

MEDIA CONVERTER TECHNICAL SPECIFICATIONS

Standards	ANSI/ATA 878
Delay	300ns one-way
Case dimensions	4.75" x 3.0" x 1.0" (119mm x 76mm x 25mm)
Shipping Weight	2 pounds (0.9 kilograms)
Environment	Temperature: 0-40°C (32° to 104° F) Humidity 10-90%, non condensing Altitude 0-10,000 feet
Warranty	Five years

CAUTION: Wear a grounding device and observe electrostatic discharge precautions when installing Media Converter Slide-in-Module(s) in the Media Conversion Center. Failure to observe this caution could result in damage to, and subsequent failure of, the Media Converter Slide-in-Module(s).

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



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 Telekommunikationsendrichtungen einschliesslich der gegenseitigen Anerkennung ihrer Konformität.

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.

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.

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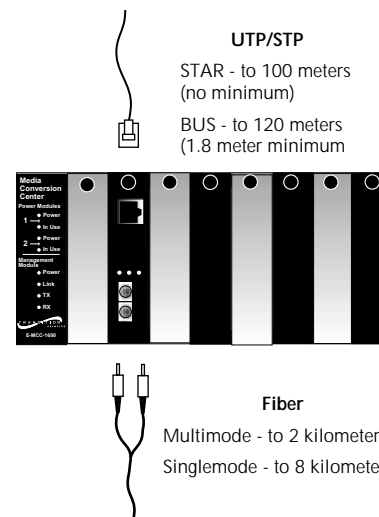
Minneapolis, MN 55344 USA

ARCNET® RJ-11 Copper/Fiber Slide-In-Module Media Converters

C/AR-CF-01, C/AR-CF-01(SC), C/AR-CF-01(SM)

USER'S GUIDE

The TRANSITION Networks ARCNET® RJ-11 Copper/Fiber Media Converter (series C/AR-CF-01), designed to be installed in the TRANSITION Networks Media Conversion Center, E-MCC-1600, extends the signal distance of an ARCNET® segment or node link up to 2 kilometers over fiber*, up to 100 meters over twisted-pair copper in a star topology, and up to 120 meters over twisted-pair copper in a bus topology. A switch on the media converter allows the media converter to terminate the link or node signal.



UTP/STP

STAR - to 100 meters
(no minimum)

BUS - to 120 meters
(1.8 meter minimum)

C/AR-CF-01

Provides an RJ-11 connector to twisted-pair copper cable and a set of RX (receive) and TX (transmit) ST connectors to multimode fiber-optic cable.

C/AR-CF-01(SC)

Provides an RJ-11 connector to twisted-pair copper cable and an RX (receive) and TX (transmit) SC connector to multimode fiber-optic cable.

C/AR-CF-01(SM)

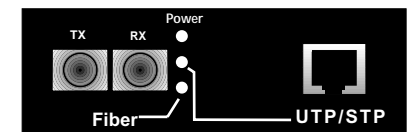
Provides an RJ-11 connector to twisted-pair copper cable and an RX (receive) ST and TX (transmit) SC connector to singlemode fiber-optic cable.

STATUS LEDS

Power Steady green LED indicates connection to external AC power.

UTP/STP Blinking green LED indicates network traffic on unshielded or shielded twisted-pair link.

Fiber Blinking green LED indicates network traffic on fiber link.



*Consider carefully the network constraints imposed by the maximum latency response time of installed equipment. Some equipment cannot handle the extended response time that 2 kilometers of fiber introduces.

Installation NOTES

Install Slide-In-Module Media Converter

To install the Media Converter Slide-in-Module in the E-MCC-1600 chassis:

- Remove Media Converter Slide-in-Module protective plate from selected installation slot by removing two screws that secure plate to front of E-MCC-1600. Retain one installation screw.
- 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 installing retained installation screw.

Install Twisted-pair Copper

STAR TOPOLOGY

- MAXIMUM twisted-pair segment to active hub is 100 meters (300 feet); minimum does not apply.

BUS TOPOLOGY

- Devices attached to twisted-pair bus must be located AT LEAST six (6) feet apart.
- MAXIMUM twisted-pair bus length is 120 meters (400 feet).
- Device(s) attached to EACH END of bus must be terminated. NOTE: If the media converter is installed at one end of the bus, use the configuration switch to terminate the media converter.

CONFIGURATION SWITCH

NOTE: Set configuration switch (located on the side of media converter) according to site installation requirements:

Switch 1	NOT USED	
Switch 2	UP = OFF	Media converter TRANSFERS signal
	DOWN = ON	Media converter TERMINATES signal.

Install Fiber

Connect one end of *first* fiber cable to C/AR-CF-01 media converter **TX** connector. Connect other end of *that* fiber cable to *second* C/AR-CF-01 media converter **RX** connector. Connect one end of *second* fiber cable to C/AR-CF-01 media converter **RX** connector. Connect other end of *that* fiber cable to C/AR-CF-01 media converter **TX** connector.

Power Slide-In-Module Media Converter

Locate correct power supply adapter for site installation. Connect media converter power connector at end of power supply adapter cord to C/AR-CF-01 media converter power receptacle. Connect 2-prong or 3-prong external power connector on other end of power supply adapter cord to external AC power.

CABLE SPECIFICATIONS

The physical characteristics of the cable must meet or exceed the following:

FIBER CABLE

MULTIMODE

Fiber Optic Cable Recommended:	62.5 / 125 μ m 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:	850nm	
Bit error rate:	$\leq 10^{-9}$	
Maximum Cable Distance:	2 kilometers	

SINGLEMODE

Fiber Optic Cable Recommended:	9 μ m singlemode fiber	
Fiber Optic Transmitter Power:	min: -27.0 dBm	max: -17.0 dBm
Fiber Optic Receiver Sensitivity:	min: -32.5 dBm	max: -13.0 dBm
Wavelength:	1300nm	
Bit error rate:	$\leq 10^{-9}$	
Maximum Cable Distance:	8 kilometers	

TWISTED PAIR CABLE

Category 3 wire or better is required; category 5 wire is recommended. Either shielded twisted pair (STP) or unshielded twisted pair (UTP) can be used. DO NOT USE FLAT OR SILVER SATIN WIRE.

Category 3:

Gauge	24 to 22 AWG
Attenuation	28 dB/1000' @ 10 MHz
Differential Characteristic Impedance	100 Ω \pm 10% @ 10 MHz

Category 5:

Gauge	24 to 22 AWG
Attenuation	20 dB/1000' @ 10 MHz
Differential Characteristic Impedance	100 Ω \pm 10% @ 10 MHz

BUS TOPOLOGY

Minimum Node-Node Cable Distance:	1.8 meters (6 feet)
Maximum Cable Distance:	120 meters (400 feet)
Maximum Number of Nodes:	8

STAR TOPOLOGY

Minimum Cable Distance:	0 meters (0 feet)
Maximum Cable Distance:	100 meters (330 feet)

NOTE: The active pair in a twisted-pair copper ARCNET®-compliant network are pins 3 & 4. Use only dedicated wire pairs (such as blue/white & white/blue, orange/white & white/orange) for the active pins.

