4-24 Channel FXS/FXO-over-T1/E1 Channel Bank

TC8738E-1/2

- **Channel Bank Replacement**
- **4-24 ch. FXS (TC8738E-1) or 4-24 ch. FXO (TC8738E-2)**
- **Mux 4 ch. 2-Wire Telephone/Fax/Modem over T1/E1**
- **T1/E1 Status LEDs: BPV, LOS, SYNC, RAI, AIS, CRC**
- **Compatible with most standard channel banks**
- **ESF and SF Framing Support for T1**
- **PCM30 and PCM30C Framing Support for E1**
- **Power Redundancy Standard**
- **1U Rack Mount Chassis**
- **12VDC, 24VDC, -48VDC, 125VDC**
- **"R2" Push Button for Troubleshooting**
- **Standard 5-year Warranty**

2x TC8738E-1 in 1U Chassis (4 or 8 Channels)

2x TC8738E-2 in 1U Chassis (4 or 8 Channels)

6x TC8738E in 1U Chassis (24 Channels)

TC COMMUNICATIONS®

The TC8738E is a 4-24 channel Voice/Fax/Modem channel bank that allows network managers the flexibility of leveraging T1/E1 circuits by adding low cost telephone lines as needed. With four ports per TC8738 card, up to six can be combined to form a 24-channel channel bank. Compatible with most standard channel banks. The device is economical, simple to install and comes standard with built-in power redundancy.

The TC8738E is available in two configurations:

- 4-Channel FXS (TC8738E-1)
- 4-Channel FXO (TC8738E-2)

Built-in T1/E1 loopback assist in isolating whether an issue lies on your telephone line or your T1/E1 line. CSU Loop Code Up/Down is also supported.

Our troubleshooting at-a-glance provides simple diagnostics on the FXO/FXS channel, power supply, or T1/E1 circuits. Each unit provides Ring/Hook LEDs for verifying signals on each FXS/FXO channel, Power LEDs for verifying power inputs and Alarm LEDs for verifying T1/E1 signal.

All products part of the JumboBank series are equipped with the "R2" button. The "R2" button, was developed to isolate causes of disruptions, leveraging the Alarm LEDs and allows users to clear the history on the local unit. Each of the Alarm LEDs have the ability to show current T1/E1 errors and a history of up to 3 errors.

As a JumboBank™ product, the TC8738E is compatible with industry-standard signaling, allowing the TC8738E to be used for both new systems and for full or partial replacement of existing channel banks. This allows for simple migration to a fully supported modern solution that is "Made in America" and TAA-compliant.

Applications

A low cost and immediate solution, the TC8738E is typically used to link analog telephones or legacy dial-up devices including data modems, fax machines, meters, ATM, and credit card machines over T1/E1.

Legacy and end of life channel bank replacement.

TC Communications, Inc.
17881 Cartwright Rd. Irvine, CA 92614 U.S.A.
Tel: (949) 852-1972, Fax: (949) 852-1948

Web Site: tccomm.com
E-mail: sales@tccomm.com

Options:

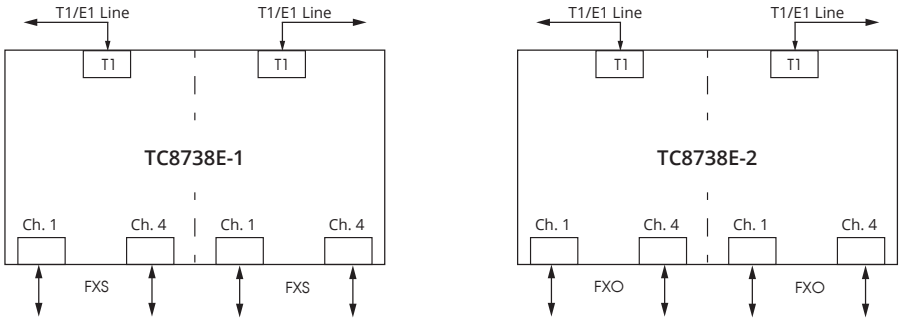
The TC8738E is compatible with standard 100Ω T1 for copper line lengths up to 6,000 feet and up to 2.5 kilometers for 75Ω / 120Ω E1 (copper line length is the distance between the TC8738E and the T1/E1 cross-connect).

The T1/E1 uses an RJ48 connector, and the analog channels use DB9 connectors. An optional BNC adapter cable is available for 75Ω E1. Power is 12VDC standard or optional 24VDC, -48VDC, or 115/230VAC with an external power cube. A high temperature version (-20˚C to 70˚C) and extreme temperature version (-40˚C to 80˚C) are also available.

Multi-Card Operation:

The TC8738E is placed into the TCRM19H 1U rack, which can hold up to two TC8738E cards. If two cards are fitted to the rack, then they may be configured in two ways:

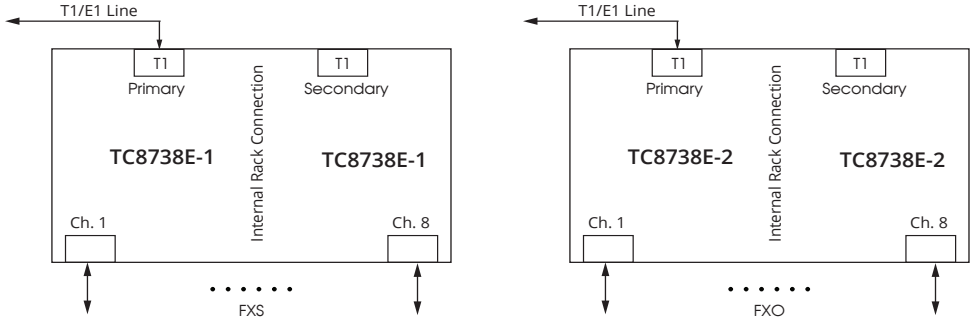
1. The cards are configured for individual operation



Here, each card operates independently and connects to its own T1/E1 connection.

2. Daisy-chain operation

With daisy chain operation, each card is connected to the next so that both cards utilize the T1/E1 connection.



Daisy chaining these together means an eight-port voice module is connected utilizing the same T1. An internal rack connection means only inter-rack connections are required.

If required, multiple 1U racks can be daisy-chained together to build up to a 24-channel unit, all using the same T1/E1.

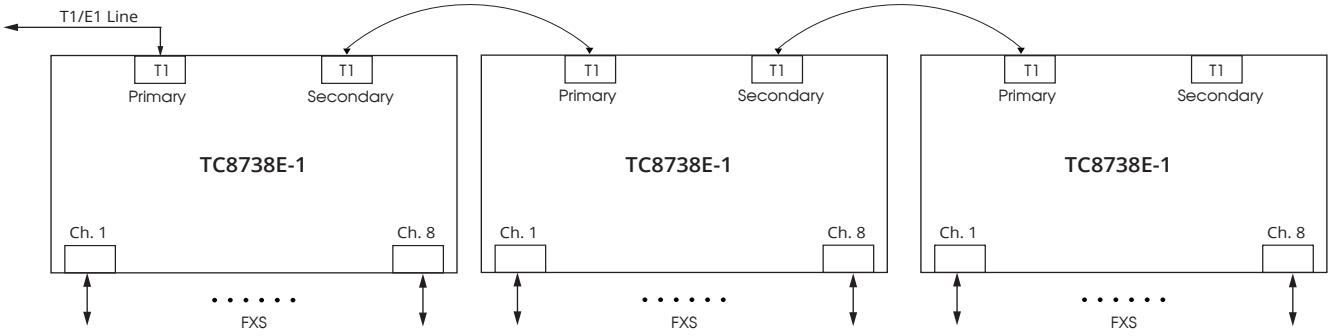


**Diagram for daish chain configuration TC8738E-1, also applicable to TC8738E-2*

Interfaces

T1/E1 ..... 1 Port
FXS (TC8738E-1) ..... 4 Ports
FXO (TC8738E-2) ..... 4 Ports

T1/E1

T1

Line Code ..... AMI / B8ZS
Framing ..... ESF / SF
Connector RJ48
Impedance 100Ω

E1

Line Code ..... AMI / HDB3
Framing ..... PCM30C / PCM30
Connector ..... RJ48, BNC
Impedance 120Ω, 75Ω

Visual Indicators

Channel Status (each ch.) ..... Ring (R)/Hook (H),
System ..... PWR A, PWR B, Vcc, ALM
T1/E1 ..... BPV, LOS, SYNC, AMI, RAI, AIS, CRC

Electrical

FXS/FXO Interface

Impedance 600Ω
Max Input 3Vp-p
Frequency band ..... 300 to 3400Hz
Connector DB9

System

Bit Error Rate ..... 1 in 10^9 or better

Alarm

Dry Contact ..... Normal Open/Closed

Power

Standard ..... 12VDC @500mA
Optional ..... 24VDC, –48VDC, 125VDC, or 115/230VAC

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
Humidity ..... 95% non-condensing

Physical (Standalone Unit)

Height ..... (3.53cm) 1.40″
Width ..... (18.14cm) 7.20″
Depth ..... (24.89cm) 9.80″
Weight ..... (453g) 1.0lbs

TC COMMUNICATIONS®

TC Communications, Inc.
17881 Cartwright Road
Irvine, CA 92614 U.S.A.
Factory Tel: (949) 852-1972
Fax: (949) 852-1948

Sales Office
U.S.A. Domestic & International
(949) 852-1973

Web Site: tccomm.com
E-mail: sales@tccomm.com

TAA Compliant

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

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

DTS-8738E-01-00
Date: 070925