

# Generations Ahead

## Unparalleled manageability, reliability, performance and ease of deployment

Streamlined installation and management, unrivaled scalability, and industry-leading virtualization support make the single-channel Emulex LightPulse LP1150 host bus adapter (HBA) the ideal solution for mixed-OS SAN environments. With powerful management tools and broad platform support, it delivers maximum performance in the broadest range of applications and environments.

### Proven design, architecture and interface

LightPulse HBAs' highly integrated single-chip design minimizes onboard components, while advanced error-checking methods assure robust data integrity. The Emulex 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. Installation and management applications are designed to minimize reboots and further simplify deployment.



**4Gb/s** FIBRE CHANNEL  
PCI-X 2.0 HOST BUS ADAPTERS

### KEY BENEFITS

- ⦿ Superior quality and reliability ensure data availability
- ⦿ Highly efficient installation accelerates deployment and reduces administration costs
- ⦿ Maximum SAN performance increases scalability and user satisfaction
- ⦿ Robust interoperability simplifies deployment and upgrades of SAN hardware and software
- ⦿ LightPulse Virtual HBA technology provides efficient host utilization and compliance with SAN management best practices

### KEY FEATURES

- ⦿ Exceptional performance and full-duplex data throughput
- ⦿ Comprehensive virtualization capabilities with support for N-Port ID Virtualization (NPIV)
- ⦿ Simplified installation and configuration using common HBA drivers and AutoPilot Installer<sup>®</sup>
- ⦿ Efficient administration via HBAnyware<sup>®</sup> for HBAs on local and remote SANs
- ⦿ Common driver model eases management and enables upgrades independent of HBA firmware

# Specifications

## STANDARDS

ANSI Fibre Channel: FC-PH-3, FC-PI-2, FC-FS, FC-AL-2, FC-GS-4, FC-FLA, FC-PLDA, FC-TAPE, FCP-2, and RFC 2625 (IP over FC)

PCI-X 2.0 and PCI 3.0

Fibre Channel class 2 and 3

PHP hot plug-hot swap

## ARCHITECTURE

Single-channel

4Gb/s, 2Gb/s or 1Gb/s FC Link speeds automatically detected

Integrated data buffer and code space memory

## COMPREHENSIVE OS SUPPORT

Windows Server 2003, Windows 2000, Linux, NetWare, VMware

## HARDWARE ENVIRONMENTS

x86, x64 and Intel® Itanium® processor family

32/64-bit 33/66MHz PCI (3.3V signaling)

66/100/133/266MHz PCI-X bus speeds

## OPTICAL

**Data rates:** 1.0625, 2.125 and 4.25Gb/s (auto-detected)

**Optics:** Short wave lasers with LC type connector

**Cable:** 50/125µm, up to 150 meters at 4Gb/s  
62.5/125µm, up to 70 meters at 4Gb/s

## PHYSICAL DIMENSIONS

Short, low profile MD2 form factor card

167.64mm x 64.42mm (6.60" x 2.54")

Standard bracket (low profile available)

## POWER AND ENVIRONMENTAL REQUIREMENTS

**Volts:** +3.3 and +5 VDC

**Operating temperature:** 0° to 55°C (32° to 131°F)

**Airflow required:** 100 lf/m

**Storage temperature:** -40° to 70°C (-40° to 158°F)

**Relative humidity:** 5% to 95% non-condensing

## AGENCY APPROVALS

Class 1 Laser Product per DHHS 21CFR (J) and EN60825-1

UL recognized to UL 60950-1

CUR recognized to CSA22.2, No. 60950-1-03

TUV certified to EN60950-1

FCC rules, Part 15, Class A

ICES-003, Class A

EMC Directive 2004/108/EEC (CE Mark)

-EN55022, Class A

-EN55024

Australian EMC Framework (C-Tick Mark)

-AS/NZS CISPR22, Class A

VCCI, Class A

MIC (Korea), Class A

BSMI (Taiwan), Class A

RoHS Compliant (Directive 2002/95/EC) for environmental requirements.

## ORDERING INFORMATION

### LP1150-F4

Single-channel, embedded multi-mode optic interface



## ADDITIONAL FEATURES

Emulex LightPulse technology features Frame-level Multiplexing and out-of-order frame reassembly for maximum link utilization.

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

Beaconing support enables detection and identification to improve manageability.

Detailed real-time event logging and tracing enables quick diagnosis of SAN problems.

Universal Boot capability allows the appropriate boot environment to be automatically selected for any given OS.

## SOFTWARE FEATURES

Emulex feature-rich software simplifies and speeds deployment and device management, while reducing administration costs and protecting your IT investment.

HBAnyware enables centralized discovery, monitoring, reporting, and management of both local and remote HBAs from a secure remote client. HBAnyware provides in-depth management capabilities including remote firmware and boot code upgrades, beaconing, statistics, and advanced diagnostics.

An extensive command line interface (CLI) is available for scripting.

AutoPilot Installer simplifies the installation and configuration of drivers and management applications for multiple HBAs on Windows servers. A single installation of drivers and applications eliminates multiple reboots and ensures that each component is installed correctly and the HBA is ready to use.

Emulex VMPilot™ enables rapid deployment and migration of virtual machines (VM) with SAN-attached storage in a Microsoft Virtual Server environment. Using a simple wizard, IT manager can quickly create VMs with Virtual HBA ports based on ANSI T11 N-Port ID Virtualization technology.

Emulex management instrumentation is based on Open Management Standards. SMI-S and common HBA API support enable seamless upward integration into enterprise storage and server management solutions.

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