Quad T1/E1/J1 PCI Express® Telecom Adapter

FEATURES

Quad T1/E1/J1 Communications Interface for PCI Express® Systems

Software Programmable Interfaces

Freescale™ MPC8280 PowerQUICC® II Processor

H.100 Bus Support

NexusWare® Core CGL Distribution and Development Tools

NexusWare WAN Protocol Software:
• Radar Receiver
• TADIL-B
• HDLC
• X.25
• Frame Relay

128 MB Dedicated Processor DRAM Memory:
• Handles extensive onboard traffic and protocol requirements

With the introduction of PCI Express® servers as the latest standard for PCI-based solutions, telecom OEMs and integrators will require high-density, highly advanced I/O solutions for use in these new servers. Coupled with powerful I/O and enabling software, these new servers allow for the creation of high-density, high-performance access solutions for telecom and IP telephony systems.

The PCE385 is ideally suited for both PSTN and IP telephony systems that are built on PCI Express architecture and that are capable of handling large volumes of voice circuits either for protocol processing or for transfer to the H.100 and PCI Express Buses. Application examples include SS7 network elements, wireless infrastructure equipment, media and signaling gateways, and telecom switching and routing equipment.

The PCE385 is an adaptable platform designed with an onboard Freescale™ MPC8280 PowerQUICC® II RISC communications processor. Combined with an embedded Linux® operating system, the PCE385 operates as a fully programmable communications subsystem capable of intra-chassis communication using the H.100 bus.

Hardware Features

The PCE385 architecture capitalizes on the MPC8280 PowerQUICC II processor. The MPC8280 advanced feature set allows for superior handling of four fully channelized T1/E1/J1 spans, increasing the number of possible active protocol links.

The PCE385 also supports the ECTF H.100 specification. By incorporating the H.100 interface device, the PCE385 can send or receive any of its possible time slots to the front panel. The PCE385 can switch all 128 of its DS-0 channels to any of the 4096 H.100 CT bus channels. Other features include 128 MB of DRAM, which allows the PCE385 to execute protocols and WAN applications directly onboard. It also provides a monitor port and a console port for upgrades and management.

NexusWare Software Support

NexusWare® is a family of Linux® software products that enable users of PT's broad range of COTS embedded hardware solutions to rapidly develop and deploy value-added capabilities with their solutions. This powerful combination of software and hardware enables system engineers, architects, and designers in telecommunications as well as aerospace and defense markets to create applications and bring to market solutions such as LTE, WiMAX, media gateways, managed WAN gateways, VoIP, lawful intercept, signaling gateways, and base station controllers.

The NexusWare® family of products supported on the PCE385 includes:

NexusWare Core: At the very center of the NexusWare Software Suite is NexusWare Core. NexusWare Core is a complete Carrier Grade Linux® (CGL) distribution. In addition to being a Linux distribution, NexusWare Core also provides a complete set of development tools.

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ORDERING INFORMATION

PT-PCE385-11925
PCI Express® Quad T1/E1/J1
Communications Adapter

Cable Options

PT-ACC384-11938
E1/75 W Cable (RJ48C to BNC)
Ungrounded Shield

PT-ACC384-11939
E1/75 W Cable (RJ48C to BNC)
Grounded Shield

PT-ACC324-11977
RS232 Debug Cable

PT-ACC384-11940
Two LVDS Clock Input Cables

PT-ACC384-11937
Two-position H.100 Cable

Software Options

PT-NXSWARE-11359
NexusWare® Linux® Software

PT-HDLCKIT-11490
HDLC Connectivity Kit

PT-FRAMKIT-11661
Frame Relay Development Kit

PT-X25KIT-11612
X.25 Development Kit

This product is available with a variety of software options. For more information, contact sales@pt.com.

CONTACT US

www.pt.com
E-mail: sales@pt.com

NexusWare SIP: NexusWare SIP is a Session Initiation Protocol (SIP) stack and API software package included with NexusWare Core that provides a powerful foundation for application developers for building SIP proxy servers, SIP location servers, SIP registrar servers, and SIP media gateways for wireless and IP telephony systems.

NexusWare WAN: NexusWare WAN protocols provides a wide range of WAN protocols which allows OEMs and System Integrators to create flexible and efficient radar gateways, converged serial gateways, and front-end I/O systems. NexusWare WAN software products are offered both as installable software packages for NexusWare Core and as turn-key packages for those developers interested in the protocol package by itself. Whether the installable or the turn-key solution is chosen, developers will be provided with a well-documented and powerful API to assist the development process.

NexusWare C7: NexusWare C7 is a comprehensive SS7 MTP-2 installable software package that provides a powerful foundation for building SS7 applications for wireless and IP telephony systems. NexusWare C7 provides extensive system scalability. The distributed processing architecture of NexusWare C7 allows the addition of SS7 links into existing equipment without compromising overall host system performance.

Technical Specifications

Interface

- Four RJ48C interfaces that are independently software programmable on receive and transmit termination. Operating modes supported are:
  - T1/100 W
  - E1/75 W
  - E1/120 W
  - J1/110 W
- One Micro DB 9 interface supporting:
  - RS232 Debug (optional cable)
  - Two LVDS Clock Inputs (optional cable)

Processor

- Freescale™ 450 MHz MPC8280 PowerQUICC® II (EC603e core)
- 64-bit data and 32-bit address bus

Framing Standards

- D-4, ESF, DS-1, PRI; AMI/B8ZS line encoding

Memory

- 128 MB dedicated DRAM
- 32 MB flash PROM

Specification Compliance

- PCI Express® revision 1.0
- ECTF H.100-compliant
- ANSI T1.102-1993

Physical Interface

- T1/E1/J1: Four RJ-48C connectors
- Console: One Micro DB 9
- PCI Express X1 Lane

Protocol Support

- MTP2 Link Layer
- Transparent (Voice Stream)
- HDLC
  - LAPD (Q.921), LAPB, LAPF
- X.25
- Frame Relay
- ATM (AAL0, AAL1, AAL2, AAL5)

Agency Certifications

- FCC Class A
- CE
- EN 60950
- NEBS Level 3-friendly

Compliance

- All currently applicable ANSI/ISO standards
- RoHS/WEEE

MTBF

- 465,009 hours per Bellcore SR-332 Issue 1

Power

- 8.1 W maximum (2.46 A @ 3.3 V)
- 3.63 W maximum (3.3 A @ 12 V)

Dimensions

- PCI Express standard height half-length 111.15 mm x 167.65 mm (4.37 in. x 6.6 in.) with I/O mezzanine card that conforms to single-slot PCI requirement

Temperature

- Operating: 0 to 50°C (32 to 122°F)
- Non-operating: -20 to 80°C (-4 to 176°F)

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