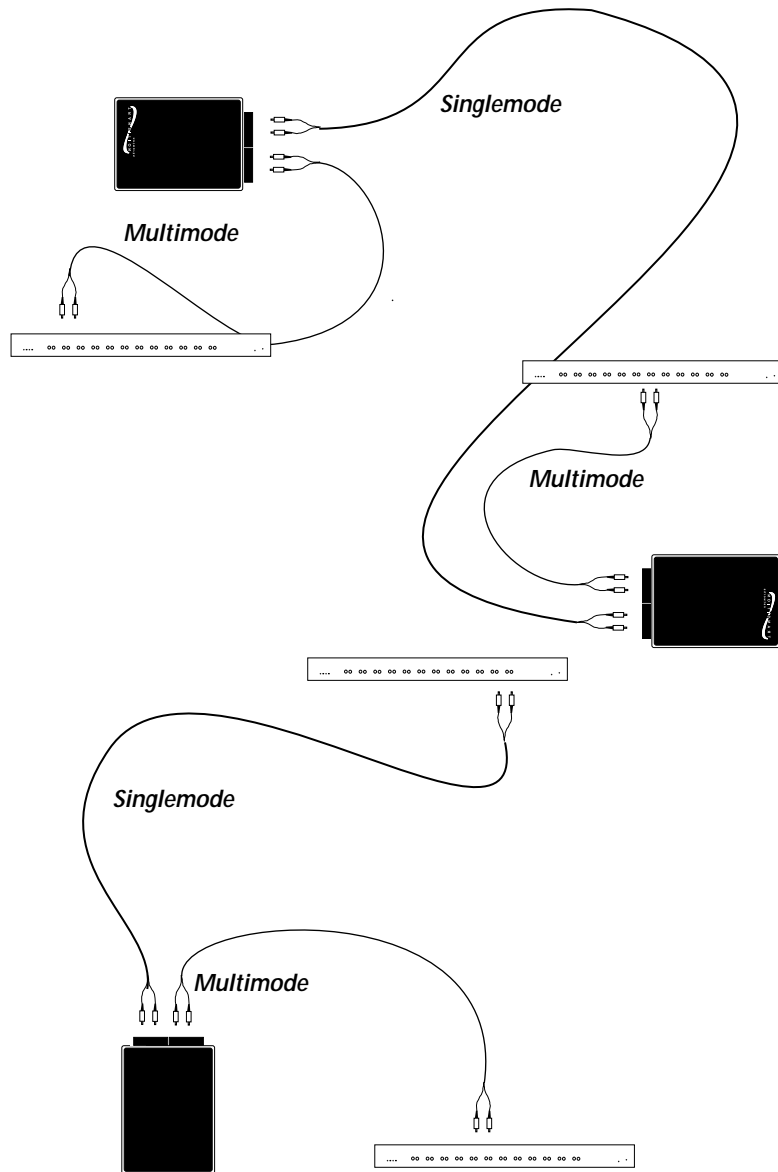


Provides a set of RX (receive) and TX (transmit) SC connectors to **singlemode** fiber-optic cable and a set of RX (receive) and TX (transmit) SC connectors to **multimode** fiber-optic cable.

The C/F-SM-MM-02 media converters can be installed in any 155Mb/s (or slower) fiber network. NOTE: C/F-SM-MM-02 media converters function in half-duplex mode or, when connected to devices capable of full-duplex connectivity, in full-duplex mode.

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C/F-SM-MM-02 IN THE NETWORK



NOTE: This product is NOT a repeater. Therefore, maximum distances depend on specific characteristics of the installation. The full distances of BOTH singlemode and multimode fiber MAY NOT be supported *in the same installation*.

TECHNICAL SPECIFICATIONS

Standards	IEEE 802.3u	
Case Dimensions	4.75" x 3.0" x 1.0"	(119mm x 76mm x 25mm)
Shipping Weight	3 pounds	(1.4 kilograms)
Environment	Temperature:	0-40°C (32° to 104° F)
	Humidity	10-90%, non condensing
	Altitude	0-10,000 feet
Warranty	Lifetime	

TRANSITION
networks

DECLARATION OF CONFORMITY

Name of Mfg: **Transition Networks**
6475 City West Parkway, Minneapolis MN 55344 USA

Model: **C/F-SM-MM-02 Series Media Converters**


Part Number(s): **C/F-SM-MM-02, C/F-SM-MM-02(LH), C/F-SM-MM-02(XL), C/F-SM-MM-02(LW)**

Regulation: **EMC Directive 89/336/EEC**

Purpose: To declare that the **C/F-SM-MM-02** 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

January 1, 1997
Date

CABLE SPECIFICATIONS

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

155 Mb/s Fiber Specifications

Bit error rate: ≤10⁻⁹

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: min: -19.0 dBm max: -14.0 dBm
Fiber Optic Receiver Sensitivity: min: -32.5 dBm max: -14.0 dBm
Wavelength : 1300 nM
Maximum Cable Distance: 2 kilometers

SINGLEMODE

Fiber Optic Cable Recommended: 9 μm singlemode fiber
C/F-SM-MM-02
1300 nM
Fiber-optic Transmitter Power: min: -15.0 dBm max: -8.0 dBm
Fiber-optic Receiver Sensitivity: min: -32.5 dBm max: -8.0 dBm
Maximum Cable Distance: 20 kilometers
C/F-SM-MM-02(LH)
1300 nM
Fiber-optic Transmitter Power: min: -8.0 dBm max: -0.0 dBm
Fiber-optic Receiver Sensitivity: min: -34.0 dBm max: -8.0 dBm
Minimum Cable Distance: 15 kilometers
Maximum Cable Distance: 40 kilometers
C/F-SM-MM-02(XL)
1300 nM
Fiber-optic Transmitter Power: min: -5.0 dBm max: 0.0 dBm
Fiber-optic Receiver Sensitivity: min: -34.0 dBm max: -7.0 dBm
Minimum Cable Distance: 15 kilometers
Maximum Cable Distance: 60 kilometers
C/F-SM-MM-02(LW)
1550 nM
Fiber-optic Transmitter Power: min: -5.0 dBm max: -0.0 dBm
Fiber-optic Receiver Sensitivity: min: -34.0 dBm max: -7.0 dBm
Minimum Cable Distance: 30 kilometers
Maximum Cable Distance: 80 kilometers

INSTALLATION

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

NOTE: Be sure to connect correct speed fiber cable at each connector.

- Locate or build fiber cable with male two-stranded TX to RX connectors **appropriate to the media converter** installed 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.

OPERATION

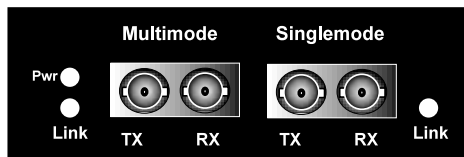
After installation, the media converter should function without operator intervention.

Status LEDs

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

P(o)w(e)r Illuminated green LED indicates connection to external AC power.

Link Steady green LED indicates that fiber link is connected properly.



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 power 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 multimode fiber Link LED illuminated?

NO

- Check fiber cables for proper connection.
- Verify that TX and RX cables on media converter are connected to RX and TX ports, respectively, on the other device.
- Power-cycle the media converter.
- Refer to Tech Tips available at: <http://www.transition.com>
- Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

YES

- Proceed to step 3.

3. Is the singlemode fiber Link LED illuminated?

NO

- Check fiber cables for proper connection.
- Verify that TX and RX cables on media converter are connected to RX and TX ports, respectively, on the other device.
- Power-cycle the media converter.
- Refer to Tech Tips available at: <http://www.transition.com>

YES

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