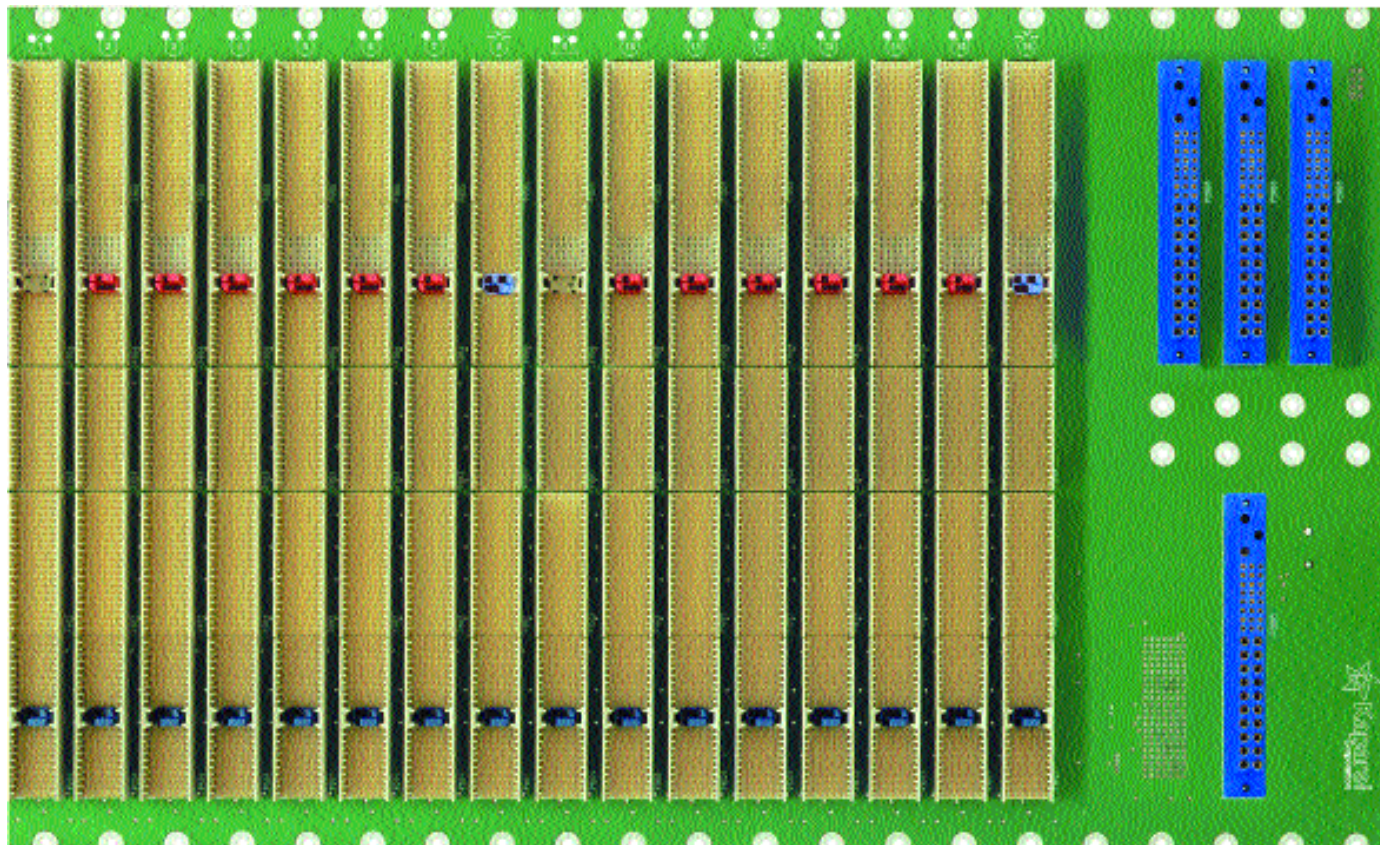


PS4900

CompactPCI Packet Switching Backplane (cPSB)



The Future is Now! Kaparel Corporation introduces the PS4900 Series of CompactPCI Packet Switching Backplane (cPSB) as defined by the PICMG 2.16 specification. These backplanes support Switched Ethernet and offer high capacity CompactPCI, incorporating Packet-Switching architecture for developers of next-generation telecom networks.

The Compact Packet Switching Backplane provides a way to design telephony and high availability systems that combine CompactPCI with Ethernet for high-speed systems. This allows OEMs to build systems that are now more reliable, less expensive and faster to market, without waiting for the future switched fabrics.

The key elements of cPSB according to the PICMG 2.16 specification are:

- Compact Packet Switching Backplanes have an Ethernet infrastructure embedded in the CompactPCI midplane that is accessed via the J3 connector. The Ethernet switching element resides on one or more of the cPCI slots, interconnecting all the slots in the chassis.
- All subsystems operate as stand-alone "systems on a card" and the interface with each through a network stack on top of the Ethernet.

The PS4900 Series of backplanes offers a variety of models that provide flexibility in overall system configuration. Kaparel can also design an application-specific model to meet your project's requirements.

OVERVIEW

The PS4900 backplane is a 7U x 84HP CompactPCI Packet Switching Backplanes (CPSB), as defined by PICMG 2.16 draft specification. Sixteen card slots support two redundant CompactPCI buses, each having one system slot, six Node Slots, and one Fabric Slot (6U form factor).

Other features of the PS4900 backplane include:

- Two 8-slot 64-bit CompactPCI buses operating at 33MHz PCI or 66MHz PCI-X.
- Selectable V(I/O) (3.3V or 5V) when configured for 33MHz CompactPCI.
- Integrated Shottky diode bus termination.
- PICMG 2.1 R2.0 compliant Full Hot Swap.
- Provisions for up to four backplane stiffeners to control flex during card insertion.
- PICMG 2.5 R1.0 compliant H.110 CT buses on all Node Slots
- Support for 8HP System Boards at expense of one Node Slot.
- Dual redundant switch fabric support (2 fabrics + 14 nodes) as outlined in PICMG 2.16 specification.
- Support for Rear Transition Modules in all card slots.
- Configurable power slot support for two 6Ux8HP, three 6Ux4HP, three 3Ux8HP, or four 3Ux4HP supplies.
- All power slots support PICMG 2.11 R1.0 compatible power supply modules.
- Power input headers for H.110 -Vbat, -SELVbat and VRG power signals.
- ATX power header for auxiliary power input/output .
- Two fan power connectors providing 12V and System Management support.
- Support for Kaparel proprietary Alarm Card in rear of slot 17.
- Support for two Kaparel proprietary Power Entry Modules (PEMs)
- AC/DC power input header if PEMs are not used.
- PICMG 2.9 R1.0 compliant System Management Bus (SMBus) support on all cards, power supplies, PEMs, fans, and Alarm Card.
- Support for I2C bridge function on Alarm Card to support >19 SMBus nodes.

PS4900 SERIES CONFIGURATIONS

The PS4900 Series* of cPSB backplanes is configured as follows:

PS4900 - 1 Host Slot, 6 Node Slots with cPCI & H.110, 1 Fabric Slot, 1 Host Slot, 6 Node Slots with cPCI & H.110, 1 Fabric Slot, 1 Alarm Slot & 3 Power Supply Slots (7U X 84HP).

PS4908 -1 Fabric Slot. 6 Node Slots with cPCI & H.110, 1 Host Slot (7U X 32HP).

PS4918 -1 Fabric Slot, 6 Node Slots with cPCI & without H.110, 1 Host Slot (7U X 32HP).

COMPACTPCI BUSES

The backplane is designed as a totally redundant system. As such, there are two CompactPCI buses. The first bus is routed to physical slots 1 to 8 (P1, P2), hosted in physical slot 1. A 2-slot wide (8HP) CPU card can be plugged into slot 1 if slot 2 is sacrificed. The second 64-bit CompactPCI bus is located in slots 9 to 16, hosted by slot 9. A 2-slot wide (8HP) CPU card can be plugged into slot 9 if slot 10 is sacrificed.

H.110 BUS

The PS4900 has separate H.110 buses available on the P4 section of slots 2 to 7 and 10 to 15. H.110 buses are compliant to the PICMG 2.5 R1.0 Computer Telephony Specification.

SYSTEM MANAGEMENT BUS (SMB)

The PS4900 supports backplane system management compliant with the PICMG 2.9 R1.0 Specification. All card slots, power supply connectors, PEM connectors, fan connectors, and the Alarm Slot support SMBus interfaces.

The Alarm Slot supports provision for bridging functionality to connect all devices to a single SMBus.

PACKET SWITCHED BUS

The PS4900 supports a packet switching fabric interconnect as described in the PICMG 2.16 specification. Standard Fabric Cards is supported in physical slots 8 and 16, and dual-link Node Cards in physical slots 1-7 and 9-15. The backplane fabric interconnect is designed to support 10, 100, and 1000BASE-T Ethernet signaling.connect all devices to a single SMBus.

SELECTABLE V(I/O) CAPABILITY

In conformance with the CompactPCI Specification, the backplane is capable of providing up to 4A continuous current through the V(I/O) pins of each CompactPCI slot. This is factory-set and accomplished through V(I/O) selection screws that allow the V(I/O) internal plane to be shorted to either the +5V plane or the +3.3V plane.

ETHERNET SWITCHED FABRIC

The PS4900 backplane supports an Ethernet-based switch fabric interconnect conforming to the PICMG 2.16 CompactPCI Packet Switched Backplane draft specification. The PS4900 has support for two standard Fabric Cards and fourteen dual-link Node Cards. All links are capable of 10, 100, or 1000 Mbps Ethernet signaling.

ALARM CARD (SLOT 17 REAR)

Slot 17 supports a rear-mounted Alarm Card. This card is proprietary to Kaparel Corporation and is not designed to be functionally compatible with any industry or de facto standards or specifications.

PS4920 - 7 Node Slots with cPCI & H.110, 1 Host Slot, 1 Node Slot with H.110 & without cPCI, 1 Fabric Slot, 7 Node Slots with cPCI & H.110, 1 Host Slot, 1 Node Slot with H.110 & without cPCI, 1 Fabric Slot & 1 Alarm Slot (7U X 84HP).

PS4921 - 9 Node Slots with H.110, 1 Fabric Slot, 9 Node Slots with H.110, 1 Fabric Slot & 1 Alarm Slot (7U X 84HP).

PS4922 - 9 Node Slots, 1 Fabric Slot, 9 Node Slots, 1 Fabric Slot & 1 Alarm Slot (7U X 84HP).

*The PS4900 Series of Backplanes is a 6U CompactPCI configuration with 1U Power Supply (Total 7U).



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