

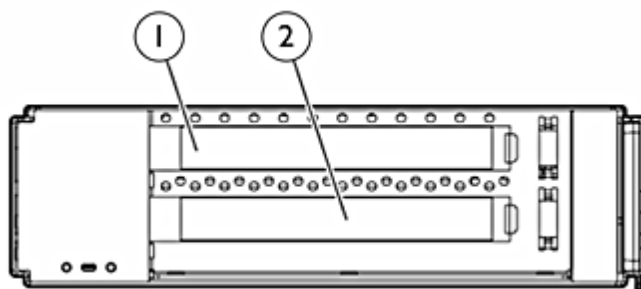
Overview

The HP BladeSystem PCI Expansion Blade provides PCI card expansion slots to an adjacent c-Class server blade. This blade expansion unit uses the c-Class mid-plane to pass standard PCI signals between adjacent enclosure bays, to allow a c-Class blade server to add off-the-shelf PCI-X or PCIe cards. Customers would need one PCI Expansion Blade for each c-Class server blade needing PCI card expansion. Any PCI card from third-party manufacturers that works in HP ProLiant ML and HP ProLiant DL servers should work in this PCI Expansion Blade. HP does not offer any warranty or support for third-party PCI manufactured products. HP does joint market with selected PCI manufactures; please visit:

<http://h18004.www1.hp.com/products/blades/solutions/solutionbuilder.html> to see a list of HP BladeSystem Solutions Builders.

NOTE: HP does not support any HP branded PCI cards for the PCI Expansion blade. This blade is intended for use with specialty PCI cards that are offered by third party PCI card manufacturers. In the c-Class blades, support for normal Ethernet, FC HBA's, and storage controllers are offered and supported as c-Class mezzanine adapter options. Please visit:

<http://www.hp.com/go/bladeSystem/> for a list of c-Class mezzanine adapters.



1. PCI Card #1
2. PCI Card #2

What's New

- Support for HP BladeSystem c3000 Enclosure

At A Glance

- **Internal PCI card Support:**
 - Supports one or two PCI-X cards (either 3.3V or "universal" PCI-X cards), or
 - Supports one or two PCIe cards (either x1, x4, or x8 cards) Note: When two PCIe cards are installed, they share the single x4 PCI bandwidth between the server blade and the PCI Expansion Blade.
 - This expansion blade will NOT support one PCI-X card and one PCIe card in the same expansion blade.
 - HP does not support any HP branded PCI cards for the PCI Expansion blade. This blade is intended for use with specialty PCI cards that are offered by third party PCI card manufacturers.
- **Form Factor:**
 - Standard c-Class half-height blade form factor
- **Warranty:**
 - The PCI Expansion Blade is protected by HP Services and a worldwide network of resellers and service providers. 3-year parts, 3-year Labor and 3-year on-site limited global warranty. Certain restrictions and exclusions apply.
 - HP provides no warranty for third-party PCI cards, and HP provides no support of the use of third-party PCI cards within the PCI Expansion Blade.
 - HP provides no support for any HP branded PCI cards in this PCI Expansion blade.

Overview

Models

NOTE: The PCI Expansion Blade provides PCI card slots for an adjacent c-Class Server Blade. Order one PCI expansion Blade for each server blade needing standard PCI-X or PCIe expansion slots.

HP PCI Expansion Blade

448018-B21

NOTE: Ships with one pre-installed PCI-X connect board. Also includes one PCIe connect board which requires installation.

Upgrade Options

PCI Express Mezzanine
Pass-Thru card

PCI Express Mezzanine Pass-Thru card

431643-B21

NOTE: The use of the PCI Expansion Blade with a full-height server blade requires the purchase of one (1) PCI Express Mezzanine Pass-Thru card for each server blade. This option is not needed for half-height server blades.

Product Highlights

Key Features

Features of the PCI Expansion Blade include:

Provides PCI-X or PCIe expansion slots for c-Class blade server in an adjacent enclosure bay.

- Each PCI Expansion Blade can hold one or two PCI-X cards; or one or two PCIe cards, but cannot contain one of each type of PCI card.
- The PCIe and PCI-X expansion slots are rated at 25 Watts per slot.
- Supports typical third-party non-HP PCI cards, such as SSL or XML accelerator cards, VOIP cards, special purpose telecommunications cards, and some graphic acceleration cards.
 - **NOTE:** The most common PCI expansion method for NICs, Fibre-channel HBAs, and InfiniBand ports is provided by HP BladeSystem c-Class interconnect mezzanine adapters; as such, this PCI Expansion blade is provided to support less common or specialty PCI cards. For more information on c-Class interconnect mezzanine adapters, go to <http://h18004.www1.hp.com/products/blades/components/c-class-interconnects.html>
- The PCI Expansion blade supports either 3.3V or "universal" PCI-X cards.
- The PCI expansion blade supports either x1, x4, or x8 PCIe cards

LED Indicators

Front panel LEDs indicates power and system health status.

Density

The PCI Expansion Blade fits into a half -height bay in the BladeSystem c3000 and c7000 Enclosure.

Manageability

The PCI Expansion Blade and its PCI boards are managed by the adjacent server blade and its operating system.

Product Kit Contents

PCI Expansion Blade, two PCI Connector cards (one PCI-X and one PCIe connector board),PCI-X & PCIe Connector boards, warranty card, Installation guide

Service and Support, HP Care Pack, and Warranty Information

Warranty

Protected by HP Services and a worldwide network of HP Authorized Channel Partners. 3-year parts, 3-year Labor and 3-year on-site limited global warranty. Certain restrictions and exclusions apply.

Service and Support

The PCI Expansion Blade is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. Hardware diagnostic support and repair is available for three years from date of purchase. Additional support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services or customized service agreements.

HP services provide total care and support expertise with committed response designed to meet your IT and business needs.

The HP Care Pack service for ProLiant BL c-Class (or p-Class) server blades, cover the server blade and all HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the server.

To fully capitalize on your HP BladeSystem servers' capabilities requires a service partner who thoroughly understands your server technology and systems environment. HP Services, an industry leader in provision of multi vender support solutions provides a range of support services designed to meet the varying needs of business. Whether an SMB or large global corporation HP has a HP BladeSystem server support offer to help you speedily deploy and maximize system uptime.

Recommended Service - simplify ProLiant solution implementation, maintenance, and management.

- **Support** - 3-Year, 24x7, Same Business Day, 4-Hour response coverage
- **Deployment Service** - Installation and Start Up for HP BladeSystem Infrastructure

Enhanced Service - optimize service level to increase IT performance and availability.

- **Support** - 1-Year HP Proactive BladeSystem Service
- **Deployment Service** - Enhanced Network Installation and Start-up for HP BladeSystem Switches

Installation & Start-Up service for HP BladeSystem Infrastructure plus HP BladeSystem Enhanced Network Installation and Start-UP as per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excluding HP holidays.

For a complete listing of service offerings and information visit:

<http://www.hp.com/services/bladessystemservices>

<http://www.hp.com/go/proliant/carepack>

Technical Specifications

HP PCI Expansion Blade	Dimensions	Height	2.207 in (5.61 cm)
		Depth	20.058 in (50.95 cm)
		Width	7.154 in (18.17 cm)
	Weight	Maximum	10.0 lbs (4.54 kg)
		Temperature Range*	Operating
	Non-Operating		-40° to 60° C (-40° to 140° F)
	Storage		-20° to 60° C (-4° to 140° F)
	Relative Humidity**	Maximum Wet Bulb Temperature	-30° C (86° F)
		Operating	10% to 90%
		Shipping	10% to 90%
Storage	10% to 95%		

* All temperature ratings shown are for sea level. An altitude derating of 1°C per 304.8 m (1.8° F per 1,000 ft) to 3048 m (10,000 ft) is applicable. No direct sunlight allowed. Upper operating limit is 3,048 m (10,000 ft) or 70 Kpa/10.1 psia. Upper non-operating limit is 9,144 m (30,000 ft) or 30.3 KPa/4.4 psia.

**Storage maximum humidity of 95% is based on a maximum temperature of 45° C (113° F). Altitude maximum for storage corresponds to a pressure minimum of 70 KPa.

Environment-friendly Products and Approach

End-of-life Management and Recycling

Hewlett-Packard offers end-of-life HP product return, trade-in, and recycling programs in many geographic areas. For trade-in information, please go to <http://www.hp.com/go/green>. To recycle your product, please go to: <http://www.hp.com/go/green> or contact your nearest HP sales office. Products returned to HP will be recycled, recovered or disposed of in a responsible manner.

The EU WEEE directive (2002/95/EC) requires manufacturers to provide treatment information for each product type for use by treatment facilities. This information (product disassembly instructions) is posted on the Hewlett Packard web site at: <http://www.hp.com/go/green>. These instructions may be used by recyclers and other WEEE treatment facilities as well as HP OEM customers who integrate and re-sell HP equipment.

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