



### Highlights

- >> Quad T1/E1/J1 Communications Interface for PCI Express® Systems
  
- >> Software Programmable Interfaces
  
- >> Freescale™ MPC8280 PowerQUICC® II Processor
  
- >> H.100 Bus Support
  - Capable of switching 96/128 time slots bi-directionally to any of the 4096 H.100 CT bus channels
  
- >> NexusWare® CGL OS and Development Environment
  
- >> 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

The NexusWare® software suite offers a CGL Registered and POSIX-compliant Linux operating system and development environment. In addition, the suite includes an extensive list of installable protocols that can be leveraged to build robust solutions, such as media gateways, lawful intercept platforms, SS7 monitoring equipment for line usage/billing applications, radar gateways, and converged serial gateways.



# PCE385

## Quad T1/E1/J1 PCI Express® Telecom Adapter

### Ordering Information

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

### Cable Options

- >> **PT-ACC384-11938**  
E1/75 Ω Cable (RJ48C  
to BNC) Ungrounded Shield
- >> **PT-ACC384-11939**  
E1/75 Ω 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  
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The NexusWare family of products includes:

**NexusWare Core:** At the very center of our NexusWare suite of software is NexusWare Core, which provides a comprehensive, highly integrated, Linux OS, development, integration, and management environment. It is intended for system engineers who use Performance Technologies' embedded products to build packet-based systems, including next-generation wireless and IP-based systems.

**NexusWare WAN:** Extensive offering of protocol packages that includes, but is not limited to, HDLC, X.25, Frame Relay, and Radar Receiver. Combined with Performance Technologies' embedded products, these enhance the creation of flexible and efficient radar gateways, converged serial gateways, and front-end I/O systems.

The WAN software products are offered either as installable software packages for NexusWare Core or as turnkey packages for those developers interested in the protocol package by itself. Whichever solution is chosen, a well-documented and powerful API will be provided to assist in the development process.

**Channel7™ SS7 MTP-2:** Provides users of our PCI and PCI Express based T1/E1/J1 communication adapters a baseline SS7 MTP-2 solution for the creation of SS7 applications and systems. Operating system support includes: Solaris and Linux.

**ChannelLink™ T1/E1/J1 Driver:** Provides users of our PCI and PCI Express based T1/E1/J1 communication adapters an easy way to run a variety of SunSoft™ communications protocols in either a channelized or non-channelized mode.

### Technical Specifications

#### Interface

- Four RJ48C interfaces that are independently software programmable on receive and transmit termination. Operating modes supported are:
  - T1/100 Ω
  - E1/75 Ω
  - E1/120 Ω
  - J1/110 Ω
- 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

- SS7/MTP-2
- HDLC
- Frame Relay
- LAPD
- X.25
- ATM (AAL0, AAL1, AAL5)
- Optional NexusWare® Core Linux OS and Development Environment

#### 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)