



LightPulse® LPe12000/LPe12002

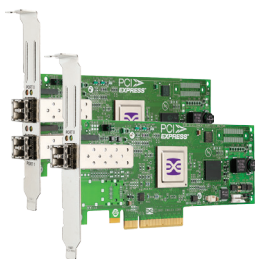
8Gb Fibre Channel PCIe 2.0 Host Bus Adapters

HP Part Numbers AJ762A and AJ762B* (Single Port), AJ763A and AJ763B* (Dual Port)

DATASHEET

CONNECTIVITY

**UNPARALLELED
MANAGEABILITY,
RELIABILITY,
PERFORMANCE
AND EASE OF
DEPLOYMENT**



LPe12000/LPe12002

Streamlined installation and management, unrivaled scalability, and industry-leading virtualization support make the single-channel Emulex LightPulse LPe12000 and dual-channel LPe12002 8Gb Fibre Channel (8GFC) Host Bus Adapters (HBAs) ideal solutions for enterprise, mixed-OS and virtual server environments.

Proven Design, Architecture and Interface

Emulex LightPulse HBAs' highly integrated processor design minimizes onboard components to improve host performance and efficiency. Advanced error-checking features ensure the integrity of block data as it traverses the Storage Area Network (SAN). Emulex's firmware-based architecture enables feature and performance upgrades without costly hardware changes. The unique Service Level Interface (SLI™) allows use of a common driver across all models of Emulex HBAs on a given OS platform. Installation and management facilities are designed to minimize server reboots and further simplify deployment. Emulex is trusted by data centers the world-over, with more than 11 million HBA ports shipped and installed to date.

Powerful Management Software for Maximum Data Center Efficiency

The Emulex OneCommand® Manager enterprise class management application features a multiprotocol, cross-platform architecture that provides centralized management of all adapters provided by Emulex. This enables IT administrators to manage Fibre Channel (FC), Fibre Channel over Ethernet (FCoE), Internet Small Computer System Interface (iSCSI) and Network Interface Card (NIC) adapters with one tool for maximum efficiency. The unique OneCommand Manager plug-in for VMware vCenter™ enables adapters to be managed directly within the VMware environment, further simplifying the management process.

Key Benefits

- Provides superior performance for the enterprise
- Integrates seamlessly into existing SANs
- Supports IT server consolidation and energy conservation initiatives
- Allows application of SAN best practices, tools and processes with virtual server deployments
- Protects sensitive data from unauthorized access
- Assures data availability and data integrity
- Improves IT staff productivity through simplified deployment and management

Key Features

- Support for Message Signal Interrupts eXtended (MSI-X), improves host utilization & enhances application performance
- Support for 8GFC, 4GFC and 2GFC devices
- Comprehensive virtualization capabilities with support for N_Port ID Virtualization (NPIV) and Virtual Fabric
- Host to Fabric FC-SP authentication
- Long wave optical transceiver model available—allows the board to transmit signal over long distances
- BlockGuard® ready—end-to-end data integrity for protection against silent data corruption events
- Common driver model allows a single driver to support all Emulex HBAs on a given OS
- Easy deployment of new firmware with minimal server reboots
- Efficient centralized administration of Emulex HBAs via powerful management tools
- PCIe 2.0 bus compliant, with PCIe 1.0 backward compatibility supported



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8Gb Fibre Channel PCIe 2.0 Host Bus Adapters

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SPECIFICATIONS

Standards

- ANSI Fibre Channel: FC-PI-4, FC-FS-2, FC-FS-2/AM1, FC-LS, FC-AL-2, FC-GS-6, FC-FLA, FC-PLDA, FC-TAPE, FC-DA, FCP through FCP-4, SBC-3, FC-SP, FC-HBA and SMI-S v1.1
- PCI Express base spec 2.0
- PCI Express card electromechanical spec 2.0
- Fibre Channel class 2 and 3
- PHP hot plug-hot swap

Architecture

- Single-channel (LPe12000) or dual-channel (LPe12002)
- 8GFC, 4GFC or 2GFC link speeds automatically detected
- Integrated data buffer and code space memory

Comprehensive OS Support

- Windows: Windows 2003 & 2008 SP2 (x86 & x64), Windows 2008 R2 SP1
- Red Hat, CentOS, Unbreakable Linux, Asianux: 5.x, 6.x, all supported updates
- SUSE: SLES10, SLES11, all supported SPs
- Ubuntu: 11.04, 11.10, 12.04
- Debian: 6.0, 6.03, 7.0
- FreeBSD: 8.1, 8.2, 9.0
- XenServer: 5.6, 6.0, all supports SPs

Hardware Environments

- PowerPC®, SPARC®, x86, x64 and Intel® Itanium® 64-bit processor family
- Dell PowerEdge™ Servers: Dell R910, R815, R810, R715, R710, R610, R515, R415, R410, T710, T610, T410, R620, R720, R720xd and R820

Optical

- Data rates: 2.125, 4.25 and 8.5Gbps (auto-detected)
- Optics: Short wave lasers with LC type connector
- Cable: Operating at 8Gb/s
 - 50/125µm (500MHz*km BW)-up to 50m
 - 50/125µm (2000MHz*km BW)-up to 150m

Physical Dimensions

- Short, low profile MD2 form factor card
- 167.64mm x 68.91mm (6.60" x 2.71")
- Standard bracket (low profile available)

Power & Environmental Requirements

- Volts: +3.3, +12
- Operating temperature: 0° to 55° C (32° to 131° F)
- Storage temperature: -40° to 70° C (-40° to 158° F)
- Relative humidity: 5% to 95% non-condensing
- 23 degree C wet bulb

Agency Approvals

North America:

- FCC Class A
- UL/CSA Recognized

Europe:

- CE Mark
- EU RoHS compliant
- TUV Bauart Certified

Japan:

- VCCI Class A

Taiwan:

- BSMI Class A

Korea:

- MSIP (formally KCC/MIC) Class A

China:

- China RoHS Compliant

(Please refer to the product page on www.emulex.com for further details)

Ordering Information

- **AJ762A and AJ762B***
 - Single-channel, multi-mode optic interface
- **AJ763A and AJ763B***
 - Dual-channel, multi-mode optic interface

Additional Features

Performance features

- Doubling the maximum Fibre Channel link rate from 4Gb to 8Gb and enhanced virtualization capabilities help support IT "Green" initiatives
- Frame-level Multiplexing and out-of-order frame reassembly increases link efficiency and maximizes HBA performance.

Data protection features

- End-to-end data protection with hardware parity, CRC, ECC and other advanced error checking and correcting algorithms ensure data is safe from corruption.

Deployment and management features

- Universal Boot capability allows the appropriate boot environment to be automatically selected for any given hardware.
- Boot from SAN capability reduces system management costs and increases uptime.
- Detailed real-time event logging and tracing enables quick diagnosis of SAN problems.
- Beaconing feature flashes the HBA LEDs, simplifying their identification within server racks.
- Environmental monitoring feature helps to optimize SAN availability.

Management Features

- The Emulex AutoPilot Installer automates the HBA installation process and significantly reduces time to deployment and administrative costs. Automated installation and configuration of driver and management tools simplifies deployment of multiple adapters within Windows environments. A single installation of driver and management application eliminates multiple reboots and ensures that each component is installed correctly and the HBA is ready to use.
- The Emulex OneCommand Manager application enables centralized discovery, monitoring, reporting, and administration of Emulex adapters on local and remote hosts. Powerful automation capabilities facilitate remote driver parameter, firmware and boot code upgrades. Advanced diagnostic features such as adapter port beaconing and adapter statistics help to optimize management and network performance while the environmental monitoring feature helps to maintain optimum host to fabric connections. In addition to the GUI interface, management functions can also be performed via a scriptable Command Line Interface (CLI) as well as a web browser. With in-band and out-of-band management capabilities, Emulex provides data center administrators with the greatest level of management flexibility.
- Emulex's management instrumentation complies to Open Management Standards, such as SMI-S and common HBA API support, which enables seamless upward integration into enterprise storage and server management solutions.

* New RoHS compliant SKU as of 8/13/12.

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