

2-10 Channel C37.94-over-T1/E1 Multiplexer

TC8636

- **2-10 Channel IEEE C37.94 over T1/E1**
- **Channels Support N=1, N=2 for 10 Channel Operation**
- **ESF Framing Support for T1**
- **PCM31C Framing Support for E1**
- **Very Low Latency**
- **Dry contact detectors with Isolated Ground**
- **Built-in Power Redundancy**
- **Rackmount or Standalone**



2x TC8636 in 1U Chassis (Front)



3x TC8636 in 1U Chassis combined for up to 10 channels of C37.94 (2 channels per card)



The TC8636 is a 2- to 10-channel C37.94-over-T1/E1 Multiplexer that supports modular 1U configurations by combining cards to handle up to 10 channels over T1/E1 links. It incorporates ST fiber ports for IEEE C37.94 interfaces, built-in local, remote, and T1/E1 loopbacks for diagnostics, and comprehensive LED indicators for signal and power verification.

The TC8636 allows network managers the flexibility to leverage existing T1/E1 circuits by adding teleprotection relays.

The TC8636 is available in two configurations:

- Multimode
- Single-mode

The device requires no additional equipment for T1/E1 link and device verification. Extensive diagnostics are available to quickly identify issues with your C37.94 or digital lines. Three different types of loopbacks: local, remote, and T1/E1 loopback assist in isolating whether an issue lies on your C37.94 line or your T1/E1 line. CSU Loop Code Up/Down is also supported. Each unit provides RX/TX LEDs for verifying signals on each C37.94 channel, Power LEDs for verifying power inputs, Alarm LEDs for verifying T1/E1 signal, and a Remote LED to monitor the remote unit.

As part of the JumboBank series, it features the "R2" button for clearing error history and resetting remote/local alarm logs. The unit supports standard T1/E1 connections, flexible DC/AC power options, and hardened temperature ranges for harsh environments.

Applications

A scalable and reliable solution, the TC8636 is typically used to aggregate and extend up to 10 channels of C37.94 Teleprotection relays over existing T1/E1 networks. It is suited for substations requiring high-density relay consolidation or comprehensive Dual-Main protection paths.

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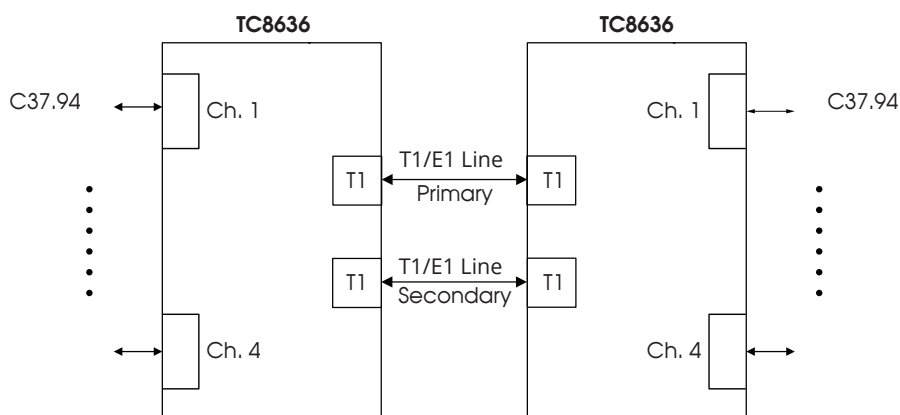
Web Site: tcomm.com

The TC8636 is compatible with standard T1 and 75Ω / 120Ω E1. The T1/E1 uses a RJ48 connector. (Optional BNC adapter cable is available for 75Ω E1.) The C37.94 uses either multimode or single-mode connectors.

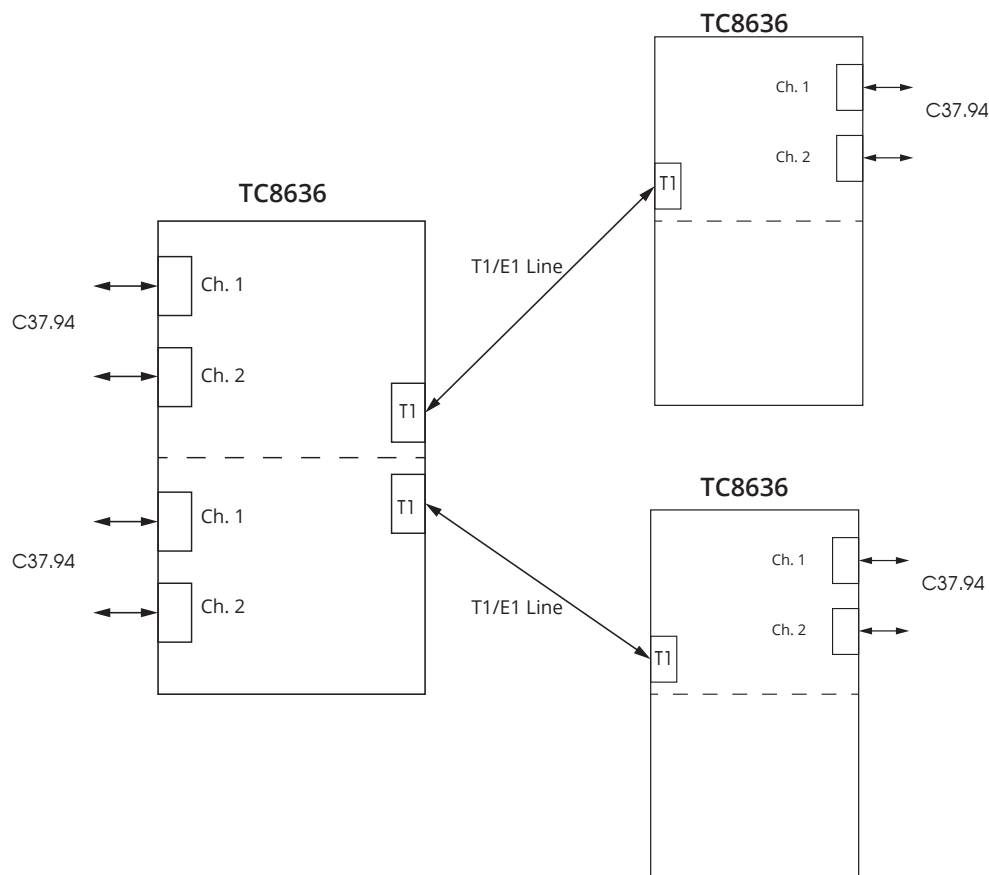
Power is 12VDC standard or optional 24VDC, -48VDC, 125VDC, or 115/230VAC with an external power cube. High temperature (-20°C to 70°C) and extreme temperature versions (-40°C to 80°C) are also available.

With two TC8636 cards in one 1U chassis, there are two T1/E1 connections available for following configurations:

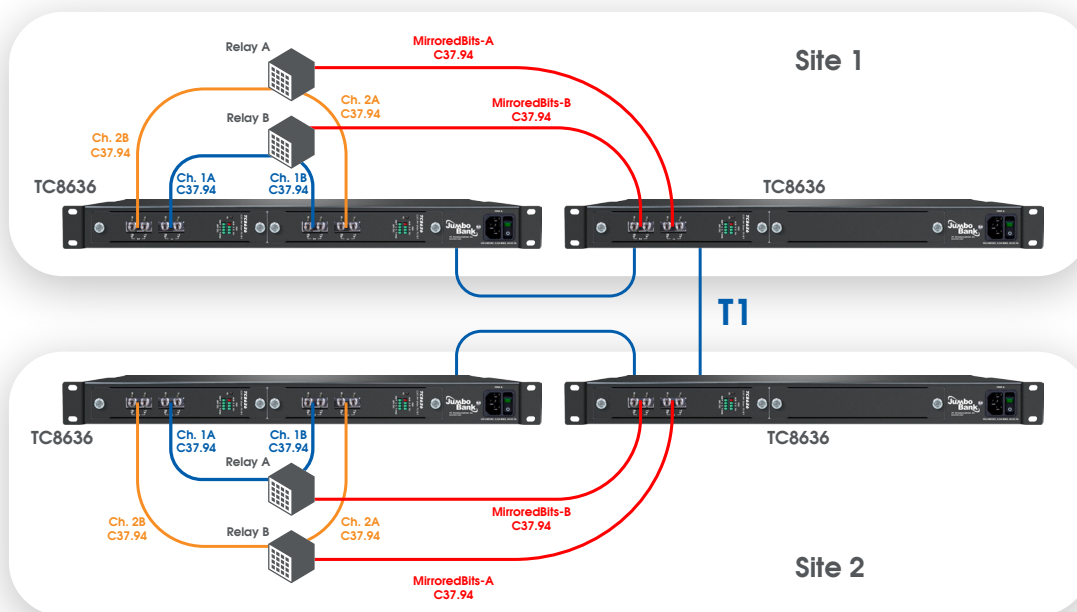
- Two combined TC8636 cards to form a 4-channel C37.94 multiplexer. Primary and secondary T1/E1 line can be utilized to provide redundancy.
- Two independent TC8636 cards, each card is a 2-channel C37.94 multiplexer. Each card has its own T1/E1 line that is independent of each other.



TC8636 with Redundant T1/E1 Line Block Diagram



TC8636 with Independent T1/E1 Line Block Diagram



TC8636 Daisy Chain Application

Connection Capacity

.....C37.94

For T1

.....Channel 1 N=1 to 12

.....Channel 2 N=1 to 8

For E1

.....Channel 1 N=1 to 12

.....Channel 2 N=1 to 12

T1/E1

T1

Receiver sensitivity0dB to -36dB

Line CodeAMI / B8ZS

Framing.....ESF (Only)

E1

Receiver sensitivity0dB to -43dB

Line CodeAMI / HDB3

Framing.....PCM31C

Optical (C37.94)

TransmitterLED/ELED

Receiver.....PIN Diode

Wavelength850nm MM

.....1300/1550nm SM

Fiber Optic Connector.....ST

Loss Budget* - 850/1300/1550nm

Multimode @ 62.5/125µm.....15dB

Single Mode @ 9/125µm20dB

*Contact factory for higher requirements

Visual Indicators

Channel Status.....RX/TX

System... PWR A, PWR B, Vcc, ALM, RMT

T1/E1.....AMI, RAI, AIS, CRC

.....BPV, LOS, SYNC

System

Bit Error Rate1 in 10⁹ or better

Alarm

Dry Contact.....Normal Open/Closed

Power

Standard12VDC @300mA

Optional.....24VDC, -48VDC, 125VDC,

.....or 115/230VAC w/ power cube

Temperature

Operating-10°C to 50°C

Hi-Temp (optional)-20°C to 70°C

Extreme (optional)-40°C to 80°C

Storage.....-40°C to 90°C

Humidity95% non-condensing

Physical (Standalone Unit)

Height(3.53cm) 1.40"

Width(18.14cm) 7.20"

Depth(24.89cm) 9.80"

Weight(907g) 2.0lbs



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TC Communications Quality
Management System is certified
as being in conformity with
ISO 9001:2015 by Intertek



intertek

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

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