



### Highlights

- >> 24 10/100 + Two Fiber Gb Ethernet Ports
  
- >> Wire-Speed Layer 2 Switching/  
Layer 3 Routing
  
- >> 9 Gbps Switching Speed
  
- >> Support for Both 2.16 and Non-2.16 Modes
  
- >> Real-Time Continuous Integrity Checks
  
- >> Rapid Spanning Tree, Link Aggregation, VRRP, and Jumbo Frame Support
  
- >> Advanced Fast Filter Processor for Wire-Speed Layer 2-7 Packet Classification and Filtering
  
- >> Prevents Broadcast and Multicast Storms, Packet Flooding
  
- >> LUA Scripting Language

The CPC4411 is the fourth-generation 10/100 embedded Ethernet switch from Performance Technologies, the market leader in embedded switching. Compatible with both standard Compact PCI® and PICMG® 2.16 backplanes, it features field-hardened software that has been optimized for use as a high-speed interconnect within a server blade chassis or as the core switch in a fault-tolerant cluster of embedded systems.

The CPC4411 is fully compatible with all RoHS and WEEE requirements and offers the increased bandwidth, performance, and reliability required by high-availability applications, which makes it ideal for use in defense, IP telephony, and communications. When installed in a PICMG® 2.16 or VITA® 31.1 environment, designers can realize performance gains of up to nine times that of current PCI-based architectures.

The CPC4411 has been designed to make system integration easier, while maximizing network performance and flexibility. It features a potent scripting language that can be used to simplify and automate installation and maintenance tasks. It also supports multiple switching topologies (single star, dual star, and hub and spoke). In redundant applications, it can provide devices that have dual Ethernet ports with alternate data paths in the event of a node or switch failure.

The CPC4411 comes with real-time diagnostics that can be configured to continuously check the health of the switch. If a problem is detected, data can be automatically rerouted to an alternate path and an error message sent to the system or network manager.

System MTTR is exceedingly low with dual switches in place. If one switch fails, the replacement unit can be configured to obtain all of its operational and configuration information from the partner switch or from an external manager, making change-out of failed modules as simple as a hot-swap. The new unit simply “clones” its setup from the configuration stored on the surviving switch. With no active components on its rear panel I/O cards, failed units can easily be replaced without disturbing cables or other blades in the chassis.

The CPC4411 also protects investments for the long term with easy FTP/TFTP updates to platform flash memory. System software is available through downloads from the web site ([www.pt.com](http://www.pt.com)), which greatly simplifies or eliminates the need for dedicated on-site network administration.



# CPC4411

## Technical Specifications

### Ordering Information

- >> **PT-CPC4411-12078**  
CPC4411 24-port 10/100 + 2 Gb SX PICMG 2.16 Ethernet switch
- >> **PT-RTM4411-11949**  
5-port 10/100 TX single-slot rear transition module
- >> **PT-CPC4411-12079**  
CPC4411 24-port 10/100 + 2 Gb SX Ethernet switch for non 2.16 applications
- >> **PT-RTM4416-11952**  
24-port 10/100 TX single-slot rear transition module with breakout box and cables
- >> **PT-RTM4416-11954**  
24-port 10/100 TX dual-slot rear transition module



### Contact Information

**Performance Technologies**  
205 Indigo Creek Drive  
Rochester, NY 14626

Tel: 585.256.0200  
Fax: 585.256.0791  
E-mail: sales@pt.com

[www.pt.com](http://www.pt.com)

- 24 10/100 + 2 Gb SX fiber uplinks
  - Wire-speed Layer 2 switching/Layer 3 routing
  - 9 Gbps switching fabric
  - Store and forward frame processing
  - Support for 2.16 and non-2.16 modes
  - Front panel uplinks
  - Advanced fast filter processor for wire-speed Layer 2-7 packet classification and filtering
  - CompactPCI CORE specification (PICMG 2.0 R3.0)
    - compliant, 6U x 4HP
  - Hot-swap support (PICMG 2.1 Hardware Connection Layer), made more robust with Performance Technologies's exclusive Auto Configuration Replication
  - System management bus (PICMG 2.9/IPMI, v1.5) compliant
  - PICMG 2.16 hot-swap-compliant
  - Full duplex 802.3x flow control
  - 8K MAC addresses
  - 2K Layer 3 IP addresses
  - Managed learning of attached devices on a per port basis
  - Jumbo packet (9KB) Layer2 switching for iSCSI applications
  - Tagged packet (802.3ac) support
  - Support for IEEE 802.1p class of service with eight priority queues for traffic class management
  - IEEE 802.1Q VLAN support (16 VLANs)
  - 802.3-2000 link aggregation, up to 12 link groups, eight ports per group
  - Broadcast storm detection and suppression
  - Multi-port mirroring
  - Front panel, non-switched 10/100 Ethernet port for out-of-band management
  - Front or rear panel console port (RS-232)
  - Switched PICMG 2.16 fabric-to-fabric interconnect, auto-negotiating
  - TFTP/FTP-based firmware upgrade and configuration upload/download
  - TFTP/FTP client/server
  - BootP/DHCP client/server with support for port-based leasing
  - DHCP/BootP relay
  - 2 MB user flash file system enables other systems to load specific configuration information on a slot-by-slot basis
  - Partner switch configuration replication, cloning, version matching
  - Power-on or manager (CLI or SNMP) invoked diagnostics
  - Online, real-time integrity tests for non-stop networking
- ASCII extraction of current configuration
  - LED indicators of link, activity, speed, system status, system fault, and hot-swap
  - Multiple configuration, RTM options
- ### Protocols Supported
- GARP, GMRP, GVRP
  - RIP versions 1 and 2
  - OSPF, VRRP
  - 802.1D-2004 Spanning Tree/Rapid Spanning Tree
- ### Management
- CLI via RS-232 and out-of-band Ethernet management port
  - Scripting language for value-added applications
  - Embedded HTTP server for management
  - Telnet
  - SNMP v1, v2c, v3 - RFC 1157
  - MIBs
    - MIBII - RFC 1213, MIBII bridge - RFC 1493
    - RMON MIB - RFC 1757 groups 1, 2, 3 and 9
    - EtherLike MIB - RFC 1643
    - IEEE 802.1q MIB - RFC 2674
    - IEEE 802.3AD Link Aggregation MIB
    - Performance Technologies enterprise MIB
- ### Certifications
- UL/EN 60950
  - CE
  - FCC Class A
  - ETSI EN 300 386
  - Designed to the requirements of NEBS Level 3
  - Fully complies with the requirement of RoHS and WEEE
- ### Power Requirements
- 22 W typical, 29 W maximum
- ### Environmental
- Operating: 0 to 55°C (32 to 131°F)
  - Non-operating: -40 to 80°C (-40 to 176°F)
  - Relative Humidity: 10 to 90%, non-condensing
- ### MTBF
- 128,024 hours per Bellcore SR-332, Issue 4