MEDIA CONVERTER TECHNICAL SPECIFICATIONS

Host Connection	IBM® S/3x (System 34, 36, 38) host, AS/400™ host or 5x94 remote controller
Case dimensions	4.75" x 3.0" x 1.0" (119mm x 76mm x 25mm)
Shipping Weight	2 pounds (0.9 kilograms)
Environment	Temperature: 0-50°C (32-122°F) Humidity 10-90%, non condensing Altitude 0-10,000 feet
Warranty	Five years

Power Supply Requirements Replace power supply with only the equivalent input rating (see below) and output rating (regulated 9VDC at 0.5 A).

TN PN	Requirement	Location
3525	240 volts, 50 hertz	United Kingdom
3525	230 volts, 50 hertz	Europe
3518	120 volts, 60 hertz	USA/Canada/Mexico
3514	100 volts, 50-60 hertz	Japan
3525	240 volts, 50 hertz	Australia

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 öffentlickes Telekommunikationsnetz in den EG-Mitgliedstaaten verstösst gegen die jeweligen 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 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.

Trademark Notice
All registered trademarks and trademarks are the property of their respective owners. 33060.A

TRANSITION networks

Minneapolis, MN 55344 USA

5250 Copper/Fiber *Media Converter*

PS-CF-01, PS-CF-01(SC), PS-CF-01(SM)

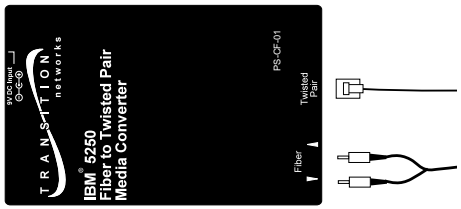
USER'S GUIDE

The TRANSITION Networks 5250 Copper to Fiber PS-CF-01 series media converters, designed to support all IBM® 5250 compliant devices (including devices operating at a non-standard rates), extends the signal distance of an AS/400™ or S/3x host computer or a 5x94 remote controller to terminal equipment over twisted-pair copper and over multimode or singlemode fiber.

PS-CF-01 series media converters allow twisted-pair copper network extension distances up to 1524 meters (762 meters each connection on two media converters) AND fiber network extension distances up to 2 kilometers on multimode fiber and up to 8 kilometers on singlemode fiber.*

PS-CF-01

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



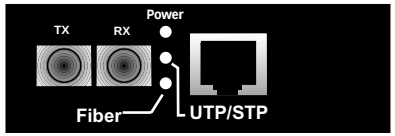
PS-CF-01(SC)

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

PS-CF-01(SM)

*Provides an RJ-45 twisted-pair connector to 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.

*See note at top of pages 4 & 5.

Installation NOTES

All cable connections to the PS-CF-01 MUST be AT LEAST 7.6 meters (25 feet) in length.

To install the PS-CF-01 series media converter:

1. Connect host signal to PS-CF-01 media converter.
   - Locate or build twisted-pair cables that are compliant with cable specifications (See page 7) and with male RJ-45 plug connectors installed at both cable ends.

   NOTE: Install TRANSITION Networks balun part number: 3-4554 between RJ-45 cable and Twinax connector.

   - Install balun at host Twinax connector.
   - Connect male RJ-45 plug connector at one end of twisted pair cable to balun on host Twinax connector.
   - Connect male RJ-45 plug connector at other end of twisted pair cable to female RJ-45 connector on PS-CF-01 media converter.
2. Connect PS-CF-01 media converter *near host* to second PS-CF-01 media converter *near terminal device**.
   - Locate or build fiber cable that conforms to cable specifications (See page 7) and with male fiber connectors installed at both ends.
   - Connect one end of *first* fiber cable to PS-CF-01 media converter **TX** connector.
   - Connect other end of *that* fiber cable to *second* PS-CF-01 media converter **RX** connector (or to PowerStar™ IV fiber SIC card **RX** connector).
   - Connect one end of *second* fiber cable to PS-CF-01 media converter **RX** connector.
   - Connect other end of *that* fiber cable to *second* PS-CF-01 media converter **TX** connector (or to PowerStar™ IV fiber SIC card **TX** connector).

*Or optionally connect directly to PowerStar™ IV fiber SIC card.

CABLE SPECIFICATIONS

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

FIBER CABLE

MULTIMODE

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

SINGLEMODE

Fiber Optic Cable Recommended:	9 µm 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	

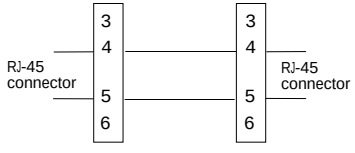
TWISTED PAIR CABLE AND CONNECTOR

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 ±10% @ 10 MHz
Category 5:	
Gauge	24 to 22 AWG
Attenuation	20 dB/1000' @ 10 MHz
Differential Characteristic Impedance	100 Ω ±10% @ 10 MHz
Minimum UTP/STP Cable Distance:	7.6 meters (25 feet)
Maximum UTP/STP Cable Distance:	762 meters (2500 feet)
Connector:	RJ-45 connectors with active pair pins 4 & 5.

NOTE: The active pair in a twisted-pair copper 5250-compliant network are pins 4 & 5. Use only dedicated wire pairs (such as blue/white & white/blue, orange/white & white/orange) for the active pins.

Straight Through Cable



TROUBLESHOOTING SUGGESTIONS

If a Media Converter fails, ask the following questions:

1. Is the **Power** LED on the media converter illuminated?

NO

- Is the power adapter the proper voltage and cycle frequency for the 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: (800) 260-1312/(800) LAN-WANS.

YES

- Proceed to step 2.

2. Is the **UTP/STP** LED illuminated?

NO

- Check twisted pair cables for proper connection.
- Check RJ-45 connector for correct twisted pair cable configuration.
- Contact Technical Support: (800) 260-1312/(800) LAN-WANS.

YES

- Proceed to step 3.

3. Is the **Fiber** 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 other device.
- Contact Technical Support: (800) 260-1312/(800) LAN-WANS.

YES

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

3. Connect second PS-CF-01 media converter to terminal equipment through copper cable.

UTP to RJ-45 Connector:

If connecting to RJ-45 connector on terminal equipment (as on front of PowerStar™ III or PowerStar™ IV):

- Connect male RJ-45 plug connector to female RJ-45 connector marked "link" on terminal equipment.

UTP to Twinax Connector:

If connecting to twinax connector on terminal equipment (as on back of PowerStar™ III or on PowerStar™ IV with Twinax SIC):

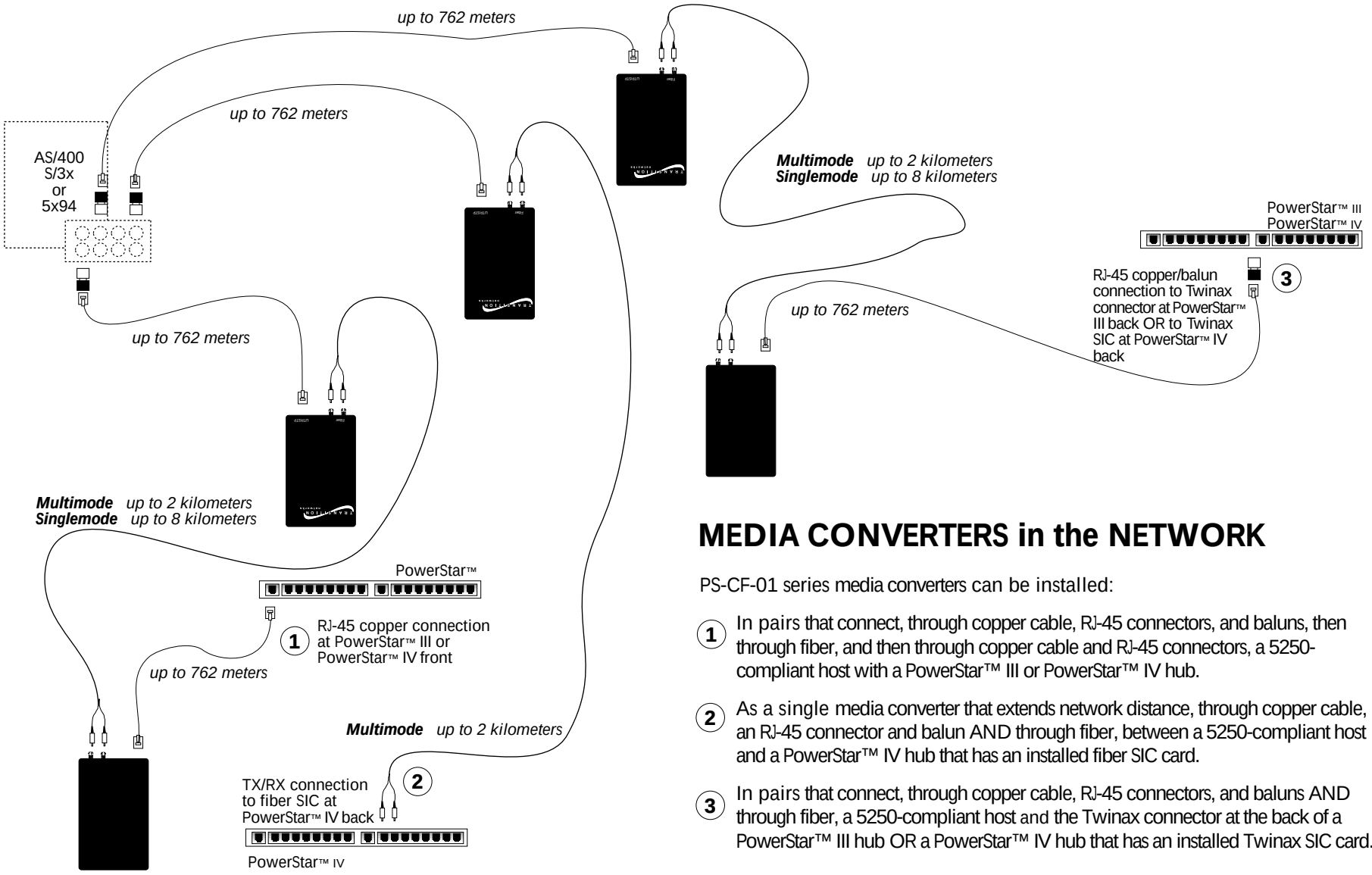
NOTE: Install TRANSITION Networks balun part number: 3-4554 between RJ-45 cable and Twinax connector.

- Install balun at terminal equipment Twinax connector.
- Connect male RJ-45 plug connector to balun.

4. Connect PS-CF-01 media converter(s) to power.

- Locate correct power supply adapter for site installation. (See back page.)
- Connect PS-CF-01 power connector at end of power supply adapter cord to PS-CF-01 power receptacle.
- Connect 2-prong or 3-prong external power connector on other end of power supply adapter cord to external AC power.

NOTE: DEVICES INSTALLED AT MAXIMUM DISTANCES MAY NOT FUNCTION RELIABLY DUE TO LIMITATIONS IMPOSED BY HOST TIME-OUTS AND/OR BY TERMINAL EQUIPMENT TIME-OUTS.



MEDIA CONVERTERS in the NETWORK

PS-CF-01 series media converters can be installed:

1. In pairs that connect, through copper cable, RJ-45 connectors, and baluns, then through fiber, and then through copper cable and RJ-45 connectors, a 5250-compliant host with a PowerStar™ III or PowerStar™ IV hub.
2. As a single media converter that extends network distance, through copper cable, an RJ-45 connector and balun AND through fiber, between a 5250-compliant host and a PowerStar™ IV hub that has an installed fiber SIC card.
3. In pairs that connect, through copper cable, RJ-45 connectors, and baluns AND through fiber, a 5250-compliant host and the Twinax connector at the back of a PowerStar™ III hub OR a PowerStar™ IV hub that has an installed Twinax SIC card.