AMP5091

4U PICMG® 2.16 Advanced Managed Platform™

FEATURES

4U, 19-in. PICMG 2.16 Rack-Mount Enclosure

Eight 6U Hot-Swappable Slots
- Seven node slots, one dedicated switched fabric slot

Intelligent Shelf Manager

Single Gigabit or 10/100 Ethernet Switch

One PCI Bus Segment Supporting 64-bit/33 MHz and H.110 Computer Telephony Bus

Eight Rear Transition Module Slots

Comprehensive IPMI-Based Management
- IPMI star topology delivers high reliability and security

N+1 Redundant, Load-Sharing, Hot-Swappable, 250 W AC or DC Power Supplies

Designed to Scale up to 650 W of Redundant Output Power

Efficient Side-to-Rear Cooling

Interoperable with PICMG 2.16 Components from Multiple Manufacturers

Designed for NEBS GR-63-CORE

The AMP5091 4U packet-switched Platform, one of PT's Advanced Managed Platform™ offerings, provides OEM equipment designers with standards-based solutions built on the PICMG® 2.16 specification. This high-density CompactPCI® platform features seven node slots (for compute blades or line cards, for example) and one PICMG 2.16 fabric slot, transversely mounted in a 4U enclosure, which makes it ideal for carrier-grade telecom and defense applications. The AMP5091 platform is modular, scalable, and ready for immediate development.

Hot-swappable system components simplify replacement and minimize service time. An intelligent shelf manager (ISM) enables customers to manage all IPMI-based components and conduct chassis diagnostics remotely for enhanced system reliability. A 6U slot is reserved for an integrated Layer 2/Layer 3 Ethernet switch. The AMP5091 platform routes signals across the backplane without the use of cables, which saves time in setup, maintenance, and repair, and minimizes the challenges of traditional cabling methods.

Midplane Configuration and Details

With one integrated chassis management module slot, one Ethernet switch slot, and seven node slots transversely mounted in a 4U chassis, the AMP5091 provides both high-density computing and integrated 10/100/1000 Mbps Ethernet support on the backplane. The backplane features one CompactPCI segment as well as support for the H.110 computer telephony bus across all seven node slots. An innovative side-to-rear cooling system supplies ample volume and velocity for cooling the high-density computing environment. The platform's innovative design assures minimal system interruption and high availability as every component features less than five minutes Mean Time to Replacement (MTR).

The AMP5091 backplane features eight CompactPCI slots. Slot one is dedicated to a PICMG 2.16-compliant switched fabric board. Slots two through eight are available for PICMG 2.16-compliant single board computers or access cards. Slot eight is a system master slot. Eight slots of the rear panel I/O, directly behind the backplane, accept IEEE® 1101.11-style, 80 mm-deep transition cards. Additionally, a 3U slot under the power supplies is dedicated for the chassis management module. The backplane may be configured for 3.3 V or 5 V VI/O operation. The AMP5091 provides support for either -36 to -60 V DC input or 100 to 220 V AC input.

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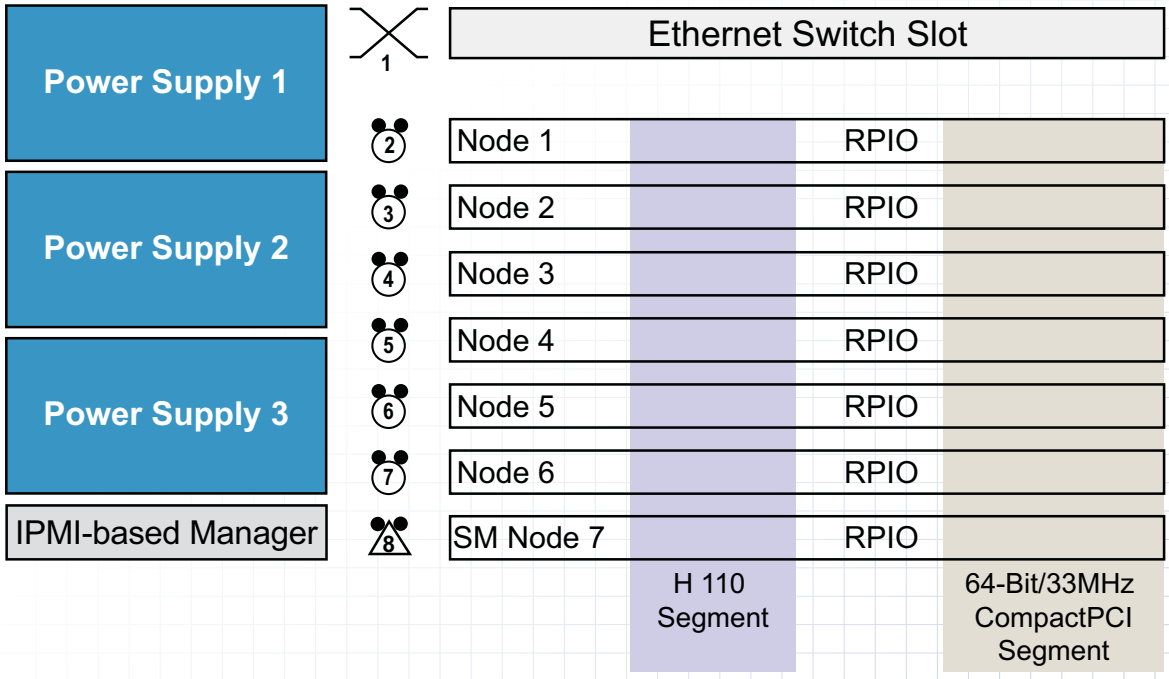
Intelligent Shelf Manager

The IPMI 1.0-compliant CPC7301 Intelligent Shelf Manager (ISM) monitors system status, including presence, power-on, temperatures, voltages, fan speeds, and health of components. It communicates within the system by using an IPMB Bus in a star topology to achieve comprehensive management. An out-of-band 10/100 Mbps Ethernet port permits a network that is dedicated exclusively for management, thus avoiding impact on traffic on the primary network.

Ethernet Switching

The AMP5091 platform supports a PICMG 2.16-compliant switched fabric board like PT's switches. These high-performance managed Layer 2/Layer 3 switches, with various 10/100 Mbps Ethernet ports and up to 24 1000 Mbps Ethernet ports, plus two 10 Gb ports, enable fast connection speeds and flexibility in a 6U CompactPCI® board. The in-chassis switch minimizes external wiring and needs no extra rack height, thus improving density and reliability. The console is accessed through an RS-232 serial cable to configure the management functionalities (SNMP, Telnet CLI, and RMON). The switches also feature easy-to-use browser/Web-based management consoles, managed via the IPMI standards-based CPC7301 Intelligent Shelf Manager. The switches route and switch at full wire-speed with non-blocking architecture, and feature sophisticated networking protocols to ensure that packets get switched, not dropped.



Technical Specifications

The AMP5091 is compliant with the following specifications:

- CompactPCI® core specification, PICMG 2.0, R2.1
- CompactPCI hot-swap specification, PICMG 2.1, R2.0
- CompactPCI Computer telephony specification, PICMG 2.5, R1.0
- CompactPCI system management specification, PICMG 2.9
- CompactPCI power interface specification, PICMG 2.11
- CompactPCI packet switching backplane specification, PICMG 2.16
- IPMI 1.0 specification

Power

- Input: 110 or 220 V AC (50 to 60 Hz) Output*:
  80 A at 3.3 V DC
  80 A at +5 V DC
  11 A at +12 V DC
  1 A at -12 V DC
- Input: -36 to -60 V DC Output*:
  80 A at +3.3 V DC
  80 A at +5 V DC
  11 A at +12 V DC
  1 A at -12 V DC

* The power specs assume that three (3) power supplies are installed in a N+1 redundant configuration.

Environmental

- Voltage: ±5% with 50 mV maximum ripple
- Non-operating: -40º to 70ºC (-40º to 158ºF)
- Operating 5ºC to 40ºC (41º to 104ºF) Radiated and conducted emissions shall not cause the system to fail any tests.
- Humidity: 95% at 40ºC (104ºF) non-condensing

Physical

- Height: 178 mm (7.0-in.)
- Width: 436 mm (17.2-in.) without rack-mount flanges. Rack-mount flanges allow mounting in 19-in. racks.
- Depth: 311 mm (12.25-in.)
- Weight: 13.8 kg (30.5 lb) in standard configuration

Note: To provide proper cooling to the AMP5091, each unused slot in the chassis should be populated with an air management blade. All rear slots should be populated with a rear filler panel. Orderable components:

- To cover a single rear panel slot, use a filler panel that is 6U x 4HP (horizontal pitch = 0.2-in.) (PT-ACC 5040-12059).
- To cover six rear panel slots, use a filler plate that is 6U x 24HP (PT-ACC 5043-12062).
- To fill a front slot, use an air management blade that is 6U x 4HP (PT-ACC 5031-12064).
- To fill a power supply bay, use an air management blade that is 3U X 8HP (PT-ACC 5030-12063).
- To fill an ISM slot, use a filler panel that is 3U X 4HP (PT-ACC 5044-12155).

Regulatory Compliance

Designed for NEBS/ETSI

CE Certification

The AMP5091 meets the intent of Directive 89/336/EEC for Electro-Magnetic Compatibility and Low-Voltage Directive 73/23/EEC for Product Safety. Compliance was demonstrated to the following specs as listed in the Official Journal of the European Communities:

Safety

- UL/cUL 60950 Safety for Information Technology Equipment E179737
  - UL File Number E179737
- EN/IEC 60950 Safety for Information Technology Equipment
- CB Certificate and Report Scheme
- CE Certificate

Emissions Tests Regulations

- FCC Part 15
- EN 55022/CISPR 22 Class A Radiated and Conducted Emissions Tests
- EN 55024/CISPER 24
- EN-61000-3-2 Power Line Harmonic Emissions
- EN-61000-3-3 Power Line Fluctuation and Flicker
- EN-61000-4-2 Electro-Static Discharge (ESD)
- EN-61000-4-3 Radiated Susceptibility
- EN-61000-4-4 Electrical Fast Transient Burst
- EN-61000-4-5 Power Line Surge
- EN-61000-4-6 Frequency Magnetic Fields
- EN-61000-4-11 Voltage Dips, Variation and Short Interruptions

Network Equipment-Building System

- GR-1089-CORE
  - Sect. 2 Electrical Discharge
  - Sect. 3.2.2 Radiated RF Emissions
  - Sect. 3.2.3 AC Line Conducted Emissions-Voltage
  - Sect. 3.2.4 AC and DC Line Conducted Emissions-Current
  - Sect. 3.3.1 RF Radiated Fields
  - Sect. 3.3.3 RF Common Mode

- GR-63-CORE
  - Sect. 5.3.1 Handling Drop Tests-Packaged Equipment
  - Sect. 5.3.2 Unpackaged Equipment Drop Tests
  - Sect. 5.4.2 Office Vibration Test Procedure
  - Sect. 5.4.3 Transportation Vibration-Packaged Equipment

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ORDERING INFORMATION

To discuss specific requirements and/or pricing, contact sales@pt.com.

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