Electro Standards Laboratories
ADVANCED SYSTEMS DESIGN & SERVICES

Model 9504 16-Channel ST Duplex Single Mode Fiber to RJ45 RS485/422 Media Converter
• Ideal for Casino Networks linking Video Lottery Terminals & Video Gaming Machines.
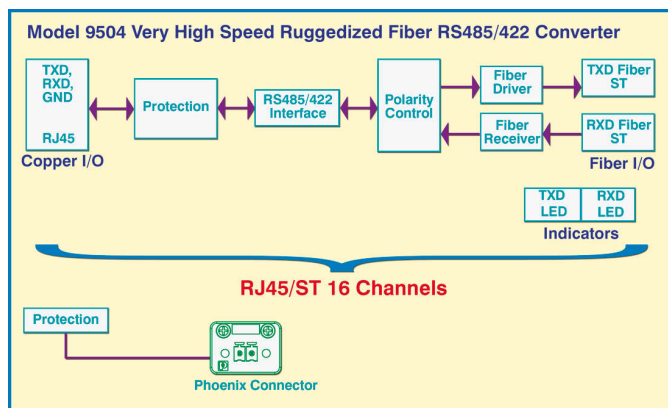
INTRODUCTION:

The **Model 9504** is a high speed ruggedized 16-Channel ST Single Mode Fiber to RJ45 RS485/422 media converter. Typical operating speeds are up to 5 Mbps for RS485/422 to fiber conversion. When operating in RS485/422 mode, each converter can be configured for 2-wire half duplex or 4-wire full duplex operation. Each converter can be configured as a DCE or DTE interface.

Default: Each converter is configured as a DCE interface with 4-wire full duplex operation.

Applications: The converters provide an industrial solution for applications requiring a single point-to-point over short and long distances. Applications include: Casino Networks linking Video Lottery Terminals, PC to PC long distance communications, factory automation, barcode readers, time clocks, scales, data entry terminals, ATM's and serial communications in harsh environments.

FEATURES:

- The power input has reverse polarity protection; it is also protected from transients, over current and over voltage.

- All copper RS485/422 ports are 8-pin RJ45 connectors.

- ESD and high-power transient protection on copper interfaces.

- All fiber optic ports are ST Single Mode connectors. The single mode fiber size is 9/125 μm, and the fiber optic wavelength is 1310 nm.

- All fiber ports are standard fiber optic transceivers that receive and drive the fiber optic signal, where the RX is on the left and the TX is on the right.

- Other features include user selectable fiber polarity, Fiber TX (Green) and Fiber RX (Yellow) LED Indicators.

- Each RJ45 Interface Connector has 1 (Green) LED for a fiber TX indicator and 1 (Yellow) LED for a fiber RX indicator.

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Specifications:

Fiber Interface:
(32) Connectors: Fiber Optic Single Mode ST Duplex (16) TX and (16) RX.
TX Power: 0 dBm
RX Sensitivity: -17 dBm
Optical Budget: 17 dB
Max. Link Distance with 9/125 μm fiber:
~40 km   (25 miles) at up to 5 Mbps
Wavelength: 1310 nm, Single Mode
Fiber Size: 9/125 μm

Fiber Polarity:
Logical 1 = Light ON/OFF: Jumper Selectable

Copper Interface:
(16) Connectors: RJ45, Female
Type: RS485/422 (2-wire/4-wire)
Terminations: RS485/422 120 Ohm jumper selectable

Bit Rate (nom.):
RS485/422   0 to 5 Mbps

Network Configurations:
RS485/422   Point-to-Point

Indicators:
LEDs: (16) TXD and (16) RXD.

Power:
Input Power: 5VDC@2A

Operating Environment:
-40°C to +85°C

Power Supply:
Model 9504 is supplied with an external 5VDC, 4A power supply operating from 100-240VAC@50/60Hz. The power supply is UL listed and LPS approved. The unit also comes with a 2-prong US non-polarized NEMA 1-15P plug. The power supply is P/N 527474.

Model 9504 Mechanical (Desktop Unit):
Model 9504 Cat No: 309504
Size: 19.0" x 3.50" x 8.81" [48.3 x 8.9 x 22.4 cm]
Weight: 6.0 lbs [2.7 kg]

Model 9504 Very High Speed Ruggedized Fiber RS485/422 Converter

TXD, RXD, GND — RJ45 — Copper I/O — Protection — RS485/422 Interface — Polarity Control — Fiber Driver — TXD Fiber ST / Fiber Receiver — RXD Fiber ST — Fiber I/O

TXD LED — RXD LED — Indicators

RJ45/ST 16 Channels

Protection — Phoenix Connector

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Typical Application for the Model's 9510 / 9504 / 4275