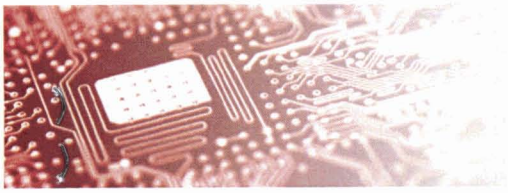


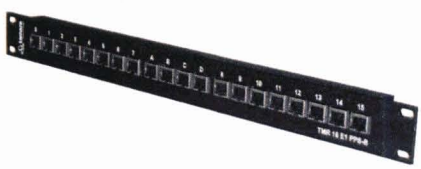
TMR 16E1 PCIe

PCI Express form factor Digital E1 Trunk Passive Board

Technical Specifications

Features	TMR 16E1 PCIe
Dimensions	153 x 98 x 14 mm
Interface	E1 (2.048 Mbit/s)
E1 Capacity	16E1 Ports (8Tx+8Rx pairs)
E1 Interface Connector	4xRJ45, 8 pin
Pulse Shape Compliance	as ITU-T G.703 pulse mask
Framing	G.704
Line Code	HDB3
Signal Detection	as ITU-T G.775 and ETS 300233
Clock Recovery/Regeneration	as ITU-T G.703, G.735, G.824 and I.431
Data Type	Framed or unframed
Monitoring Mode	G.772 Non-intrusive monitoring
Terminating Mode	120 ohm
Form Factor	PCI Express board, half size low profile
PC Interface	Single PCI Express 2.5Gbit/s Lane PCI Express Base Specification Revision 1.1 compliant
API & Driver	Uses BTT's API and Drivers, Supports Windows and Linux Operating System

Options



Patch panel options

TMR 16E1 PSS-B: It may be used in conjunction of TMR 16E1 PCIe board for tapping of up to 16 E1 signals. It is 19" rack mountable unit with 20 RJ45 female ports, 16 RJ45 port is for each E1 input and 4 RJ45 ports for connection to TMR16E1 PCIe board.

TMR 16E1 PSD-A: It may be used in application that require the E1 signal input to be simultaneously connected to active terminal equipment, while at the same time connecting the copy of the E1 signal to TMR 16E1 PCIe board.

Call Monitoring & Recording Applications Software

API : E1 Analyses Library

Supports SS7 (ISUP),R1,R2 and ISDN PRI call state and voice signal analyses

E1 Analyses Library Common Features

- Tone Detection
- CallerID/DTMF/MF Detection
- Activity / Silence Detectors
- Stereo Recording
- Live Monitoring
- Start/Stop Call Recording Triggers

About Tamara:

Since its establishment in 1996,Tamara Electronics has been a company specialized in the design of hardware products. With know-how on PCI Express, PCI, USB , Embedded Linux, Ethernet and more others, we provide design and production service. Experience, reliability and leading edge of technology allow us to manage designing hardware for security, intelligence and law enforcement agencies.

*Driver and software's are supplied by BTT, solution partner of Tamara. (www.btt-int.com)

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TMR 16E1 PCIe

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PCI Express form factor Digital E1 Trunk Passive Board

TMR 16E1 PCIe provides the platform to build powerful applications based on PSTN and GSM Mobile Network protocols.

The TMR 16E1 PCIe is capable of operating in non-intrusive monitoring or terminating modes, this allows tapping of the network for surveillance or other Value-Added Services (as OSS) where required.

Supporting BTT's* broad range of SS7,R1,R2 and ISDN PRI based telephony API´s, call monitoring and recording applications can be developed.

Leading chassis manufacturers are removing the legacy PCI slots from PC/server products, replacing them with higher capacity PCIe slots. This change in expansion bus architecture demands new form factor telephony boards to be developed. TMR 16E1 PCIe is a low profile, half size PCI Express board, allowing it to be deployed in the widest selection of chassis available.

Target Applications

TMR 16E1 PCIe is suitable for deployment by system integrators, OEMs and application developers.

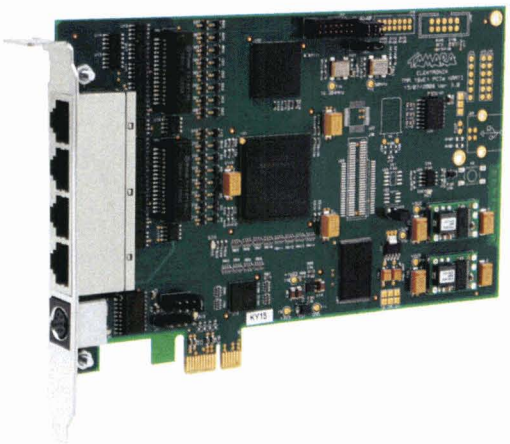
TMR 16E1 PCIe is used as a tool for application developers to passively tap E1 trunks in high-density telephony environments. It can be permanently installed E1 trunks such as in the PSTN SS7 network and on GSM Gb, Abis, A interfaces. The monitored data from the network can be used for a wide variety of value added services (VAS) and operational support system (OSS) applications.

Typical OSS applications include:

- **Fraud management systems**
- **Billing systems**
- **Performance/load analysis**
- **Quality of service monitoring**
- **Network management**
- **E911 location, search and rescue**
- **Lawful interception requirements**

Typical VAS applications include:

- **Welcome note for roamers**
- **Missed call alerts**
- **Roaming services (steering etc)**
- **Location based advertising**
- **Location based information points**
- **'Where am I?' / 'Where is?' location services**



TMR 16E1 PCIe

Features

- 16 E1 inputs (8 pair of Rx+Tx) per board
- Non-intrusive and undetectable high impedance passive monitoring or 120 ohm termination mode options
- Unique Hardware Serial Number (Silicon ID) for distinguish itself from other boards and prevent piracy
- Data transfer with 16 channel double buffer DMA technology
- High density half size low profile PCI Express card
- Windows & Linux Driver

Benefits

- PCI Express computer bus increases solution longevity
- Scalable, can monitor a single E1 to countrywide networks
- Powerful, allows complex filtering, mass monitoring, tracking of numerous targets etc without degrading or overloading operator equipment
- Overlay system, independent from operator equipment

D1