Featuring extremely low latency, the TC3845-3 T3/E3-over-IP Gateway transports T3/E3 over Layer 2/3 Ethernet/IP networks. It is simple to configure and supports point-to-point topologies.

The TC3845-3 transports one T3 or E3 channel. Each channel is independent and transparent to protocols and signaling that run over T3/E3. All applicable T3/E3 and Ethernet Industry standards and T3/E3 line codes are supported.

The TC3845-3 achieves minimal end-to-end processing delay by using high-performance adaptive clock recovery buffering and forwarding technology. Specifically, a high-precision, reference clock is used for optimal jitter and wander performance that complies with the ITU-T G.823/G.824 traffic interface standards. This allows the unit to handle large temperature swings without any bit errors or loss of sync that would otherwise be present when using a less stable clock source.

To ensure reliable communications, the TC3845-3 supports VLAN and QoS for packet prioritization. Other key features include Traffic Monitoring and Statistics, Network Time Server (NTP Server), Remote Firmware Upgrade and Temperature and Power Consumption Monitoring. Setup, diagnostics, and management are accessed via Web, SNMP, Serial Console, and Telnet. Diagnostics include LED indicators and local and remote loopback for T3/E3 and Ethernet to assist with troubleshooting and maintenance.

The TC3845-3 interface card fits into any available JumboSwitch housing option including 2S Standalone chassis and 1U/2U/4U card cages. Power supply options are 12VDC, 24VDC, -48VDC or 115/230VAC. Standard operating temperature is -20°C to +70°C and the extreme temperature version is -40°C to +80°C.

Applications
Typical applications include transporting voice, video, and data across IP networks.

For example, the TC3845-3 is often used to extend T3/E3 links between PBX’s, connect video conferencing or link Cell Towers to Central Offices.

It is also used to extend T3/E3 links between M13 multiplexers and Routers.
The JumboSwitch product family meets all pertinent industry-specific standards for environmental, performance and security requirements including IEC 61850-3, IEEE 1613, NEMA TS-2 and NERC CIP. Furthermore, future JumboSwitch family products will continue to be compliant with both existing and emerging industry standards and requirements, including developing Ethernet standards. Please refer to the charts below for specific standards compliance information.

## Environmental & EMI Compliance

<table>
<thead>
<tr>
<th>Tests</th>
<th>Industrial Standards</th>
<th>TC Communications - JumboSwitch Type Test and Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Supply Unit (PSU)</td>
<td></td>
<td>IEC 60068-2-1; Ac; -40°C; 16 hour</td>
</tr>
<tr>
<td>RJ-45 &amp; Signal</td>
<td></td>
<td>IEC 60068-2-2; Be; +80°C; 16 hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IEC 60068-2-2; Bd; +85°C; 16 hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IEC 60068-2-30; Dc; +55°C; 95%; 96 hours</td>
</tr>
</tbody>
</table>

### Temperature/Humidity

- **Low Temperature Use**: IEC 61850-3, IEEE 1613, NEMA TS-2
- **Low Temperature Storage**: IEC 61850-3, IEEE 1613, NEMA TS-2
- **High Temperature Use**: IEC 61850-3, IEEE 1613, NEMA TS-2
- **High Temperature Storage**: IEC 61850-3, IEEE 1613, NEMA TS-2
- **Damp Heat**: IEC 61850-3, IEEE 1613, NEMA TS-2

### Mechanical

- **Vibration**: IEC 61850-3, IEEE 1613, NEMA TS-2
- **Shock**: IEC 61850-3, IEEE 1613, NEMA TS-2

### Electro/Magnetic Compatibility

- **Electrostatic Discharge Immunity**: IEEE 1613
- **Radiated RF Immunity**: IEC 61850-3, IEEE 1613
- **EFT/Burst Immunity**: IEC 61850-3, IEEE 1613
- **Surge Immunity**: IEC 61850-3
- **Conducted RF Immunity**: IEC 61850-3
- **Magnetic Field Immunity**: IEC 61850-3
- **Damped Oscillatory Magnetic Field Immunity**: IEC 61850-3

### Power Supply Unit (PSU) Variations

- **AC Voltage Dips**: IEC 61850-3
- **DC Voltage Dips**: IEC 61850-3
- **Damped Oscillatory Wave**: IEC 61850-3
- **Conducted PF CM Voltage**: IEC 61850-3
- **Conducted Emission**: IEC 61850-3
- **Conducted emission**: IEC 61850-3
- **Radiated emission**: IEC 61850-3

### Diellectric

- **Dielectric 50 Hz Test**: IEEE 1613
- **Impulse Voltage Test**: IEEE 1613

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**Data Rates**

- **T3** ................................... 44.736 Mbps
- **E3** ................................... 34.368 Mbps
- **Ethernet** .................. 10/100 Mbps Full Duplex
- **Console** ....................................... 9.6K

**Connection Capacity**

- **T3/E3** ................................... 1 Channels
- **Ethernet** ................................... 1 Port

**Electrical**

- **T3 Interface**
  - **Line Code**................. B3ZS
  - **Standards**.............. G.703, G.824, ANSI, T1.102, Bellcore, TR-NWT-W499
  - **Connector**................ BNC
  - **Impedance**................... 75 Ω

- **E3 Interface**
  - **Line Code**................. HDB3
  - **Standards**.............. G.703, G.823
  - **Connector**................ BNC
  - **Impedance**................... 75 Ω

- **Ethernet Interface**
  - **Standards**............. IEEE 802.3, 802.3u, 802.1p&Q
  - **Connector**.................. RJ45
  - **Console Port**.............. RJ45

**System**

- **Bit Error Rate** .......... 1 in 10^10 or Better

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**Regulatory Approval**

- CE, FCC Part 15, CISPR (EN55022)
- **CLASS A**, IEC 61850-3, IEEE 1613, NEMA T5-2

**Diagnostic Functions**

- Local and Remote Loopback for T3/E3 and Ethernet

**LEDs**

- **Unit Status**.............. PWR (A, B), Alarm
- **Vcc, BP, MGM**
- **Status**
- **Ethernet**.................. Link/Act

**Power**

- **Standard**..................... 12VDC
- **Optional**.................. 24, -48 VDC
- **90-260 VAC, 50/60Hz**
- **Power Consumption**..........<10W

**Operating Temperature**

- **High Temp** ............... -20°C to 70°C
- **Extreme Temp** .......... -40°C to 80°C

**Storage**

- **Temperature**.............. -40°C to 90°C
- **Humidity**....... 95% non-condensing

**Physical (rack mount card)**

- **Height**............... (3.15 cm) 1.24”
- **Width**................. (17.78 cm) 7.0”
- **Depth**................... (22.86 cm) 9.0”
- **Weight**................. (0.3 kg) 0.75lbs

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