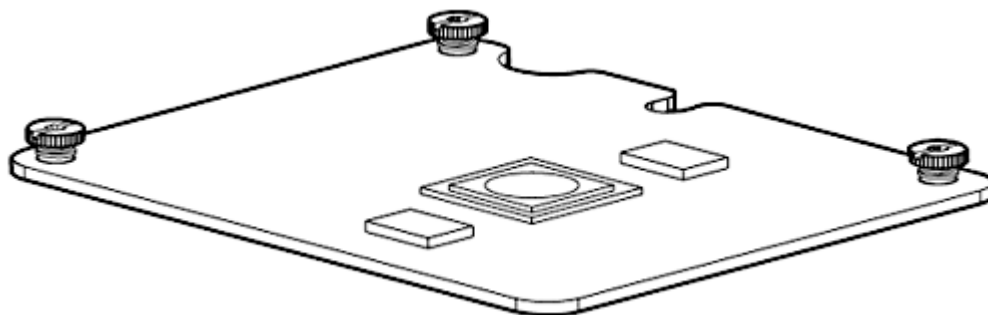


### Overview

The QLogic QMH2462 4Gb FC HBA is a dual channel PCI Express mezzanine form factor card specifically designed for c-Class BladeSystem server blades. Operating systems supported include Windows and Linux. This HBA is qualified for use in all c-Class blade servers. It is optimized for HP StorageWorks as well as supported by third-party SAN vendors. For details on supported HP StorageWorks Fibre Channel SAN Switches, please consult the SAN Design Reference Guide at the following WEB address: <http://h18006.www1.hp.com/products/storageworks/san/documentation.html>



QLogic QMH2462 4Gb FC HBA for HP c-Class BladeSystem

### Models

QLogic QMH2462 4Gb FC HBA for HP c-Class BladeSystem

403619-B21

### Key Features

- Two 4Gb/s Fibre Channel ports
- 4/2/1 automatic speed negotiation without throttling down to the lowest target speed on the network
- Multi-Path support for redundant HBAs and paths including Linux driver failover.
- Superior performance capable of sustaining up to 150,000 I/Os per second per channel
- RoHS compliance
- Common drivers for 4Gb and legacy 2Gb HBAs
- QLogic SANsurfer Manager for centralized management and remote control of distributed HBAs.

### Features and Benefits

- Higher performance with a low price per channel
- Investment protection with 4/2/1 auto speed negotiation
- Supports the Windows and Linux operating environments
- Provides the flexibility and broad interoperability need for complex highly scalable SANs
- Multi-path software for Linux built into the driver

## Product Highlights

### Software Features

#### BladeSystem compatibility

**NOTE:** The QLogic QMH2462 4Gb FC HBA for HP c-Class BladeSystem must be deployed with the c-Class BladeSystem infrastructure and will only work with the BL c-Class Server Enclosure.

#### HP Proliant and Integrity Servers

- Compatible with current releases of HP Proliant and HP Integrity c-class Blade Servers supporting Type 1 Mezzanine Cards

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### Switch interoperability

#### HP StorageWorks and Third Party Switches

- 4Gb Switches and Directors
- 2Gb Switches and Directors
- Compatible with Fibre Channel switches including HP StorageWorks and third party vendors including Cisco, Brocade, and McDATA

### Standard Features

#### Service and Support

This product is covered by a global limited warranty and supported by HP Services and a worldwide network of HP Authorized Channel Partners. 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.

**NOTE:** Server Options Limited Warranty includes 1 year Parts.

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and start up
- Education courses
- Extended onsite hardware coverage hours from same business day 13 hours, 5 day to 24 hours, 7 days call window with options including 4-hour response or 6-hour Call To Repair
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials and VMware-based IT solutions helping to deliver high level of application availability. Response times range from 30 mins for critical problems to 2 hours.
- System Management, Performance Services and Mission Critical Support Solution

HP has introduced a new building block approach which allows customers to purchase the right coverage at the right time whether purchasing an initial server blade plus enclosure or purchasing additional ProLiant server blades over time. HP will offer two sets of Care Pack services, one designed to support the server blade and one designed to support the enclosure.

HP Care Pack services for HP ProLiant 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.

HP Care Pack services for the c7000 and c3000 Enclosure cover the enclosure, power supplies and fans. HP qualified rack options are covered by these services when installed within the same rack. HP Supported Ethernet devices covered include the Ethernet Pass-Through Module, Fibre Channel Pass-Through Module, Cisco Catalyst 3020 Blade Switch and GbE2c Ethernet Blade Switch.

**NOTE:** For more information regarding the Blade service portfolio visit our worldwide web site on the internet at: <http://h20219.www2.hp.com/services/cache/81725-0-0-225-121.html>

**NOTE:** For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/carepack>

**NOTE:** For more complete information on HP Services offerings, customers and resellers, please visit us at: <http://www.hp.com/hps>

**NOTE:** Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

(1-1-1) Hardware Warranty - One-year on-site warranty, 8x5, next business day response, installation not included.

**NOTE:** The hardware warranty covers firmware and embedded non-saleable software. Saleable software carries its own warranty, please see below.

Software Warranty: HP warrants only that the software media will be free of physical defects for a period of ninety (90) days from delivery.

**EXCLUSIVE REMEDY:** The entire liability of HP and its suppliers and your exclusive remedy for software that does not conform to this Limited Warranty shall be the repair or replacement of the defective media.

## Standard Features

This warranty and remedy are subject to your returning the defective media during the warranty period to HP in the country in which you obtained the software.

## Related Options

### Service and Support Offerings (HP Care Pack Services)

**NOTE:** The HP Care Pack service part numbers below for ProLiant BL c-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.

#### Hardware Services On-site Service

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic UE458E

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic UE459E

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic UE460E

#### Support Plus 24

Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic UE473E

**NOTE:** HP Care Pack services for the c7000 and c3000 Enclosure cover the enclosure, power supplies and fans. HP qualified rack options are covered by these services when installed within the same rack. HP Supported Ethernet devices covered include the Ethernet Pass-Through Module, Fibre Channel Pass-Through Module, Cisco Catalyst 3020 Blade Switch and GbE2c Ethernet Blade Switch.

#### Hardware Services On-site Service

Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic UE477E

**NOTE:** Uplifts the Ethernet devices to the same level of warranty as the c-class enclosure

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic UE478E

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic UE479E

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic UE480E

**NOTE:** The HP Care Pack service part numbers below covers the HP 4Gb, 12 Port SAN Switch & 4Gb, 12 Port SAN Switch Upgrade LTU.

#### Hardware Services On-site Service

Next Business Day On-site Service, 5-Day x 9-Hour Coverage 3 Years, Electronic UC007E

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic UC008E

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic UC009E

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic UC023E

**NOTE:** The HP Care Pack service part numbers below covers the HP 4Gb, 24 Port SAN Switch.

#### Hardware Services On-site Service

Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic UE436E

4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic UE437E

4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic UE438E

6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic UE439E

Hardware Installation, Electronic U5988E

**NOTE:** The HP Care Pack service part numbers below covers the HP 4Gb, 24 Port SAN Switch Power Pack.

#### Hardware Services On-site Service

## Related Options

### Support Plus

Onsite HW support, 8am-9pm, M-F, 4hr response and SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic UE728E

### Support Plus 24

Onsite HW support 24x7, 4hr response and SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic UE729E

### Installation & Start-up Services

HP Installation & Startup Service for HP BladeSystem Infrastructure, Electronic UE602E

**NOTE:** Provides for an integrated hardware and software implementation that includes remote service planning, onsite deployment of hardware and software, installation verification testing and customer orientation. Hardware deployment covers the installation of a single BladeSystem enclosure that include server blades (up to 16), Ethernet network interconnect, and power options. Software deployment covers the installation and configuration of HP Systems Insight Manager (SIM), HP Rapid Deployment Pack (RDP), and deploy up to two operating system editions of either Windows or Linux, using scripted operating system installation software

ProLiant BL c-Class Blade Server Hardware Installation, Electronic UE493E

ProLiant BL c-Class Enclosure and Server Blade Hardware Installation, Electronic UE494E

Provides for the Installation and Start-up of ProLiant Essentials Rapid Deployment Pack, Electronic U5683E

**NOTE:** Provides installation on a Customer supplied server designated as a Deployment Server. Includes the deployment of a single server. This new server will be deployed using either one of the pre-configured scripts or an image. In addition, the service will provide for the capture and storage of the configuration of the newly deployed server and orientation on product usage. To be delivered during standard office hours, standard office days.

Provides for the Installation and Start-up of Rapid Deployment Pack Implementation of Rapid Deployment Pack (Basic) (Electronic) UA042E

**NOTE:** Service coverage: onsite installation of the Vulnerability and Patch Management (VPM) software on a customer designated server, configuration of the VPM software to acquire security patches, enabling the VPM software to scan up to five (5) systems, applying the security patches to the designated servers, generating a report from VPM that shows the vulnerability assessment results, and providing customer with an orientation to the software.

Provides for the Installation and Start-up of System Insight Manager (Electronic) UA041E

Provides for the Installation and Start-up of System Insight Manager Agents (Electronic) UA040E

**NOTE:** For more information, customer/resellers can contact <http://www.hp.com/hps/carepack/services/>

### Software Operating Environment Care Packs

Microsoft Software Operating Environment Software Telephone 9x5 - 3 incident (Electronic) U8169E

Red Hat Software Operating Environment Software Telephone 9x5 - 10 incident (Electronic) U3402E

SUSE Software Operating Environment Software Telephone 9x5 - 3 incident (Electronic) U9615E

ProLiant Essentials Operating Environment, - 5 Day, 9x5, 1 year, 3 incident (Electronic) U8222E

### Related Options

ProLiant Essentials Operating Environment, - 5 Day, 24x7, 1 year, 3 incident (Electronic)	U8301E
ProLiant Essentials Operating Environment, - 5 Day, 9x5, 1 year, 10 incident	UE006E
ProLiant Essentials Operating Environment, - 5 Day, 24x7, 1 year, 10 incident	UE116E
ProLiant Essentials Operating Environment, - 5 Day, 9x5, 1 year, 25 incident	UE117E
ProLiant Essentials Operating Environment, - 5 Day, 24x7, 1 year, 25 incident	UE118E
ProLiant Essentials Operating Environment, - 5 Day, 9x5, 1 year, 50 incident	UE119E
ProLiant Essentials Operating Environment, - 5 Day, 24x7, 1 year, 50 incident	UE120E
ProLiant Essentials Operating Environment, - 5 Day, 9x5, 1 year, unlimited SW Tech Support	UE121E
ProLiant Essentials Operating Environment, - 5 Day, 24x7, 1 year, unlimited SW Tech Support	UE452E
ProLiant Essentials Operating Environment, - 5 Day, 9x5, 3 year, unlimited SW Tech Support	UE453E
ProLiant Essentials Operating Environment, - 5 Day, 24x7, 3 year, unlimited SW Tech Support	UE454E

**NOTE:** For more information, customer/resellers can contact  
<http://www.hp.com/hps/carepack/services/>

### Technical Specifications

<b>System Unit</b>	<b>Dimensions (H x W)</b>	4.460" x 3.970"				
	<b>Media</b>	N/A (Backplane connection to Virtual Connect, Switch or Pass-Thru Module)				
	<b>Ports</b>	Two				
	<b>System Inlet Temperature</b>	<table border="0"> <tr> <td>Operating</td> <td>10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed.</td> </tr> <tr> <td>Non-operating</td> <td>-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).</td> </tr> </table>	Operating	10° to 35°C (50° to 95°F) at sea level with an altitude derating of 1.0°C per every 305 m (1.8°F per every 1000 ft) above sea level to a maximum of 3050 m (10,000 ft), no direct sustained sunlight. Maximum rate of change is 10°C/hr (18°F/hr). The upper limit may be limited by the type and number of options installed.	Non-operating	-30° to 60°C (-22° to 140°F). Maximum rate of change is 20°C/hr (36°F/hr).
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	<b>Relative Humidity (non-condensing)</b>	<table border="0"> <tr> <td>Operating</td> <td>10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.</td> </tr> <tr> <td>Non-operating</td> <td>5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.</td> </tr> </table>	Operating	10 to 90% relative humidity (Rh), 28°C (82.4°F) maximum wet bulb temperature, non-condensing.	Non-operating	5 to 95% relative humidity (Rh), 38.7°C (101.7°F) maximum wet bulb temperature, non-condensing.
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	<b>Altitude</b>	<table border="0"> <tr> <td>Operating</td> <td>3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).</td> </tr> <tr> <td>Non-operating</td> <td>9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).</td> </tr> </table>	Operating	3050 m (10,000 ft). This value may be limited by the type and number of options installed. Maximum allowable altitude change rate is 457 m/min (1500 ft/min).	Non-operating	9144 m (30,000 ft). Maximum allowable altitude change rate is 457 m/min (1500 ft/min).
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**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.



## *Technical Specifications*

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