4-24 Channel 4-Wire E&M Channel Bank

TC8734E

- **Channel Bank Replacement**
- **4-24 Channel 600 Ohm Analog & Dry Contact**
- **2-Wire or 4-Wire Analog**
- **Dry contact detectors with Isolated Ground**
- **Compatible with most standard channel banks**
- **T1/E1 Status LEDs: BPV, LOS, SYNC, RAI, AIS, CRC**
- **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 TC8734E in 1U Chassis (4 or 8 channels)

6x TC8734E in 1U Chassis (24 channels)

TC COMMUNICATIONS®

The TC8734E is a 4-24 channel, 2/4-wire E&M channel bank unit that utilizes a single T1/E1. With four ports per TC8734 card, up to six can be combined to form a 24-channel channel bank. It allows network managers the flexibility of leveraging their existing T1/E1 circuits by adding low-cost two-wire or four-wire E&M circuits as needed. It is economical, simple to install, and comes standard built-in power redundancy.

Each TC8734E utilizes four DB9 ports for 600 Ohm analog and dry contact interfaces. It also features diagnostic DIP switches for Local Loopback. No additional equipment is required for T1/E1 line and device verification.

Built-in T1/E1 loopback assists in isolating issues between the analog or T1/E1 circuits. CSU Loop Code Up/Down is also supported.

Our troubleshooting at-a-glance provides simple diagnostics on the analog/dry contact circuits, power supply, or T1/E1 circuits. Each unit provides TX/RX and RLY/DET LEDs for verifying analog and dry contact signals on each channel, as well as 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 TC8734E is compatible with industry-standard signaling, allowing the TC8734E 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

The TC3847E is designed as a modern version of an industry-standard channel bank. The industry-standard signaling allows users to use the TC3847E for new systems or for replacement of existing end-of-life channel banks.

Common applications for the TC3847E are two-way radio, including voted and simulcast systems—as well. As with all TC Communications products, the JumboBank™ is mission-critical and is available in standard or extended temperature (-40˚ C to 80˚ C) operation.

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Options:

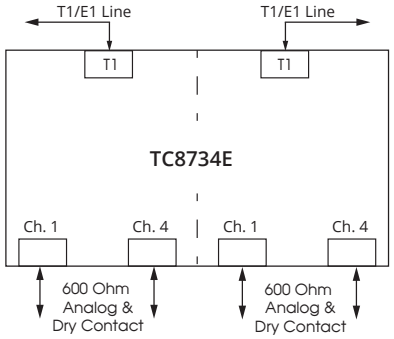
The TC8734E is compatible with standard 100Ω T1 for copper line lengths up to 6,000 feet and up to 2.5 kilometers for 75Ω / 120Ω E1 (copper line length is the distance between the TC8734E and the T1/E1 cross-connect).

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 TC8734E is placed into the TCRM19H 1U rack, which can hold up to two TC8734E cards. If two cards are fitted to the rack, then they may be configured in two ways:

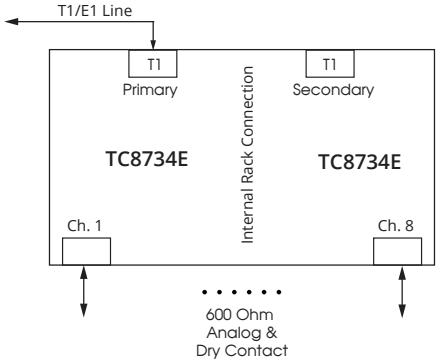
1. The cards are configured for individual operation



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

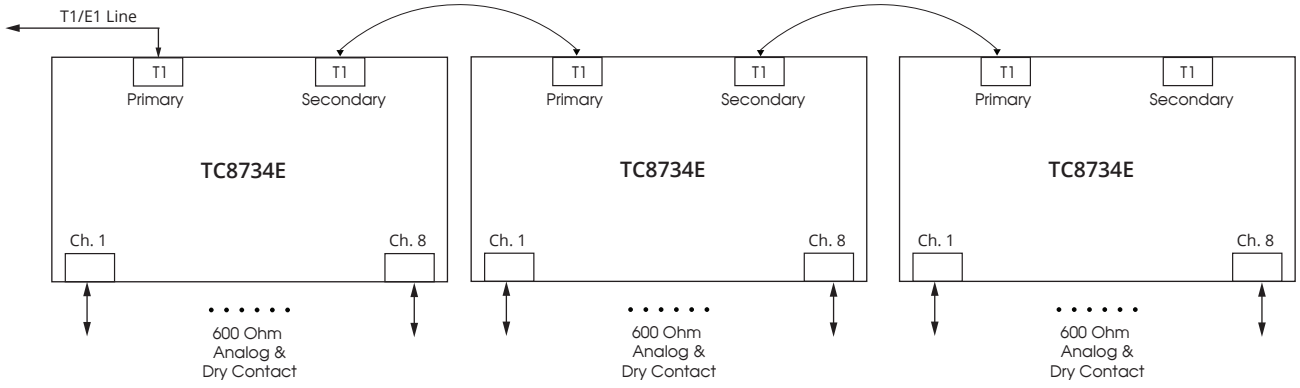
2. Daisy-chain operation

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 2/4-wire E&M 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.



Interfaces

T1/E1	1 Port
600 Ohm (2/4 Wire)	4 Ports
Dry Contact	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

Electrical

600Ω Analog Interface

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

Dry Contact Interface

Normal open	Standard
Normal close	Optional
Load Voltage (peak AC)	60V
Load Voltage (DC)	60V
Continuous load current	0.55A
Peak load current	1.2A
Max On Resistance	2.5 Ω
Output Capacitance	150pF
Connector	DB9

Visual Indicators

Channel Status	TX/RX or RLY/DET
System	PWR A, PWR B, Vcc, ALM
T1/E1	AMI, RAI, AIS, CRC, BPV, LOS, SYNC

System

Bit Error Rate	1 in 10^9 or better

Alarm

Dry Contact	NormalOpen/Closed

Power

Standard	12VDC @200mA
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

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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-8734E-01-00
Date: 070925