



Highlights

- >> Carrier-Grade Dual DS-3 Communications Interface for 6U CompactPCI® Systems

- >> Motorola MPC8260 PowerQUICC II™ Processor

- >> PICMG® 2.16-Compliant

- >> Dual 10/100 Ethernet
 - Provides redundant IP connectivity for high-reliability carrier-grade solutions

- >> Dual H.110 Buses
 - Up to 1344 time slots can be switched between one or both T3s and one single or two independent H.110 buses

- >> NexusWare® Linux OS and Development Environment

- >> 64 MB Dedicated Processor DRAM Memory

- >> Hot-Swappable

- >> Rear Panel I/O with Passive Transition Module

The desire for density and high performance in next-generation telecom and IP telephony systems continues to grow at a rapid pace. The CPC396 Dual T3/H.110 TDM Circuit Switch meets these needs by providing telecom equipment manufacturers and integrators with full switching of two DS-3 communications interfaces (1344 DS-0s) on one single or two independent H.110 buses.

The CPC396 has been specifically designed to be the ideal adapter for IP telephony applications that require the manipulation of large numbers of voice and data circuits from the telecom network to the H.110 bus. The CPC396 helps designers of carrier-grade VoIP, VoATM, VoDSL media gateways, wireless infrastructure equipment, and other voice/data devices get to market quicker and more profitably.

The PICMG® 2.16-compliant CPC396 is an adaptable platform designed with an onboard MPC8260 PowerQUICC II™ RISC communications processor. Combined with the NexusWare®, Linux® OS and development environment and dual onboard Ethernet, the CPC396 operates as a fully programmable communications subsystem capable of intra-chassis communication using either the PCI bus or Ethernet.

Telecom Hardware Features

The architecture of the CPC396 capitalizes on the Motorola MPC8260 PowerQUICC II processor. The advanced feature set of the MPC8260 allows for superior handling of two fully channelized T3 spans (1344 DS-0s) as an entire stand-alone subsystem.

In addition, the CPC396 offers two fully channelized T1/E1 ports. These ports can be used for various applications, such as signaling or system management, over a WAN connection.

The CPC396 supports complete DS-0 to DS-3 multiplexing. It can switch 1344 DS-0 channels (2688 time slots) to a single H.110 bus (J4), or it can be used to switch the 672 time slots of each T3 link to a dedicated H.110 channel. In support of the ECTF H.110 specification, each T3 span can link to either standard J4 or proprietary J3 connectors.

The CPC396 complies fully to the latest PICMG 2.1 hot-swap specification and enables trouble-free hot insertion and extraction of modules, which is a critical requirement in building a carrier-grade system.

Other features of the CPC396 include 64 MB of DRAM, which allows the CPC396 to execute protocols and manage extreme DS-0 density directly onboard. It also provides a monitor port and a console port for upgrades and management.



CPC396

Dual T3/H.110 TDM Circuit Switch

Ordering Information

>> PT-CPC396-11957

Dual T3 TDM circuit switch,
dual H.110

>> PT-CPC396-11958

Dual T3 TDM circuit switch,
single H.110

>> PT-CPC396N-11960

Dual T3 TDM circuit switch,
single H.110 with NexusWare
Linux-based software

>> PT-LIM396-11961

Line interface module with
midplane Ethernet

>> PT-LIM396-11962

Line interface module with
rear Ethernet

LIMs provide dual DS3X
connections with protection cir-
cuitry, dual 10/100TX Ethernet,
and dual T1 monitor ports

Software Options

>> PT-NXSWARE-11359

NexusWare Linux OS and
Development Environment



Contact Information

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NexusWare® Software Support

Running NexusWare® Core, Performance Technologies' highly integrated, Linux® OS and development, integration, and management environment, the CPC396 is a complete stand-alone TDM switch that can be managed via the CompactPCI® bus, console port, or redundant out-of-band Ethernet ports via SNMP or TCP/IP-based API.

Technical Specifications

Interface

- Two T3 ports with 2432 time slots switchable between local and two ECTF H.110 buses
- Two DS-3 (1344 time slots) switchable to/from one H.110 bus
- 56 T1 Framing Channels (28 per T3)
- Two 10/100 Ethernet ports

Processor

- Motorola MPC8260 PowerQUICC II (MPC603e core)
- 64-bit data bus and 32-bit address bus

Memory

- 64 MB Dedicated DRAM
- 16 MB Flash PROM

Compliance

- CompactPCI revision 2.1, including all PCI required configuration registers and protocols
- PICMG 2.0 R 3.0, 5 CT bus, ECTF H.110
- PICMG 2.1 hot-swap
- PICMG 2.16 CompactPCI packet switching backplane

Physical Interface

- CompactPCI 32/64 bit/33 MHz interface
- H.110 rear panel pinout via J3 and J4 connectors
- Dual Ethernet 10/100TX
- Dual serial management controllers
- Console serial port (RJ-11)
- Front panel LEDs for link activity, system status, and fault indication
- Rear panel I/O for two T1 monitor ports

PSTN Interfaces

- Dual T3 LIUs and framers with support for M13 and C-bit parity framing formats
- B3ZS/HDB3
- Encoding and T3 Alarm Indication Signal (AIS) with Remote Alarm Indication (RAI)

Framing Protocols

- AMI/B8ZS
- D-4
- ESF
- DS-1
- PRI
- Direct DS-3 to DS-0 Conversion

Embedded Linux OS

- T1/T3 framer management
- Dual H.110 CT bus switching driver
- Flash file system
- Dual console line interfaces
- In-system firmware upgrade capability
- BootP, DHCP, TFTP client/servers

Management

- SNMPv1 with support for MIB II (RFC1213)
- DS-1 MIB (RFC2495)
- DS-3 MIB (RFC2496)
- PTI Enterprise MIB for extended monitoring configuration and H.110 circuit setup
- Local CompactPCI-based API
- Remote TCP/IP-based API with support for Windows NT, Solaris, and Linux

Agency Certifications

- FCC Class A
- UL 1950
- CE
- NEBS Level 3-friendly

MTBF

- PT-CPC396-11957
192,140 hours per Belcore Spec SR332 Issue1
- PT-CPC396-11958
200,609 hours per Belcore Spec SR332 Issue1

Power

- 2.94 W maximum (4.0 A @ +3.3 V)

Dimensions

- 6U Eurocard Form Factor

Temperature

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