

# Penguin Edge<sup>™</sup> PMCspan

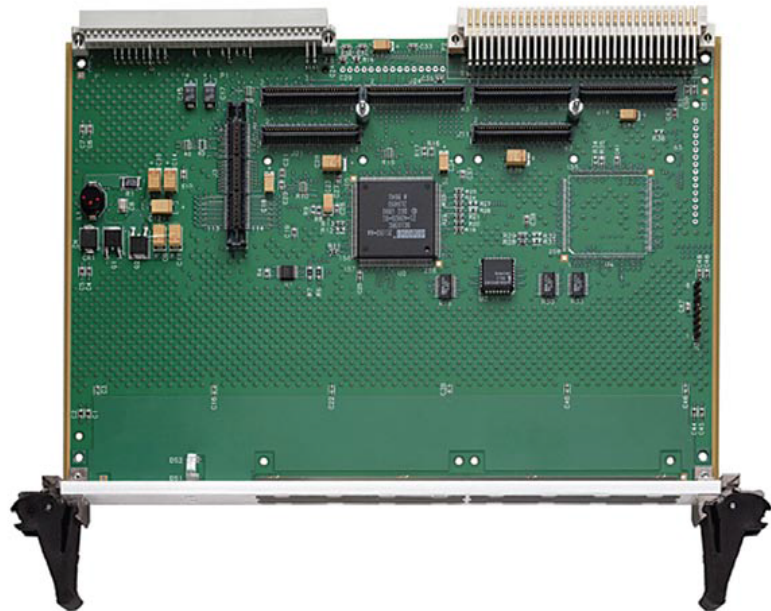
## PMC Expansion Mezzanine

- ▶ Single-slot 6U VMEbus format
- ▶ PLX6150 PCI-to-PCI interface bridge
- ▶ Support for two single-wide or one double-wide PCI Mezzanine Card (PMC) per PMCspan
- ▶ Stacking capability
- ▶ Front-panel and/or P2 I/O
- ▶ Compliant with PCI local bus specification (revision 2.1)
- ▶ Injector/ejector handles per VME64 extensions
- ▶ Compatible with the Penguin Edge PowerPlus VME series

The Penguin Edge<sup>™</sup> PMCspan board allows users to customize their exact I/O requirements with our VME-based CPU modules designed around the PowerPlus architecture.

When the PMCspan board is coupled with a Penguin Edge processor module, the system provides up to six PCI Mezzanine Cards (PMCs)—more expansion capability than any other VME-bus processor module. Each PMCspan board supports either two single-wide or one double-wide PMC. By stacking PMCspan boards onto a processor module, a total of four additional single-wide PMCs can be added as future application growth demands.

The Penguin Edge PMCspan is a standard 6U single-slot VMEbus module that links to its host board via a PCI expansion connector. It supports both front panel and P2 I/O access for customer supplied PMCs.



# Penguin Edge PMCspan Details

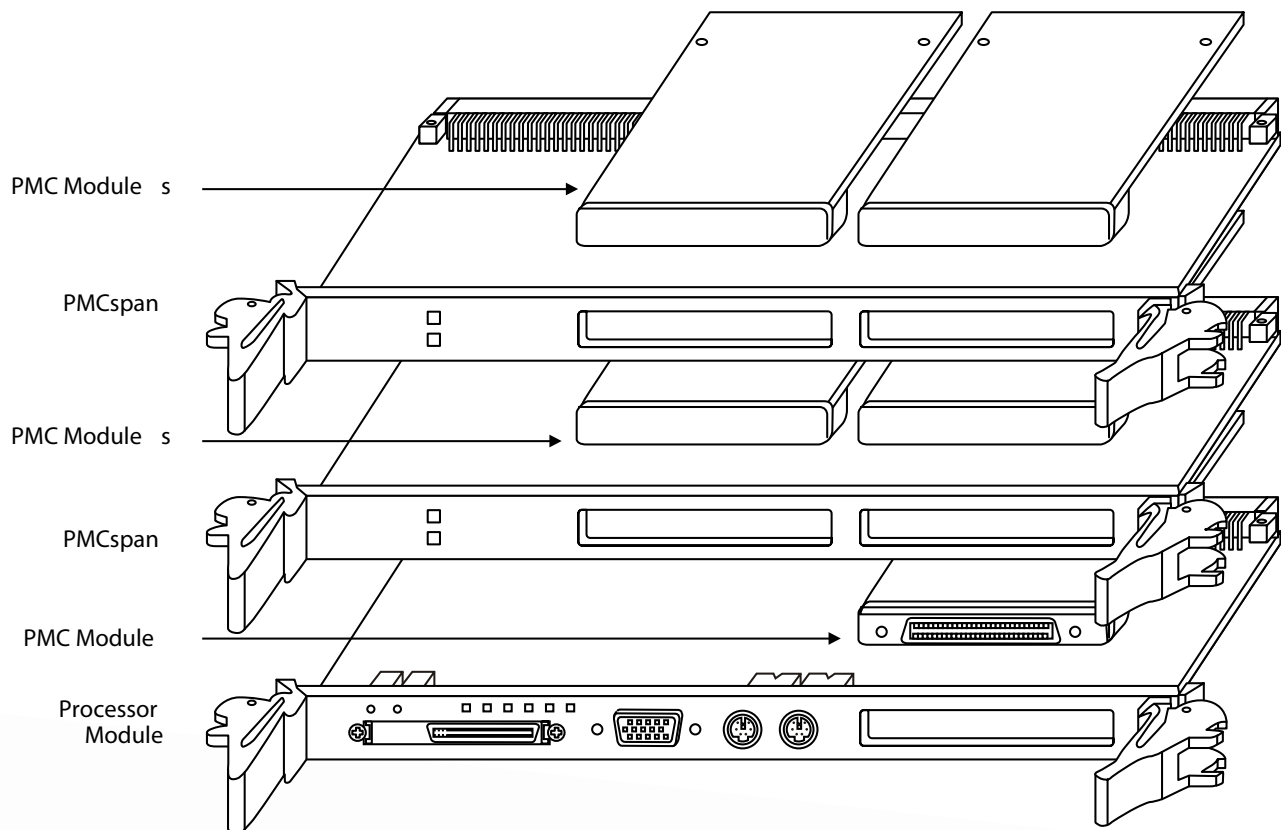
## Carrier Boards

Penguin Edge offers a full line of PowerPC microprocessor-based VME products which can be custom configured for specific applications via on-board PMC slots. The PMCspan expands this capability to further increase customizing alternatives. It is compatible with Penguin Edge PowerPlus VME series. For further information on these host CPUs, contact your local sales representative.

## Product Offering

In order to support the increased PCI bus loading associated with additional PMCs, the PMCspan uses the PLX6150. This PCI-to-PCI interface bridge supports a 2-bit primary bus interface and a 32-bit secondary bus interface. PMCspan mates directly with the host CPU via the separate PCI expansion connector.

When the maximum of two PMCspan modules are stacked together, the top board does not require a second PCI-to-PCI interface bridge. Software views this secondary module as an extension to the primary PMCspan.



The flexible design of the Penguin Edge PMCspan can be quickly and easily customized for a variety of industry-specific applications.

# Hardware Specifications

## Form Factor

- ▶ Single-slot 6U VMEbus format

## PCI-to-PCI Interface

- ▶ Controller: PLX6150 PCI-to-PCI interface bridge
- ▶ Address/Data: A32/D32
- ▶ PCI Bus Clock: 33 MHz
- ▶ Signaling: 5V
- ▶ Mating Connector on Host Board: 114-pin PCI Expansion Connector; still allows use of host CPU's original PMCs
- ▶ Compliance: PCI Local Bus Specification, Revision 2.1B.

## IEEE P1386.1 PCI Mezzanine Card Slots

- ▶ Address/Data: A32/D32, PMC PN1, PN2, PN4 connectors
- ▶ PCI Bus Clock: 33 MHz
- ▶ Signaling: 5V
- ▶ Power: +3.3V, +5V, ±12V, 7.5 watts max. per PMC
- ▶ Module Types: Two single-wide or one doublewide, front- panel or P2 I/O
- ▶ P2 PMC I/O: 64 I/O signals from first PMC routed to VMEbus P2 connector

## Power Requirements (No PMCs installed)

- ▶ Power:
  - +5V @ 0.44 ampere (max.)
  - +12V @ 0 ampere (max.)
  - 12V @ 0 ampere (max.)

## Board Size

- ▶ Height: 233.4 mm (9.2 in.)
- ▶ Depth: 160.0 mm (6.3 in.)
- ▶ Front Panel Height: 261.8 mm (10.3 in.)
- ▶ Width: 19.8 mm (0.8 in.)

## Environmental

	Operating	Non-operating
Temperature	0°C to +55°C forced air cooling	-40°C to +85°C
Altitude	5,000 m	15,000 m
Humidity (NC)	10% to 80%	10% to 90%
Vibration	2 G RMS, 20 - 20,000 Hz random	6 G RMS, 20 - 20,000 Hz random

## Electromagnetic Compatibility (EMC)

- ▶ Intended for use in systems meeting the following regulations:
  - U.S.: FCC Part 15, Subpart B, Class B
  - Canada: ICES-003, Class B
- ▶ This product was tested in a representative system to the following standards:
  - CE Mark per European EMC Directive 89/336/EEC with Amendments; Emissions: EN55022 Class B; Immunity: EN55024

## Safety

All printed wiring boards (PWBs) are manufactured with a flammability rating of 94V-0 by UL recognized manufacturers.

## Ordering Information

Part Number	Description
PMCSPAN16E-002	Primary PCI expansion for MVME2300/2400/5100 w/Scanbe handles, 6E
PMCSPAN26E-002	Primary PMC expansion for MVME5100/5110/5500 w/IEEE handles, 6E
PMCSPAN26E-010	Secondary PMC expansion for PMCSPAN26E-002 w/IEEE handles, 6E

## Contact Us

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### About Penguin Solutions

Penguin Solutions accelerates customers' digital transformation with the power of emerging technologies in HPC, AI, and IoT with solutions and services that span the continuum of edge, core, and cloud. The company designs highly advanced infrastructure, machines and networked systems that enable the world's most innovative enterprises and government institutions to build the autonomous future, drive discovery and amplify human potential. The Penguin Edge portfolio covers system on modules, single board computers and application-ready platforms that extend insight, intelligence, and analytical capabilities closer to where the data is generated - optimizing a range of use cases across industries and rugged environments.



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