

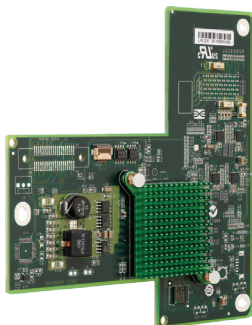


LightPulse®

LPe1205-HI

Hitachi Part No. GGX-CC9M4G2X1

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



Streamlined installation and management, unrivaled scalability and industry-leading virtualization support make the Emulex LightPulse LPe1205-HI (Hitachi part number GGX-CC9M4G2X1) dual-channel mezzanine card an ideal solution for the Hitachi BladeSymphony 320 blade server platform.

With powerful installation and management tools, the LPe1205-HI delivers maximum performance in the broadest range of applications and environments.

#### **Proven design, architecture and interface**

The highly integrated single-chip design of LightPulse Host Bus Adapters (HBAs) 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.

#### **Powerful management software for maximum data center efficiency**

The Emulex HBAnyware enterprise-class management application has gained broad market acceptance with over 6 million Fibre Channel and FCoE ports managed to date. Building on the success of the HBAnyware application, Emulex has released OneCommand Manager. OneCommand Manager's multi-protocol, cross platform architecture, provides centralized management of Emulex adapters within the enterprise datacenter. OneCommand Manager streamlines IT administrative tasks by delivering uniform management across heterogeneous data center environments. With OneCommand Manager, IT administrators can increase management efficiency and flexibility by improving responsiveness to dynamic business environments.

To ensure a transparent transition for customers who are using Emulex's existing HBAnyware management solution, OneCommand Manager is backward compatible with HBAnyware 4.1.

## **8Gb/s-4Gb/s Fibre Channel**

Mezzanine Card Host Bus Adapter for the Hitachi BladeSymphony 320 at 4Gb/s

#### **Key Benefits**

- Superior quality and reliability ensure data availability
- Highly efficient installation accelerates deployment and reduces administration costs
- Maximum Storage Area Network (SAN) performance increases scalability and user satisfaction in large enterprise installations
- Robust interoperability simplifies deployment and upgrades of SAN hardware and software
- Provides efficient host utilization and compliance with SAN management best practices
- Supports IT server consolidation and energy conservation initiatives

#### **Key Features**

- Support for Message Signaled Interrupts eXtended (MSI-X), improves host utilization and enhances application performance
- Comprehensive virtualization capabilities with support for N\_Port ID Virtualization (NPV)
- Simplified installation and configuration using common HBA drivers and automated installation utilities
- Efficient centralized administration of Emulex adapters anywhere in the SAN via powerful management applications
- Consolidates the number of adapters required in the Unified Computing System and helps lower capital and operational expenses (CapEx and OpEx)
- Common driver model ensures that one driver supports all generations of Emulex HBAs on a given operating system (OS) platform
- Easy deployment of new firmware with minimal server reboots
- Support for industry-standard Fibre Channel Security Protocol (FC-SP), enabling server-to-fabric authentication across the SAN

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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, SSC-3 and SMI-S v1.1
- PCI Express base spec 2.0
- Fibre Channel class 2 and 3

### Architecture

- Dual-channel
- 8Gb/s or 4Gb/s or 2Gb/s Fibre Channel link speeds automatically detected
- Integrated data buffer and code space memory

### Comprehensive OS Support

- Windows, RedHat, VMware, Microsoft Hyper-V

### Hardware Environment

- Hitachi BladeSymphony 320 at 4Gb/s

### Power and Environmental Requirements

- Volts: 3.3 and 12.0VDC
- Power consumption (typ/max): 6.8W / 10W
- Operating temperature: 0°C to 55°C (32°F to 131°F)
- Airflow required: 35 to 40 CFM
- Storage temperature: -40°C to 70°C (-40°F to 158°F)
- Relative humidity: 5% to 95% non-condensing

### Ordering Information

- For ordering information on the Emulex-based Fibre Channel Mezzanine Card, contact your local Hitachi sales representative.
- Hitachi order part number: **GGX-CC9M4G2X1**

### Agency Approvals

- North America:
- FCC Class A
  - UL/CSA Recognized
- Europe:
- CE Mark
  - EU RoHS compliant
  - TUV Bauart Certified
- Japan:
- VCCI Class A
- China:
- China RoHS Compliant

(Please refer to the product page on [www.emulex.com](http://www.emulex.com) for further details)

### Additional Features

#### Performance features

- Frame-level Multiplexing and out-of-order frame reassembly increases link efficiency and maximizes HBA performance.
- Enhanced virtualization capabilities help support IT "Green" initiatives

#### Data protection features

- 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 HBAs and UCNAs 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.



**HITACHI**  
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