

# “Channel Stacker” 8-to-128 Channel Fiber Optic Multiplexer

## Model TC8108

- Mix or Match Field-Interchangeable Interfaces: RS-232, RS-422, RS-485\*, TTL & Dry Contact Relays
- Data Rates up to 38.4 Kbps\*
- 8 to 64 Channels (Expandable to 128)
- Optional Optical Redundancy
- Local Dry Contact Relay Alarm
- Built-In Test Signal Generator
- Local & Remote Loopback Features
- Multimode or Single Mode (850/1300/1550nm)
- Rackmount or Standalone



TC8108 Rackmount

The “Channel Stacker”, Model TC8108 Fiber Optic Multiplexer, maximizes user flexibility by offering field interchangeable interfaces, modular expandability from 8 to 64 channels and power/optical redundancy. It supports most popular interfaces including RS-232, RS-422, TTL, RS-485\* and Dry Contact Relays. It supports data rates up to 38.4 Kbps\*. Power redundancy is standard, optical redundancy is optional. Both feature automatic switch-over. Each unit consists of an 8-channel base unit and up to seven optional 8-channel add-in PC Cards. These PC Cards can be “stacked” (in 8-channel increments) up to 64 channels. A 128-channel version is possible by using a fan-out cable to expand each RJ-11 port into two RS-232 Async channels.

Because the electrical interfaces are modular, they are interchangeable at any time-before or after installation. A user can mix up to four different interfaces (in 4-channel increments) on each 8-channel card. Each PC expansion card is identified by a card number defined by a front panel DIP switch.

Diagnostics are extensive and include Local and Remote Loopback, 22 LEDs, and Test Signal Generator. LEDs include “TX,” “Rx,” “Alarm,” “Vcc,” “RxA,” “RxB,” & “PWR.” Individual “Tx,” and “Rx” LEDs are provided for each channel. The built-in test signal generator verifies both device and fiber optic link operation. This feature benefits users by helping technicians verify that both local & remote devices and the fiber optic link are operating normally. No other test equipment is required for link and device verification.

The TC8108 is compatible with all types and sizes of multimode (850/1300nm) or single mode (1300/1550nm) fiber optic cable. Fiber optic connectors are ST or FC; electrical connectors are RJ-11. Power is 12VDC or 115/230VAC with an external power cube. A hardened temperature version (-20° to 70°C), Model TC8108T, is also available.

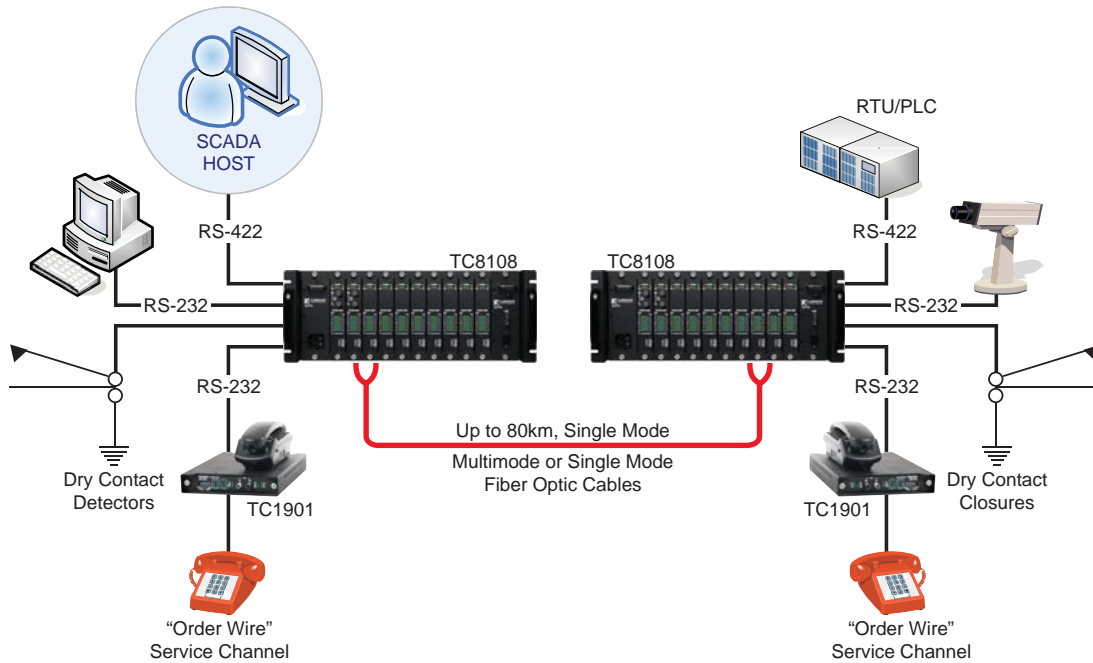
\* Contact factory for higher requirements/availability



## Applications

The “Channel Stacker” is an inexpensive, reliable and flexible method for connecting large numbers of printers, terminals and status collecting devices. It is also used in harsh environments where EMI/RFI interference, ground loops or lightning conditions may exist.

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Typical Application using TC8108 "Channel Stacker" Fiber Optic Multiplexers

**Data Rates (per channel)**

Async 8/16/24/32 Ch..... to 38.4 Kbps  
 Async 40/48/56/64 Ch..... 19.2 Kbps  
 Async 128 Ch..... up to 16 Kbps  
 Sync (up to 16 Channels w/Ext. Clk).  
 ..... up to 38.4 Kbps  
 Sync (32 Channel Version w/Ext. Clk)  
 ..... up to 19.2 Kbps

**Channel Capacity**

Async..... 8: stackable to 64 Channels  
 (up to 128 w/Fan-Out Cables)  
 Sync..... 4: stackable to 32 Channels

**Optical**

Transmitter..... LED/ELED  
 Receiver..... PIN Diode  
 Wavelength  
 ..... 850/1300nm MM  
 ..... 1300/1550nm SM  
 Fiber Optic Connectors..... ST or FC  
 Loss Budget\* - 850/1300/1550nm  
 15db.....Multimode @ 62.5/125µm  
 20db.....Single Mode @ 9/125µm

**Visual Indicators**

Channel Status (each ch.) .....TX, Rx  
 System..... Power A & B, Vcc, Alarm  
 Optic..... RxA, RxB, Optic Rx, FCLK

**Electrical**

Connector .....RJ11 Female  
 Interface (standard) ..... RS-232,  
 RS-422, Dry Contact Relay  
 Interface (custom) ....TTL, 2 or 4-wire  
 RS-485\* or combination

**System**

Bit Error Rate .....1 in 10<sup>9</sup> or better

**Alarm**

Dry Contact ..... Normal OPEN

**Power**

Standard .....12VDC @600mA  
 Optional .....115/230VAC  
 w/ external cube or card

**Temperature**

Operating ..... -10°C to 50°C  
 High Temp (optional).... -20°C to 70°C  
 Storage ..... -40°C to 90°C  
 Humidity .....95% non-condensing

**Physical (Rackmount Card)**

Height.....(17.7 cm)7.0"  
 Width.....(3.2 cm) 1.25"  
 Depth.....(23 cm) 9.0"  
 Weight.....(280 gm) 8 oz

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ISO 9001  
 QMI-SAI Global  
 #1045959

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Note - Information contained in this data sheet is subject to change without prior notice.