T1/E1, Data/Voice & Ethernet Fiber Optic Multiplexer

Model TC8518

- Multiplexes Up to 24 T1 or 20 E1 and 3 Ethernet Ports Over Fiber
- Optional Voice (up to 8 channels FXS/FXO or 4 channels 2 Wire/4 Wire Analog) or Data (up to 8 channels RS-232/RS-422/RS-485)
- Key Features: Statistics Monitoring (T1/E1, Ethernet, Optics), Ethernet Rate Limiting, Remote Firmware Upgrade, Network Time Server (NTS), Temperature Monitoring and Loop Up/Down Codes
- Management (Web, SNMP, Telnet,Console)
- FXS/FXO Ports Support Modems & Faxes
- High Temp (-20°C to +70°C) and Extreme Temp (-40°C to +80°C) Optional
- Multimode or (1300nm) or Singlemode Optics (1300/1550nm)
- 90-260VAC Hot Swappable Power Standard Optional Power: 12VDC, 24VDC, -48VDC, 125VDC
- Power and Optic Redundancy Standard

Front with 16 Channels of T1 and 3 Channels of Ethernet Shown

Rear with Optional 8 Telephone FXO/FXS Channels Shown

The TC8518 T1/E1, Data/Voice & Ethernet Fiber Optic Multiplexer multiplexes 4/8/16 channels of T1/E1 and 3 Ethernet ports on single mode (1300/1550nm) or multimode (1300nm) fiber. It can also multiplex additional T1/E1, voice, analog and data channels via an expansion card with any one of the following options:

Expansion Card (for T1 unit):
- Telephone: 4/8 - FXS or FXO
- Analog: 4 - 2/4 Wire
- Serial: 4/8 - RS232/422/485
- T1: 8 channels

Expansion Card (for E1 unit):
- Telephone: 4/8 - FXS or FXO
- Analog: 4 - 2/4 Wire
- Serial: 4/8 - RS232/422/485
- E1: 4 channels

Each T1 or E1 channel is independent and transparent to the framing format and supports all applicable standards and line codes. The 3-port Ethernet switch supports non-blocking full 100Mbps bandwidth, VLAN, and Rate Limiting. It is IEEE 802.3/802.3u/802.3x compliant and supports Huge Frames (1916 bytes).

The TC8518 supports distances up to 100 km and offers a one fiber, bi-directional WDM option to maximize bandwidth. Setup, diagnostics, and management are accessed via Web, SNMP, Serial Console, and Telnet. Diagnostics include LED indicators, dry contact alarms, and local and remote loopback. Statistics Monitoring keeps a history of activity (optical, T1/E1, and Ethernet).

A 1U high “rack mount” chassis and power/fiber optic redundancy are standard. Fiber redundancy includes automatic switchover for maximum reliability. Standard power is 90-260VAC; power supplies are hot swappable. Optional power supplies include 12VDC, 24VDC, -48VDC, and 125VDC. Fiber optic connectors are SC. A high temperature version (-20°C to +70°C) and extreme temperature version (-40°C to +80°C) are optional.

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THE LEADER IN FIBER OPTIC CONNECTIVITY

Applications

Typical applications include connecting T1/E1 signals from Cell Towers to Central Offices, multiplexing T1/E1 links between PBX’s, and adding Ethernet, Analog, Data or Telephone service to existing T1 or E1 fiber optic links.

Service Providers use the TC8518 as an efficient, cost effective method to provide their customers with Ethernet (100Mbps Total Bandwidth) for data and T1/E1 for voice. Analog channels can be used for radio applications.

The one fiber, bi-directional optic option doubles existing fiber optic cable capacity.

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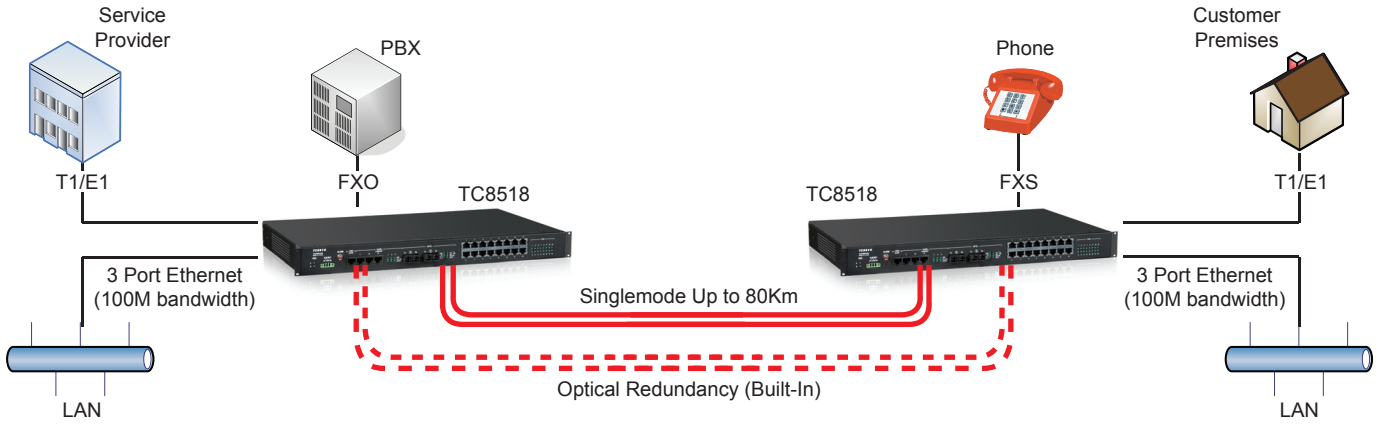

Typical Application Using the TC8518 T1/E1, Data/Voice & Ethernet Fiber Optic Multiplexer's.

Data Rates

T1 .....1.544 Mbps
E1 .....2.048 Mbps
Ethernet .....100 Mbps total
Async RS-232/422/485 .....Up to 115K
Console 9.6K
Audio.....300 Hz to 3.4 Khz

Channel Capacity

T1 .....4, 8, 16, 20*, 24*
E1 .....4, 8, 16, 20*
Ethernet .....3 Port Switch
2-Wire/4-Wire Analog 4
RS-232/422/485 .....4 or 8
Telephone (FXS or FXO) .....4 or 8

Optical

Transmitter.....ELED/LASER**
Receiver .....PIN Diode
Wavelength
.....1300nm Multimode
.....1300/1550nm Single Mode
Optical Connectors .....SC/ST
Loss Budgets** - .....
LED.....15dB MM @62.5/125µm
LASER .....20dB SM @9/125µm

Electrical

Interface.....T1, E1 (G.703) IEEE 802.3
.....T1 (100 Ohm), E1 (120 Ohm)
Connectors RJ48C
E1 (75 Ohm) Connectors .....BNC***
10/100 Ethernet Connectors RJ45F
Telephone/Analog/RS232/422/485
.....RJ11F
Console Port RJ45F

System

Bit Error Rate .....1 in 10^{10} or Better

Visual Indicators

System LEDs.....PWR (A, B), Alarm
Channel Status (each port).....On/Off
Optical Status.....Sync, RDI
.....OPT-A, OPT-B, Use-B
.....Loc Test, Rmt Test, RCOM
Ethernet.....Link/Act, Full/Col, 100M

Diagnostic Functions

Local and Remote Loopback for Optics, T1/E1, and Ethernet

Power

Standard..... 90-260VAC, 50/60Hz
Optional.....
.....12VDC, 24VDC, -48VDC, 125VDC
Power Consumption.....<30W

Temperature

Operating.....-10°C to 50°C
High Temp (optn).....-20°C to 70°C
Extreme Temp (optn).....-40°C to 80°C
Storage.....-40°C to 90°C
Humidity.....95% non-condensing

Physical (Standalone Unit)

Height.....(4.22 cm) 1.66"
Width.....(48.26 cm) 19"
Depth.....(30.5 cm) 12"
Weight.....(1.36 kg) 3.0 lbs

**No telephone, analog, serial interface options available*
***Contact factory for higher requirements*
****With optional RJ48C to BNC adapter*

TC COMMUNICATIONS®
FIBER OPTIC CONNECTIVITY

Certified System™
ISO 9001
QMI-SAI Global
#1045959

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

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