

# MEDIA CONVERTER TECHNICAL SPECIFICATIONS

<b>Standards</b>	ANSI X3T12 FDDI	
<b>Case dimensions</b>	4.7" x 3.0" x 1.0"	(119mm x 76mm x 25mm)
<b>Environment</b>	Temperature:	0-40°C (32° to 104° F)
	Humidity	10-90%, non condensing
	Altitude	0-10,000 feet
<b>Warranty</b>	Lifetime	

**Power Supply Requirements** Replace power supply with only the equivalent input rating (see below) and output rating (regulated 12VDC @1.5 A).

<u>TN PN</u>	<u>Requirement</u>	<u>Location</u>
3507	240 volts, 50 hertz	United Kingdom
3342	230 volts, 50 hertz	Europe
3340	120 volts, 60 hertz	USA/Canada/Mexico
3346	100 volts, 50-60 hertz	Japan
3511	240 volts, 50 hertz	Australia
3537	(with power cord: 3522)	South Africa

NOTE: This product also can be powered by the Transition Networks E-MCR series media converter rack.



**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.

## Compliance Information

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

## FCC Regulations

This equipment has been tested and found to comply with the limits for a class B 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 B limits for radio noise for digital apparatus set out on the radio interference regulations of the Canadian Department of Communications.

## Copyright Restrictions

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## Trademark Notice

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33025.B



Minneapolis, MN 55344 USA

# FDDI/CDDI Media Converters

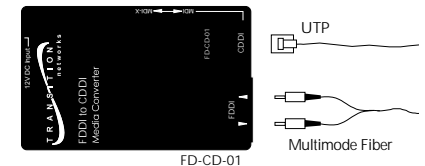
FD-CD-01, FD-CD-01(SM)

## USER'S GUIDE

The TRANSITION Networks Ethernet™ CDDI to FDDI media converters connect CDDI unshielded twisted pair cable to FDDI *multimode* OR to FDDI *singlemode* fiber-optic cable. Media converter models are selected according to the fiber mode required at the site. Both *multimode* fiber (FD-CD-01) and *singlemode* fiber (FD-CD-01(SM)) media converters use a standard SC connector. Both media converters function in half-duplex mode or, when connected to devices capable of full-duplex connectivity, in full-duplex mode. An MDI/MDI-X switch allows *straight-through* twisted-pair cable to be used for *crossover* CDDI connections.

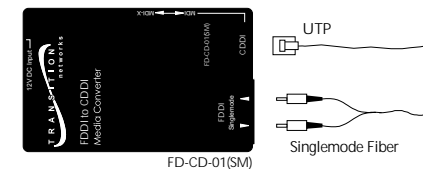
### FD-CD-01

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



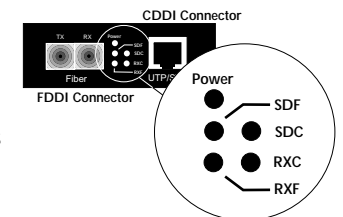
### FD-CD-01(SM)

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



Status LEDs on the connector side of the media converters provide the following information:

- Power** Illuminated green LED indicates connection to external AC power.
- SDF** Signal Detect/Fiber: Steady green LED indicates fiber port is connected to device.
- SDC** Signal Detect/Copper: Steady green LED indicates RJ-45 port is connected to device.
- RXC** Receive/Copper: Flashing green LED indicates packets are seen on RJ-45 port.
- RXF** Receive/Fiber: Flashing green LED indicates packets are seen on fiber port.



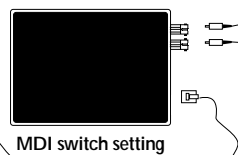
NOTE: Since the FDDI/CDDI protocol passes a "token" across the entire FDDI/CDDI ring, the RXC/RXF LEDs are continuously illuminated during normal operation.

# Straight Through/Crossover Cable Requirements and Pin Specifications

Straight-through/crossover CDDI requirements are satisfied using the MDI/MDI-X switch with straight-through cable.



100 meters

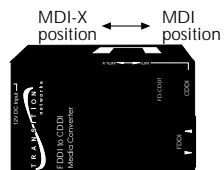


MDI switch setting

CDDI cable connections between a concentrator and the media converter require the MDI/MDI-X switch to be set to MDI.

CDDI cable connections between the media converter and a NIC require the switch to be set to MDI-X

Using small flatblade screwdriver or similar tool and referring to label at front of media converter, set MDI/MDI-X switch position for site installation.



MDI-X position ↔ MDI position

2 kilometers - multimode  
20 kilometers - singlemode

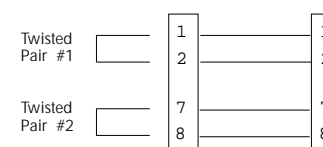
100 meters



MDI-X switch setting

## CDDI Cable

### Straight Through Cable



The two active pairs in a CDDI network are pins 1 & 2 and pins 7 & 8. Use only dedicated wire pairs (such as blue/white & white/blue, orange/white & white/orange) for the active pins.

FD-CD-01, FD-CD-01(SM)

## Installation Notes

- KEEP TWISTED PAIR RUNS AS SHORT AS POSSIBLE.
- Be certain that the CDDI MDI/MDI-X switch is set correctly for site installation.
- Connect the power supply cable to the media converter BEFORE connecting to the outlet.
- Install unit with PSU provided. (Output 12 VDC regulated, 350 mA).
- Install no more than two (2) media converters in series.

## Troubleshooting the Media Converter

1. Is the power LED on the media converter illuminated?
  - NO**
    - Is the power adapter the proper type of voltage and cycle frequency for your AC outlet?  
NOTE: Refer to the "Power Supply Requirements" on the back page.
    - Is the power adapter properly installed in the media converter and in the outlet?
    - Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.
  - YES**
    - Proceed to step 2.
2. Is the CDDI Link LED illuminated?
  - NO**
    - Check UTP cables for proper connection and pin assignment. (See above.)
    - Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.
  - YES**
    - Proceed to step 3.
3. Is the 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 FDDI device.
    - Refer to Tech Tips available at: <http://www.transition.com>
    - Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.
  - YES**
    - Contact Technical Support at (800) 260-1312/ (800) LAN-WANS.

## ETHERNET CABLE SPECIFICATIONS

The physical characteristics of the media cable must meet or exceed ANSI X3T12 FDDI specifications.

### FDDI CABLE SPECIFICATIONS

#### SINGLEMODE

Fiber-optic Cable Recommended:	9 μm singlemode fiber	
Fiber-optic Transmitter Power:	min: -15.0 dBm	max: -8.0 dBm
Fiber-optic Receiver Sensitivity:	min: -32.5 dBm	max: -8.0 dBm
Wavelength:	1300nm	
Bit error rate:	≤10 <sup>-9</sup>	
Maximum Cable Distance:	20 kilometers	

#### 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:	1300nm	
Bit error rate:	≤10 <sup>-9</sup>	
Maximum Cable Distance:	2 kilometers	

### CDDI CABLE SPECIFICATIONS

Category 5 wire or better 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	20 dB/1000' @ 10 MHz
Impedance	100 Ω ±10% @ 10 MHz
Maximum Cable Distance:	100 meters (330 feet)