

Fibre Channel Card Instruction Manual

(Models: CC7822-Y)

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Preface

Thank you for purchasing the Hitachi Fibre Channel Card (hereinafter referred to as Card). This manual describes the Card installation instruction, cautions on handling it, and other information necessary to use it.

- ☐ [Regulatory compliance notices](#)
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Regulatory compliance notices

Federal communications commission (FCC) compliance (U.S.A)

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

The user is cautioned that changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Canadian compliance statement (Canada)

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

European union notice (EU)

Products with the CE Marking comply with both the EMC Directive (2004/108/EC) and the Low Voltage Directive (2006/95/EC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms (the equivalent international standards are in parenthesis):

- EN55022 Class A Limit-Electromagnetic Interference
- EN55024 (EN61000-4-2, 3, 4, 5, 6, 8, 11)-Electromagnetic Immunity
- EN61000-3-2, 12-Power Line Harmonics
- EN61000-3-3-Power Line Flicker
- EN60950-1 (IEC60950-1)-Product Safety

Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Acoustics noise (Germany)

Maschinenlärminformations-Verordnung - 3. GPSGV, der höchste Schalldruckpegel beträgt 63 dB(A) oder weniger gemäss EN ISO 7779.

Product recycling and disposal (EU and Norway) (Waste Electrical and Electronic Equipment Directive 2002/96/EC [WEEE])

The following mark on Products indicates that these Products are to be collected separately and to be recycled or discarded according to applicable local and national regulations. For further information regarding return, collection, recycle or disposal, please contact your sales company where you purchased the Products.



Note: The above regulation / marking applies only to countries within the European Union (EU) and Norway.

Chinese RoHS

有毒有害物质和元素的名称及含量

零件名称	有毒有害物质和元素					
	铅 (Pb)	汞 (Hg)	镉 (Cd)	六价铬 (Cr (VI))	多溴联苯 (PBB)	多溴二苯醚 (PBDE)
伺服器底座	×	○	○	○	○	○
刀鋒型伺服器	×	○	○	○	○	○
管理模块	×	○	○	○	○	○
局域网交换机模块	×	○	○	○	○	○
光纤交换机模块	×	○	○	○	○	○
网络路径模块	×	○	○	○	○	○
电源模块	×	○	○	○	○	○
分电盘	×	○	×	○	○	○
<p>○：表示该零件的所有均质材料中的有毒有害物质的含量在 SJ/T 11363-2006 标准规定的限量范围内。</p> <p>×：表示该零件的某一均质材料中的有毒有害物质的含量超出 SJ/T 11363-2006 标准规定的限量范围。</p>						

電波障害自主規制 (Japan)

本製品は、クラス A 情報技術装置です。本製品を家庭環境で使用すると電波障害を引き起こすことがあります。この場合には使用者が適切な対策を講ずるよう要求されることがあります。

VCCI-A

Class A emission statement (Korea)

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Applicant / 상호명 : LG Hitachi Ltd. / LG히다찌(주)

Manufacturer / 제조자 : HITACHI, LTD.

Origin / 제조국 : Japan / 일본

BSMI compliance (Taiwan)





法規遵循公告

警告使用者：
此為甲類資訊技術設備，於居住環境中使用時，
可能會造成射頻擾動，在此種情況下，
使用者會被要求採取某些適當的對策。

Laser compliance notice

This product may be provided with an optical storage device (that is, CD or DVD drive) and/or fiber optic transceiver. Each of these devices contains a laser that is classified as a Class 1 Laser Product.

International compliance

No	Standard / Marking	Classification	Country
1	UL 60950-1 	Safety	U.S.A
2	FCC 47 CFR Part 15 Class A Limit <div>This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.</div>	EMC	
3	EMC Directive (2004/108/EC, formerly 89/336/EEC) EN55022 Class A Limit EN55024 EN61000-3-2, EN61000-3-12 EN61000-3-3 Low Voltage Directive (2006/95/EC, formerly 73/23/EEC) EN60950-1 	Safety / EMC	Europe
4	C-Tick AS/NZ CISPR 22 (EN55022 Class A Limit) 	EMC	Australia / New Zealand
5	BSMI CNS14336 BSMI CNS13438 Class A Limit 	Safety / EMC	Taiwan
6	CB IEC 60950-1	Safety	International

Intended audience

This document is intended for the personnel who are involved in planning, managing, and performing the tasks to prepare your site for Compute Rack installation and to install the same.

This document assumes the following:

- The reader has a background in hardware installation of computer systems.
- The reader is familiar with the location where the Compute Rack will be installed, including knowledge of physical characteristics, power systems and specifications, and environmental specifications.

Document revision level

Revision	Date	Description
MK-90CRH-26-00	June 2012	Initial release

Document organization

The table below provides an overview of the contents and organization of this document. Click the chapter title in the left column to go to that chapter. The first page of each chapter provides links to the sections in that chapter.

Chapter	Description
Chapter 1, Before use	Describes explanation what you should check before connection and setting of this Card.
Chapter 2, Product overview	Describes the overview of this product.
Chapter 3, Names and Functions of component	Describes part names and functions of this Card. Read this chapter before Installing this Card to a system unit.
Chapter 4, Installing the Card	Describes explanation the procedures to attach this Card to a system unit.
Chapter 5, Installing Driver and HBAware	Describes explanation the installation procedures of the driver for this Card and HBAware under the environment of Windows Server 2003 (32bit)/Windows Server 2003 x64 Edition/Windows Server 2008 (32bit)/WindowsServer 2008 (64bit).
Chapter 6, Supplementary Information for Fibre Channel Card Functions	Describes explanation related to the functions of this Card.
Chapter 7, LED Information	Describes explains the LED information on this Card.
Chapter 8, Specifications	Describes the major specifications of this Card.

Document conventions

The term “Compute Rack” refers to all the models of the Compute Rack, unless otherwise noted.

This document uses the following typographic conventions:

Convention	Description
Bold	Indicates text on a window, other than the window title, including menus, menu options, buttons, fields, and labels. Example: Click OK .
<i>Italic</i>	Indicates a variable, which is a placeholder for actual text provided by the user or system. Example: <i>copy source-file target-file</i> Note: Angled brackets (< >) are also used to indicate variables.
screen/code	Indicates text that is displayed on screen or entered by the user. Example: # <code>pairedisplay -g oradb</code>
< > angled brackets	Indicates a variable, which is a placeholder for actual text provided by the user or system. Example: # <code>pairedisplay -g <group></code> Note: Italic font is also used to indicate variables.
[] square brackets	Indicates optional values. Example: [a b] indicates that you can choose a, b, or nothing.
{ } braces	Indicates required or expected values. Example: { a b } indicates that you must choose either a or b.
vertical bar	Indicates that you have a choice between two or more options or arguments. Examples: [a b] indicates that you can choose a, b, or nothing. { a b } indicates that you must choose either a or b.
<u>underline</u>	Indicates the default value. Example: [<u>a</u> b]

Safety information

Before replacement, read the Safety Guidelines in this document.

Getting help

When you contact <contact information>, provide as much information about the problem as possible, including:

- The circumstances surrounding the error or the failure
- The exact content of any error message displayed on the host system Compute Rack
- The service information messages, including reference codes and severity levels, displayed and/or logged at the Compute Rack

The <sales partner> support staff are available 24 hours a day, seven days a week. For technical support, visit the portal site at <portal site URL>. For contact information, visit <sales partner’s homepage URL>.

Comments

Please send us your comments on this document, if any, by e-mail to: <e-mail address>. Make sure that the e-mail includes the document title and number, revision, and section(s) and paragraph(s) whenever possible.



Safety guidelines













This section contains warnings and important safety guidelines for using a Hitachi Compute Rack System. Read and understand the information in this section before removing, replacing and installing system components.

This section includes the following key topics:

- ☐ [Safety information](#)
- ☐ [Common precautions concerning safety](#)
- ☐ [General safety precautions](#)
- ☐ [Precautions against damage to this product](#)
- ☐ [Precautions Marks in This Manual](#)

Safety information

This document uses the following symbols to emphasize certain information.

Symbol	Label	Description
	WARNING	This indicates the presence of a potential risk that might cause death or severe injury.
	CAUTION	This indicates the presence of a potential risk that might cause relatively mild or moderate injury.
NOTICE	NOTICE	This indicates the presence of a potential risk that might cause severe damage to the equipment and/or damage to surrounding properties.
	Note	This indicates notes not directly related to injury or severe damage to equipment.
	Tip	This indicates advice on how to make the best use of the equipment.
	Fire Hazard	This warns fire hazard. Take appropriate precautions to prevent the risk of catching a fire.
	Electric Shock Hazard	This warns electric shock hazard. Failure to take appropriate precautions could result in serious injury or death.
	Hot Surface	Hot Surface indicates the risk of a serious burn by high temperature.
	Laser Hazard	This warns laser hazard. Failure to take appropriate precautions could result in invisible laser radiation.
	General Prohibition Sign	This indicates the general prohibition.
	Disassembly Prohibition Sign	This indicates not to allow customer to disassemble component.
	General Mandatory Sign	This indicates a general action to take. Action by following the instructions in this guide.
	Unplug Power cord	This indicates unplugging the power cable from the outlet to avoid electric shock and fire.

Common precautions concerning safety

Please carefully read through these safety instructions to follow:

- When operating the equipment, follow the instructions and procedures provided in the manual.
- Be sure to follow notes, cautionary statements and advice indicated on the equipment or in the manual.
- Referring to manuals attached to other products which you install in or connect to the equipment, follow the instructions described in those manuals.

Failure to follow those instructions can cause injury, fire or damage to property including the equipment.

General safety precautions



Plastic shipping bag

Do not leave the plastic shipping bag of this product such as Air Cap within reach of children. If they get the bag over their head, they can be suffocated.



Laser beam

This product emits laser beam. Do not disassemble or modify this product. Or do not peer inside. Doing so may cause visual loss or blindness. (The laser beam cannot be seen by your eyes.)

Precautions against damage to this product



Impact due to dropping, etc

Avoid excessive impact such as dropping or banging the equipment. Deformation or deterioration may occur, which may cause smoke or malfunction.



Contact with connector terminals

Never touch connector terminals with hand or with a metal. Nor insert a foreign material such as wire. Also, do not put this product on metal chips. Otherwise, smoke or contact failure may be caused.



Contact with connector terminals

Never touch connector terminals with hand or with a metal. Nor insert a foreign material such as wire. Also, do not put this product on metal chips. Otherwise, smoke or contact failure may be caused.



Countermeasure against static electricity

Before handling this product, discharge static electricity from your body by touching a metallic part such as a door knob, or wear cotton gloves. Otherwise, static electricity may damage the equipment.



Mounting this product

Mount and use this product in a system unit that supports installation and operation of this product. If mounted in any other system, this product causes a failure due to difference in connection specifications. For information about which system units support this product, see the manual of the individual system unit.

Precautions Marks in This Manual



Not used in this manual.



Signal cables (Fibre channel cable)

- Lay the cables carefully to prevent your foot from being snagged by them. If you stumble over the cable, it may cause personal injury or malfunction of the connection devices. Also it may cause the data to be lost.
 - Do not put something heavy on the cable. Do not lay the cable near a heater. The cable coating may be damaged which may cause a failure of the connected equipment. See page 4-2.
-

NOTICE

Not used in this manual.

Before Use

This chapter explains what you should check before connection and setting of this Card.

- [For your confirmation](#)

For your confirmation

Check the following before you use the Card. If you find any problem, contact your sales representative.

- Check that the model number is that you ordered.
- Check that there is no damage that seems to be caused during transportation.
- Check that all accessories are included by referring to the accessory list. If additional information sheets are provided, check them.



The CC7822 is the 8Gbps Low Profile Bracket (2Port Type).
Unless otherwise specified, the following explanations are common to the CC7822.

Product Overview

This chapter describes the overview of this product.

□ [Features](#)

Features

This product is used by Installing to the PCI-Express expansion slot (hereinafter referred to as PCI-E slot) of the system unit.

This product features the following:

- The CC782 models are the Fibre Channel Cards with a maximum of the 800MB/s transfer rate per port.

Names and Functions of component

This chapter describes part names and functions of this Card.
Read this chapter before Installing this Card to a system unit.

□ [Names and Functions](#)

Names and Functions

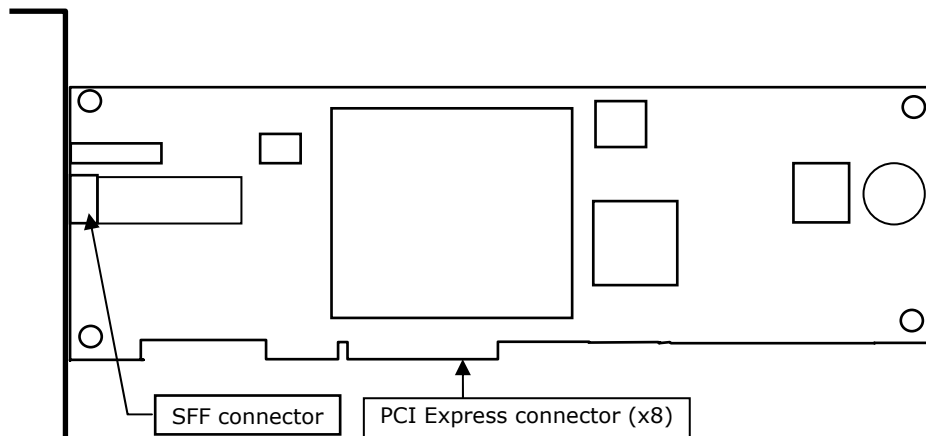


Figure 3-1:



"CC7822" is illustrated in the figure above. "CC7822" is the 2-port type equipped with two SFF connectors and is the Low Profile Bracket Type.

Installing the Card

This chapter explains the procedures to attach this Card to a system unit.

- [System Configuration and Attachment Procedures](#)
- [Connecting](#)

System Configuration and Attachment Procedures

Attach this Card to the PCI-Express slot of the system unit. When Installing this Card, refer to the manual that comes with the system unit.



When this Card is replaced, the Card-unique information (e.g., World Wide Name) is changed.

Connecting

This Card is connected as follows:

CAUTION

About signal cable (Fibre Channel cable)

- Be careful in wiring not to trap anyone's foot. Trapping may cause injury or malfunction in connected devices. Important data may be lost.
- Avoid to place heavy objects on cables. Do not place cables near heat sources. Doing so may damage cable coatings, resulting in malfunction in connected devices.

Point-to-Point Connection

The point-to-point connection is the method to connect the Card and the disk array unit by one to one by using one Fibre Channel cable.

A connection example is shown below.

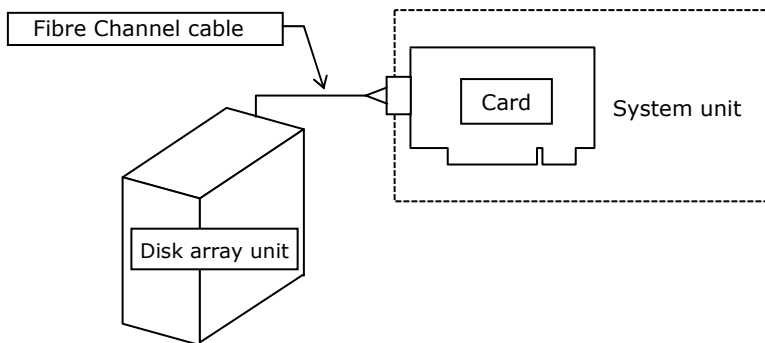


Figure 4-1:

Cluster Connection

The cluster connection is for connecting one or more disk array units and two or more system units. That has a redundant configuration. For the supported number of the system units, check the specification of the operating system.

A connection example is shown below.

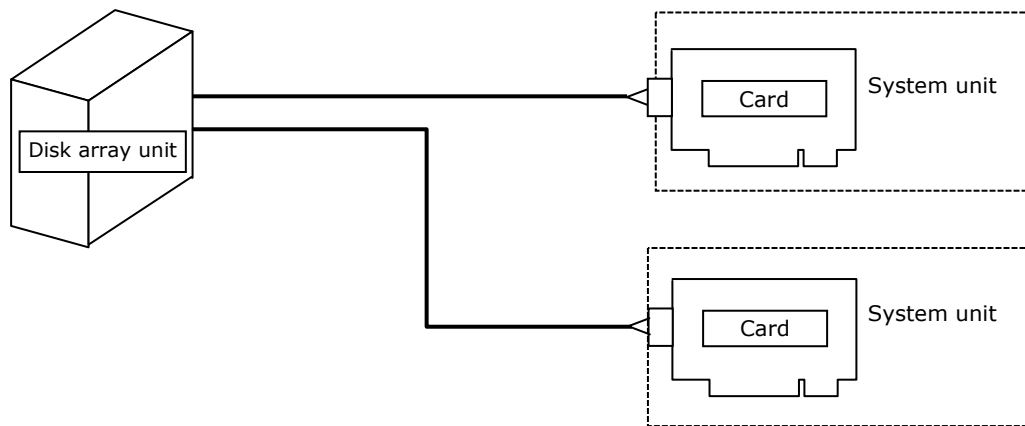


Figure 4-2:

Installing Driver and HBAnyware

This chapter explains the installation procedures of the driver for this Card and HBAnyware under the environment of Windows Server 2008 R2(64bit).

□ [For Windows Server 2008 R2 \(64bit\) Environment](#)



"HBAnyware" is the software needed to control this Card. Install this software to enable changing the setting depending on the disk array unit connected to this Card.

The OSs support this Card are those supported by the system unit in which this Card is to be installed. For information of the OSs that support this Card, also refer to Readme in the SystemInstaller CD-ROM. Operations of this Card on an unsupported OS are not guaranteed.



The supported OSs differ depending on the system unit in which this Card is to be installed. Be sure to check the OS supported by the system unit in which this Card is to be installed. For the procedures of installing the driver of this Card and other optional Cards, refer to the software guide of the units, in which details are described.

For Windows Server 2008 R2 (64bit) Environment



The driver bundled with Windows Server R2 (64bit) cannot be used. When this Card is additionally installed, use the driver in the Drivers-Kit CD.



If the driver is already incorporated for the factory expansion modess, no operation of installing a driver is needed unless otherwise indicated.

Installing Windows Server 2008 R2 (64bit):Driver and HBAware



Install the driver for this Card and HBAware concurrently. Do not activate other applications when performing the installation.

1. Log on with the administrator privilege (e.g., administrator).
When logged on, newly added hardware is automatically detected.



When a Card is additionally installed, the standard driver in the OS may be applied. Install the driver by following the procedures as shown below. If you re-install the driver, follow the same procedures.

When you start the OS and when you install an additional Card, a pop-up window for installation of the driver may appear. If this happens, wait until its completion.

1. Set the Drivers-Kit CD provided with the system unit into the CD-ROM or DVD-ROM drive.
2. Open the folder below.

Table 5-4:

OS	Location of the installation file
Windows Server 2008 R2 (64bit)	WIN2008R2\DRIVERS\FibreChannel\Emulex_01\x64

3. Start **APIInstall.exe** in the folder above

4. The installation is automatically executed. Wait until **AutoPilot Installer** in the taskbar disappears.
The installation will be completed approximately in three to five minutes.
5. The installation is completed when **AutoPilot Installer** disappears.
6. Restart the OS.

Checking the Driver Version

1. Check the version of the driver by following the procedures below.



The driver is located under **Storage controllers** of **Device Manager** in **Computer Management**.

2. Double-click the relevant driver among listed item below.

Table 5-5:

Model name	Indication under "Storage controller"
CC7822	Emulex LightPulse LPe12002-M8, PCI Slot x, Storport Miniport Driver

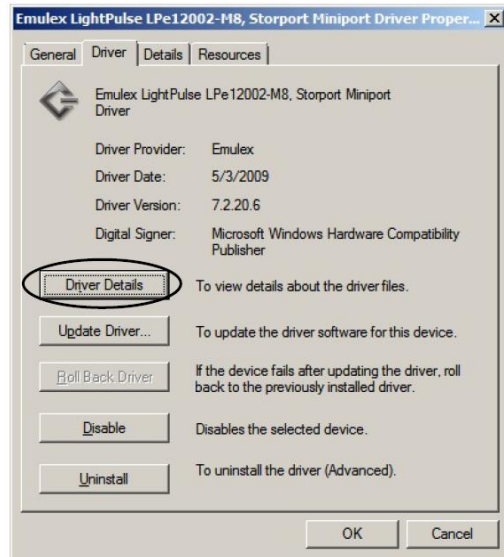


For "Emulex LightPulse LPe12002-M8, PCI Slot x, Storport Miniport Driver", two drivers will be shown for one Card.



Emulex LightPulse HBA - Storport Miniport Driver may be indicated under **Storage controllers**. There is no problem as long as the version is confirmed to be correct in the next "Driver Details" step. This indication cannot be changed.

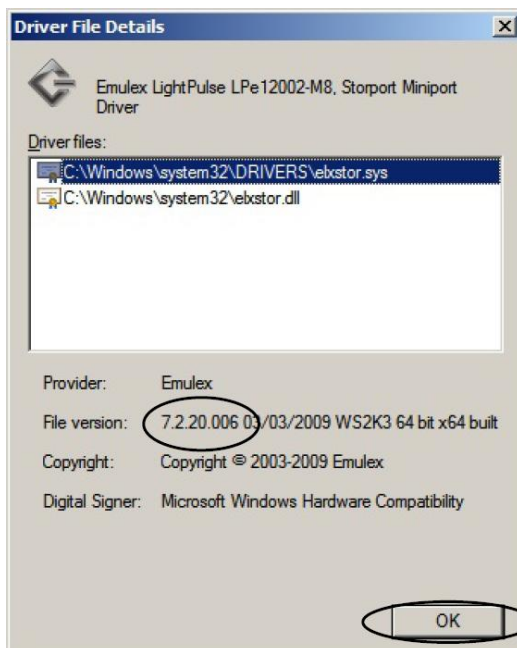
3. In the **Driver** tab page click **Driver Details**.



4. In **Driver Details**, select **C:\WINDOWS\system32\DRIVERS\elxstor.sys**, and check that the "file version" matches the list item below.

Table 5-6:

Model name	Windows Server R2 2008 (64bit) Driver Ver
CC7822	7.2.20.006



5. Click **OK**, and close the window by clicking **OK** in the screen of setp 3.

Supplementary Information for Fibre Channel Card Functions

This chapter provides supplementary explanation related to the functions of this Card.

- [Host Bus Adapter Configuration](#)
- [Emulex Light Pulse BIOS Utility](#)
- [Utility](#)

Host Bus Adapter Configuration

Usage of BIOS Utility and factory default values are additionally explained below.

Starting BIOS Utility

1. When "**Press <Alt E> to go to Emulex BIOS Utility**" appears during the system startup, press **Alt+E** or **Ctrl+E**.

```
!!! Emulex LightPulse x86 BIOS !!!, Version x.xxxx
Copyright (c) xxxx - xxxx Emulex. All rights reserved.

Press <Alt E> or <Ctrl E> to enter Emulex BIOS configuration
Utility. Press <s> to skip Emulex BIOS

Emulex BIOS configuration utility selected
Bringing the Link up, Please wait...
```

This message is displayed after you press **Alt+E** or **Ctrl+E** simultaneously.

Fibre Channel BIOS Message

2. When "**BIOS Utility**" is started, the following window appears.

```
Emulex Light Pulse BIOS Utility, xxx.xxxx
Copyright (c) xxxx - xxxx Emulex, All rights reserved.

Emulex Adapter in the System:

1. LPexxxx-xx  PCI Bus , PCI Device , Function (xx,xx,xx)

Enter a Selection:
Enter <x> to Exit
```

Press a No. for which the BIOS setting is to be changed.



"xxxx" is a numerical value which differs depending on the PCI-Express slot to which the Card is connected and depending on the connected device. If multiple Cards are installed, the number in Cards is displayed.
For CC7822, the two numbers are displayed per Card and "LPe1x002-Mx" is displayed for the above mentioned "xxxx".

Factory Default Values and Checking

Factory default values and how to check them are explained below.

1. Open the **BIOS Utility** window.
Select **Configure This Adapter's Parameters**.

```
Adapter 01:      PCI Bus , Device , Function (xx,xx,xx)

LPexxxx-xx:   I/O Base: xxxx  Firmware Version:xxxxxxx
Port Name: xxxxxxxx xxxxxxxx  Node Name: xxxxxxxx xxxxxxxx
Topology: Auto Topology: Loop first (Default)
The BIOS for this adapter is Disabled

1. Configure Boot Devices
2. Configure This Adapter's Parameters

Enter a Selection:
Enter <x> to Exit <d> to Default Values <Esc> to Previous Menu
```



Neither **1. Configure Boot Devices** nor **2. Configure This Adapter's Parameters** is used.
Do not specify the settings.



"Port Name" and "Node Name" of the relevant Card can be checked in this window.

2. **Configure This Adapter's Parameters** screen is displayed.

```
Adapter 01:      PCI Bus #:xx PCI Device #:xx
LPexxxx-x I/O Base: xxxx  Firmware Version:xxxxxxx
Port Name: xxxxxxxx xxxxxxxx  Node Name: xxxxxxxx xxxxxxxx
Topology: Auto Topology: Loop first (Default)

1. Enable or Disable BIOS
2. Change Default ALPA of this adapter
3. Change PLOGI Retry Timer ( +Advanced Option+)
4. Topology Selection ( +Advanced Option+)
5. Enable or Disable Spinup delay ( +Advanced Option+)
6. Auto Scan Setting ( +Advanced Option+)
7. Enable or Disable EDD 3.0 ( +Advanced Option+)
8. Enable or Disable Start Unit Command ( +Advanced Option+)
9. Enable or Disable Environment Variable ( +Advanced Option+)
10.Enable or Disable Auto Boot Sector ( +Advanced Option+)
11.Link Speed Selection( +Advanced Option+)

Enter a Selection:
Enter <x> to Exit  <Esc> to Previous Menu
```



Press a No. (1 to 11) to open the relevant window. Then press **ESC** to return to this window.

3. Exit **BIOS Utility**. Press **x**, and then press **Y**.

```
Reboot the System to Make All the Change to Take Effect!

REBOOT THE SYSTEM (Y/N)
```



If you press **N**, the screen returns to the one immediately after the BIOS Utility is started.

Emulex Light Pulse BIOS Utility

Details of setting values indicated in **BIOS Utility** are explained below.



Change a setting value only when it differs from the factory default.

Operation with values other than the factory default is not guaranteed.

Configure Boot Devices



This is not used for this Card. Do not set it.

Configure These Adapter's Parameters

The table below shows details of each setting value.

Table 6-1:

No.	Setting value	Description	Selectable values	Factory default
1	Enable or Disable BIOS	Sets Enable or Disable of ROM BIOS.	1: Enable 2: Disable	Disable
2	Change Default ALPA of this adapter	Sets ALPA of the Card (HEX).	01 to EF	00
3	Change PLOGI Retry Timer (+Advanced Option+)	Sets the PLOGI retry time.	1. 0 msec 2. 50 msec 3. 100 msec 4. 200 msec	000
4	Topology Selection (+Advanced Option+)	Sets the Loop mode.	1. Auto Topology (Loop First) 2. Auto Topology (Pt to Pt First) 3. FC-AL 4. Fabric Point to Point	Auto Topology (Loop First)
5	Enable or Disable Spinup delay (+Advanced Option+)	Waits completion of Spinup of the disk array unit hard disk up to three minutes.	1. Enable 2. Disable	Disable
6	Auto Scan Setting (+Advanced Option+)	Setting when a bootable OS exists. This parameter is unsupported by this Card.	1. Autoscan disabled 2. Any first device 3. First LUN 0 device 4. First NOT LUN 0 device	Autoscan Disabled
7	Enable or Disable EDD 3.0 (+Advanced Option+)	Unsupported by this Card.	1. Enable 2. Disable	Disable
8	Enable or Disable Start Unit Command (+Advanced Option+)	Unsupported by this Card.	1. Enable 2. Disable	Disable
9	Enable or Disable Environment Variable (+Advanced Option+)	Unsupported by this Card.	1. Enable 2. Disable	Disable
10	Enable or Disable Auto Boot Sector (+Advanced Option+)	Automatically sets the boot sector (32 or 63).	1. Enable 2. Disable	Disable
11	Link Speed Selection (+Advanced Option+)	[CC7811/CC7812/CC7821/CC7822] Sets the transfer rate.	0. Auto Select 1. 2 Giga baud 2. 4 Giga baud 4. 8 Giga baud	Auto Select

BIOS Utility Exit

When you exit **BIOS Utility**, the following message is displayed.

Select **Y** as shown below. The system is restarted.

```
Reboot the System to Make All the Changes to Take Effect!  
REBOOT THE SYSTEM (Y/N):
```

Y: System is restarted.

N: Returns to initial window.

Configuration Setting List

The table below shows the Configuration Setting for each disk array to be connected.

Table 6-2:

	Setting item for the Card	Disk array unit
		Hitachi Universal Storage Platform Hitachi Network Storage Controller Hitachi Adaptable Modular Storage Hitachi Workgroup Modular Storage Entry class disk array unit (BR1600)
Configuration Settings		
1	Enable or Disable BIOS	Disable
2	Change Default ALPA of this adapter	00
3	Change PLOGI Retry Timer (+Advanced Option+)	000
4	Topology Selection (+Advanced Option+)	Auto Topology (Loop First)
5	Enable or Disable Spinup delay (+Advanced Option+)	Disable
6	Auto Scan Setting (+Advanced Option+)	Autoscan Disabled
7	Enable or Disable EDD 3.0 (+Advanced Option+)	Disable
8	Enable or Disable Start Unit Command (+Advanced Option+)	Disable
9	Enable or Disable Enviroment Variable (+Advanced Option+)	Disable
10	Auto Sector Format Select (+Advanced Option+)	Disable
11	Link Speed Selection (+Advanced Option+)	Auto Select

Utility HBAAnyware (Windows Server 2008 R2 (64bit))

"HBAAnyware" is the software to control this Card.

The following indicates display examples. The actual values in screens differ depending on the installed Card and connected disk array unit.



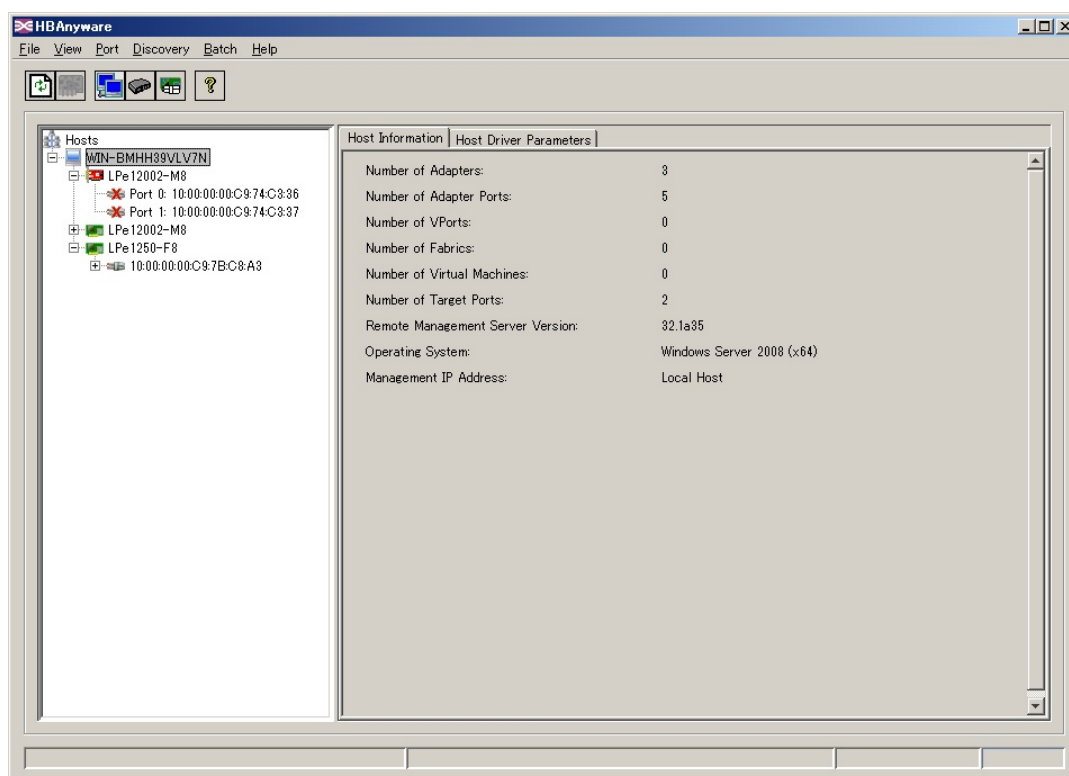
Start **HBAAnyware** from **Emulex** of **All Programs**.



Do not set any item that is not explained in this utility section.

The following indicates display examples. The actual values in the windows differ depending on the installed Card and connected disk array unit.

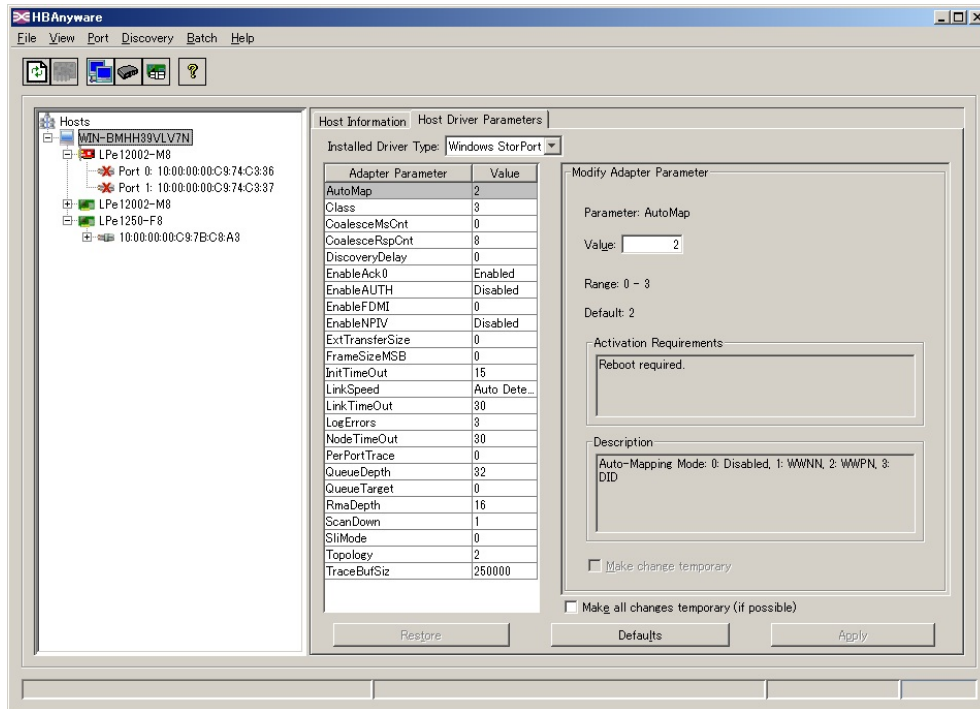
1. The following items can be checked in the **Host Information** tab page.





If the LUN is not displayed, an installation failure can be assumed.
Execute re-installation by referring to Chapter 5, [Installing Driver and HBAnyware](#)

2. The following items can be checked and set in **Driver Parameters**.



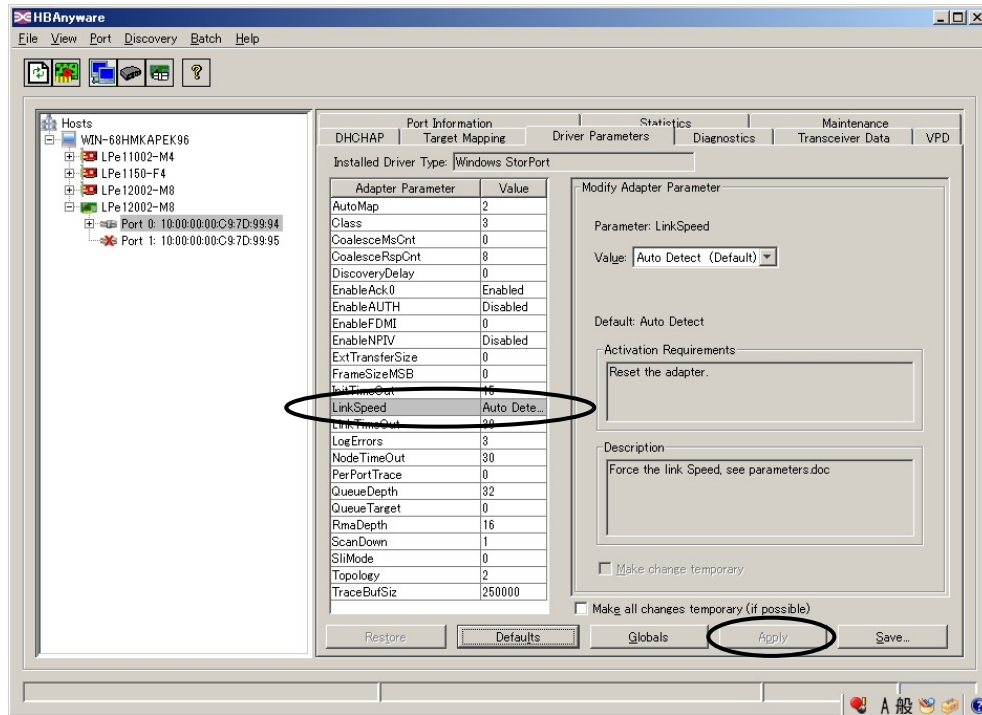
When a setting value is changed in this tab page, the value is applied to all these Cards installed in the system unit.

To make a setting for each Card, do that in the **Driver Parameters** tab page of each Card.



Link Speed should be set in the relevant Card (or port).
Do not set it in this **Driver Parameters** tab pge.

A. Transfer Rate **Link Speed** Setting



Auto-Select is set by default. If you change this setting, restart the system unit. Apply this setting when necessary.

(1) Select **Value** of **LinkSpeed** in the screen above.

(2) The following values are selectable.

Table 6-1:

Selectable value	Transfer rate
Auto-Select	Transfer rate is set appropriately for the connectable disk array unit.
8 Gb	8G bps fixed
4 Gb	4G bps fixed
2 Gb	2G bps fixed

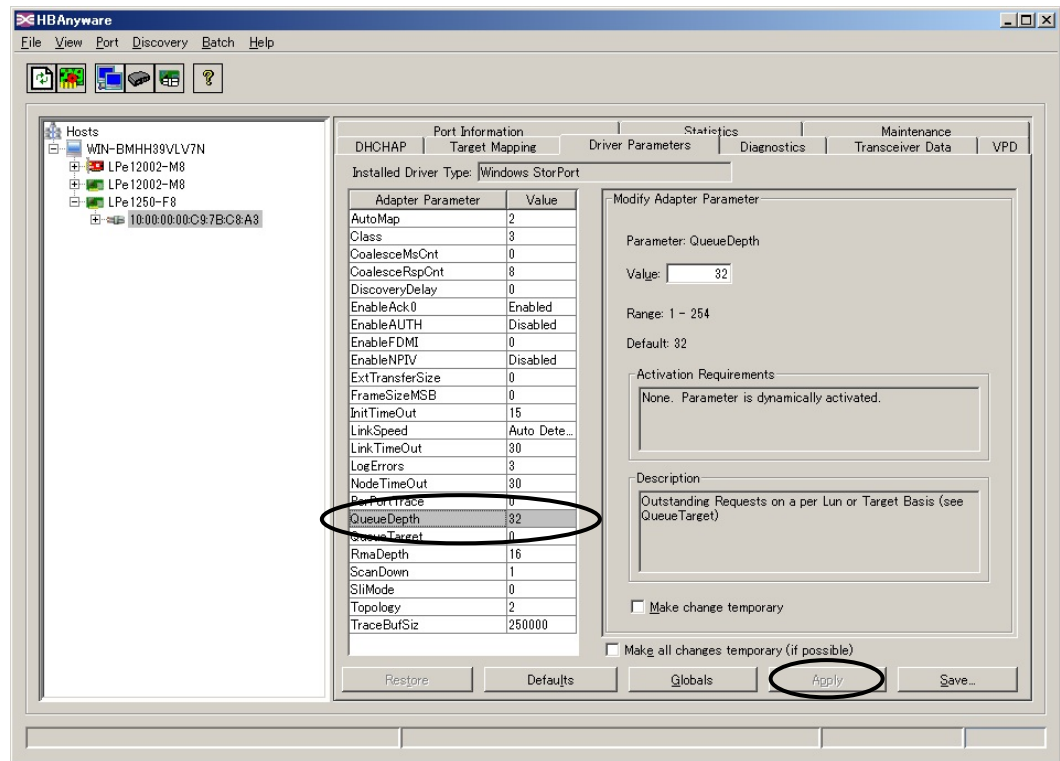


One gigabit [1Gb] is unsupported for the CC7822.

(3) Click **Apply** to reflect the setting.

(4) Restart the system unit.

B. QueueDepth Setting



Change procedures for QueueDepth



The default is **32**.

- (1) Enter **Value** of **QueueDepth** in the screen above.
- (2) Change the setting when the following condition is applied.
<Number of LUNs to be accessed> $\times n \leq 512$ (Enter a number between 1 and 32 in n)
(Example) Setting value when this Card is connected to the Hitachi disk array unit that made 17 LUNs
 $17 \times 32 = 544$ -> **Disabled** because the value exceeds 512
 $17 \times 31 = 527$ -> **Disabled** because the value exceeds 512
 $17 \times 30 = 510$ -> **Enabled** because it does not exceed 512

⇒ Enter "**30**" as the setting value for **QueueDepth**.

(3) Click **Apply** to apply the settings.

(4) Restart the system unit.

3. The following items can be checked in the **Port Information** tab page.

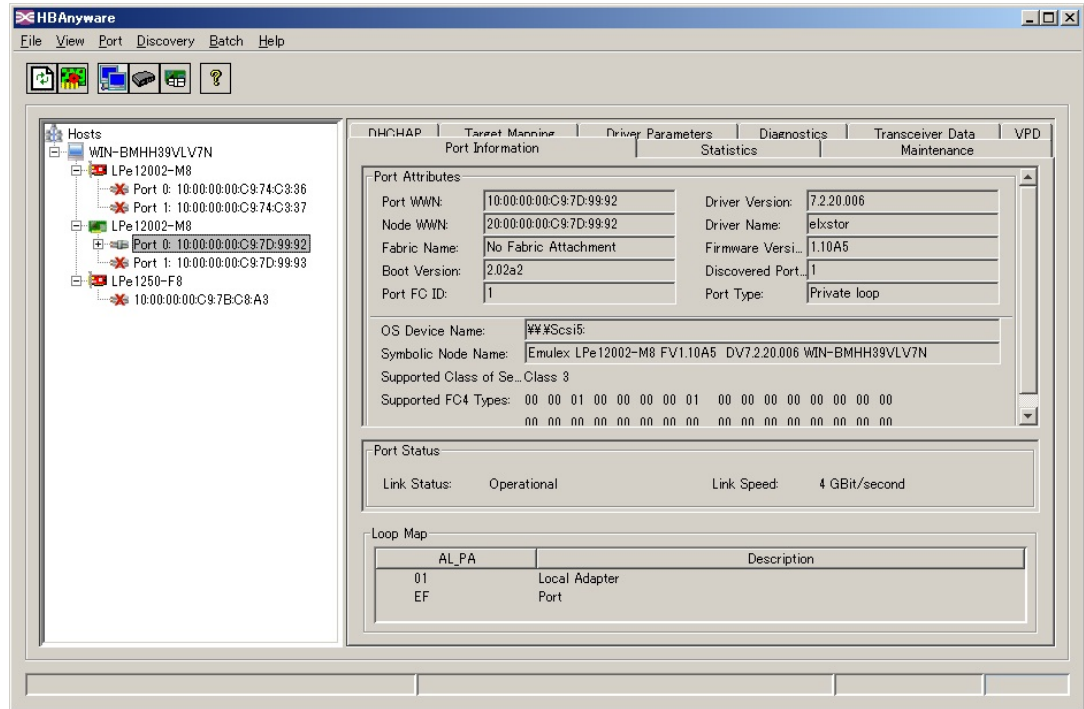


Table 6-2:

[Port Attributes]

No.	Item	Description
1	Port WWN	Port World Wide Name of the Card
2	Node WWN	Node World Wide Name of the Card
3	Fabric Name	-
4	Boot Version	-
5	Port FC ID	-
6	Driver Version	Version of installed driver
7	Driver Name	Name of the installed driver
8	Firmware Version	Version of currently used firmware
9	Discovered Ports	-
10	Port Type	Indicates Loop Type

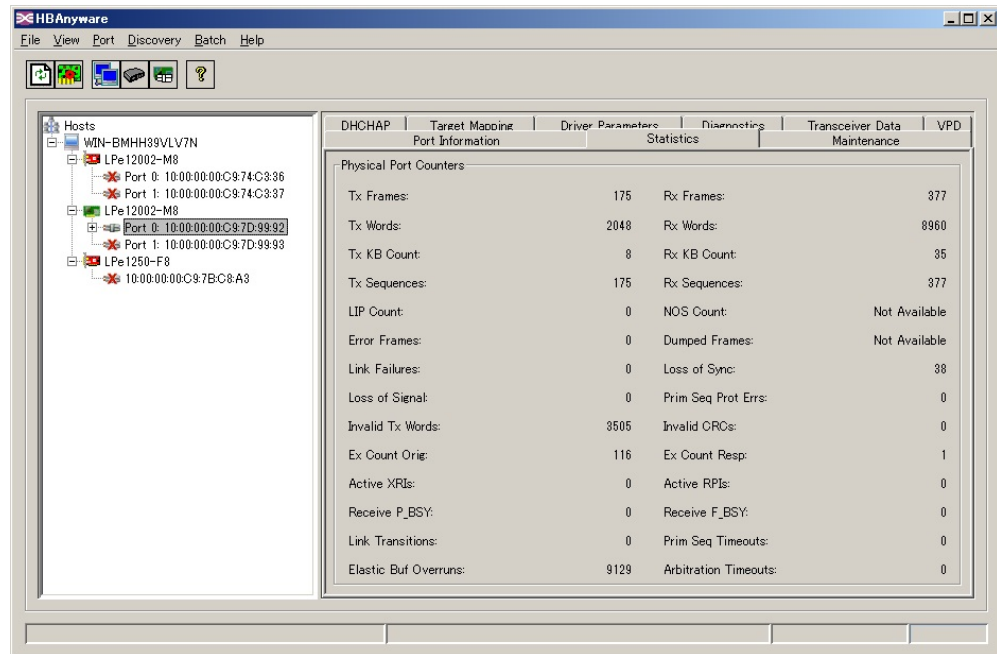
Table 6-3:

[Port Status]

No.	Item	Description
1	Link Status	Operational: Link UP status, Down: Link Down status
2	Link Speed	Indicates Link Speed of the Card. When " Link Status " is Down, n/a is indicated.

4. The following items can be checked in the **Statistics** tab page.

This page indicates the port status.



5. The following items can be checked in the **Maintenance** tab page.

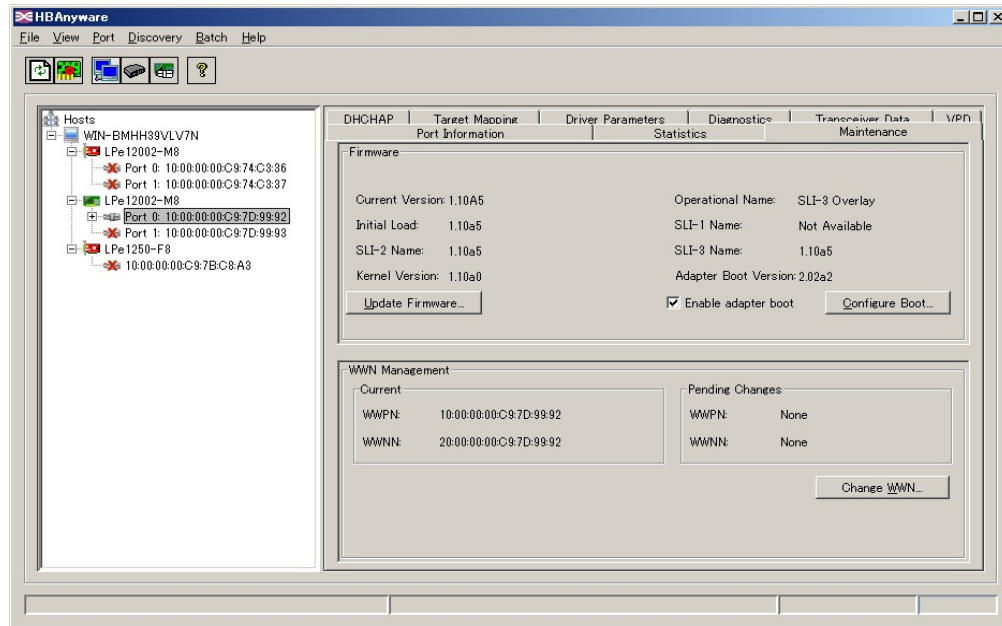
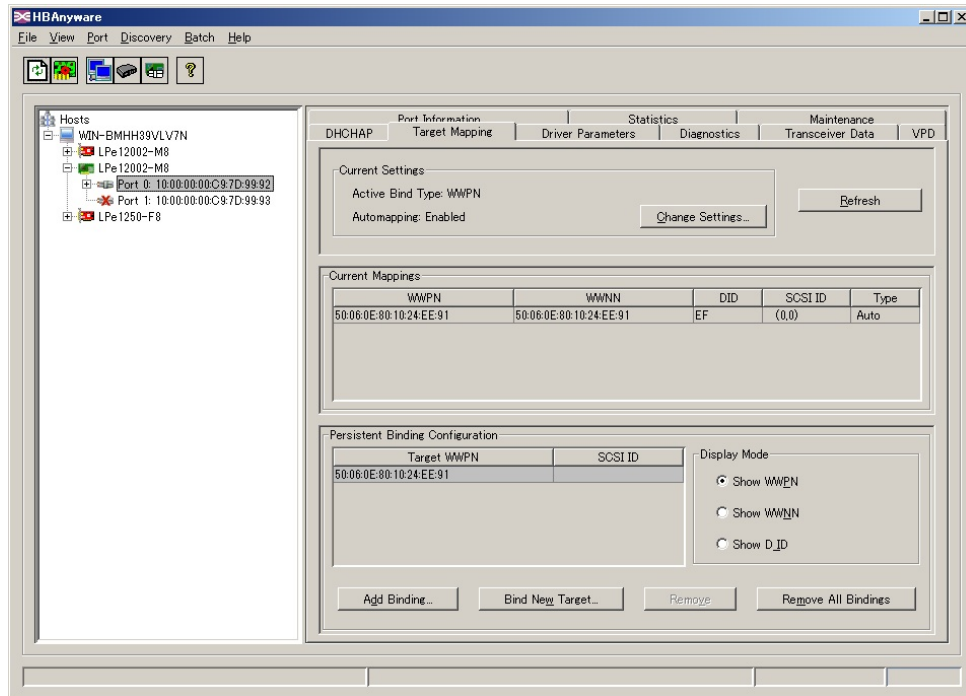


Table 6-4:

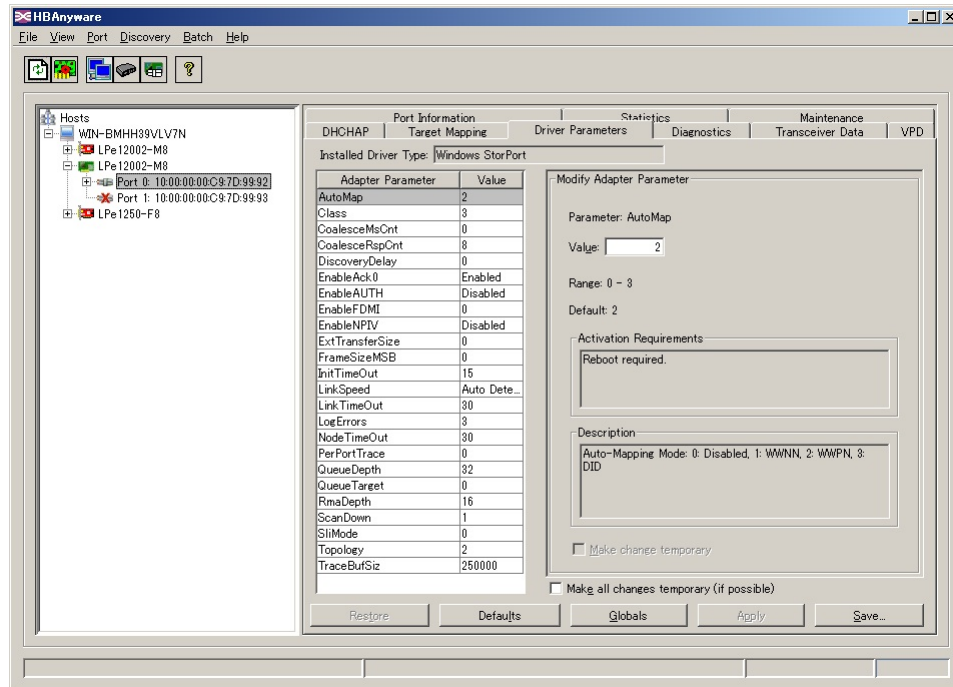
No.	Item	Explanation
1	Firmware	Firmware information is displayed. "Current Firmware Version" is the firmware version of the relevant Card.
2	Update Firmware...	Used for update of the firmware and Boot BIOS.
3	WWN Management	Displays the WWN Port Name and WWN Node Name.

6. The following items can be checked in the **Target Mapping** tab page.



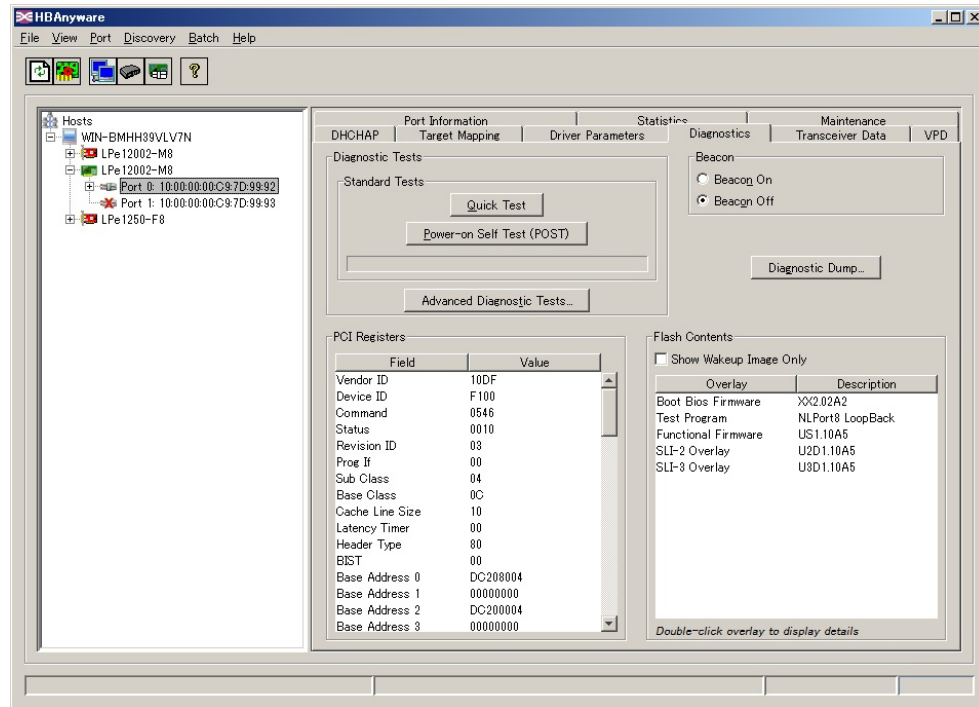
This page is not used for this Card.

7. Parameters can be changed in the **Driver Parameters** tab page.
For the setting procedure, see step 2.



If you click **Globals**, the setting is applied to all these Cards installed in the system unit.

8. About **Diagnostics**



This item is for maintenance only. Do not set it. Doing so may disconnect I/O.

9. About **DHCHAP**



This item cannot be used. Do not set it.

10. About **Transceiver Data**



This item cannot be used. Do not set it.

11.About **VPD**

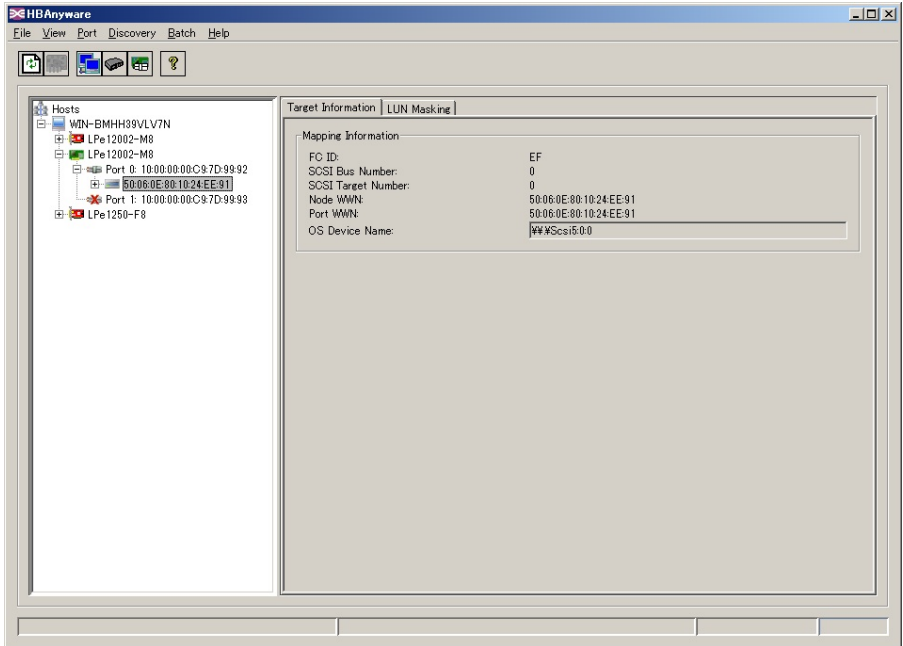


This item cannot be used. Do not set it.

12.The following information of the connected disk array unit can be checked in the **Target Information** tab page.



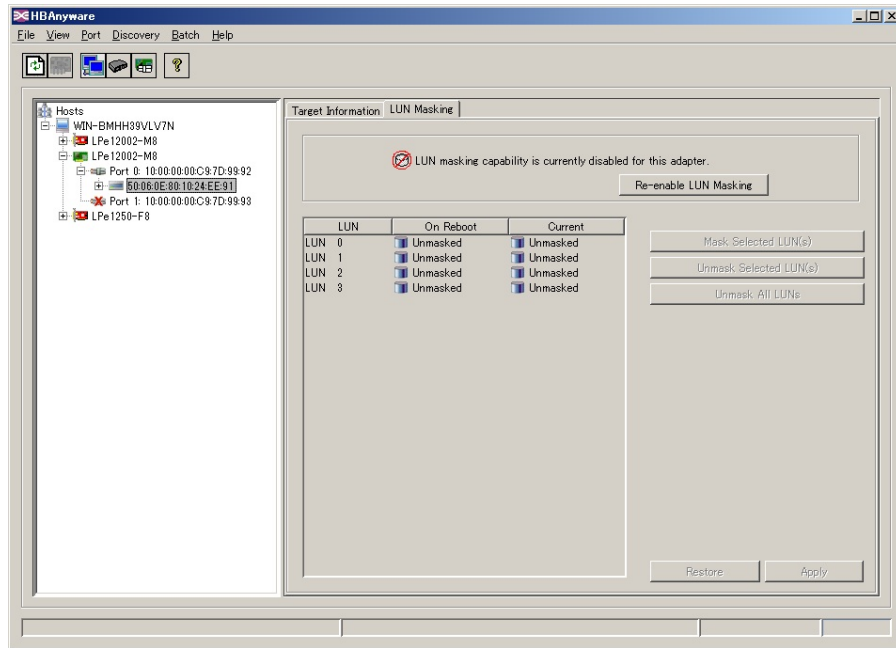
The following items can be displayed only when the disk array unit is connected to the Card.



13.The following items can be checked in the **LUN Masking** tab page.



The following items can be displayed only when the disk array unit is connected to the Card.

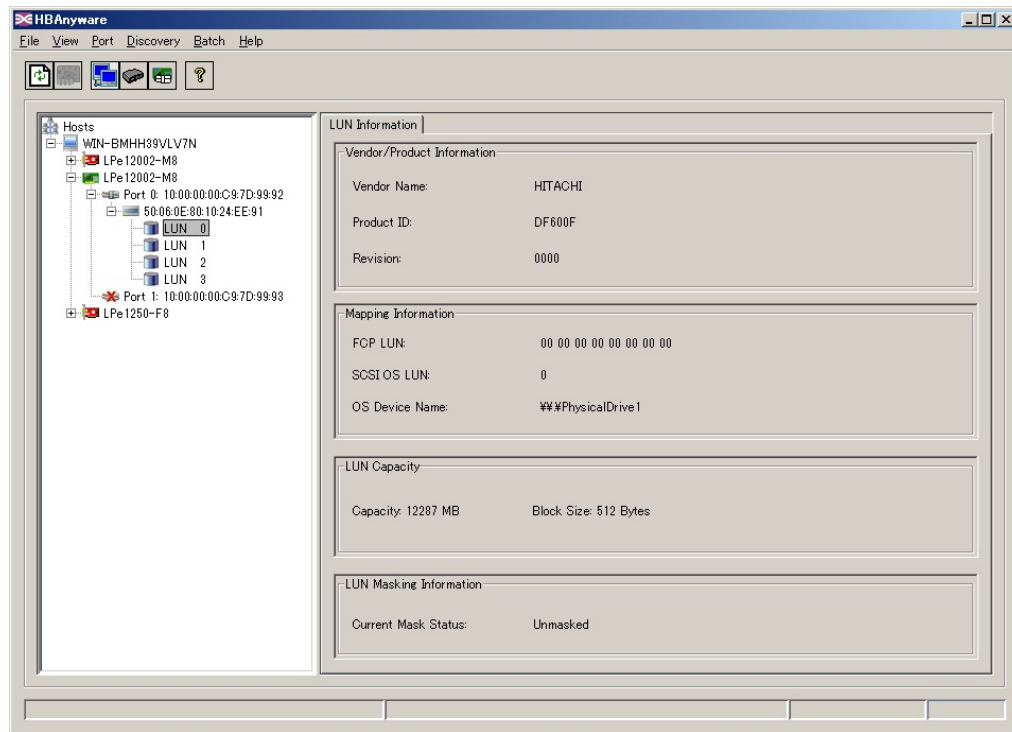


Do not set this item. Doing so may disconnect I/O.

14. The following items can be checked in the **LUN Masking** tab page.



The following items can be displayed with the disk array unit connected to the Card.



HBAnyware (Driver Parameters)

The table below lists the setting items of "Driver Parameters" in "HBAnyware".



Among these items, do not set or change an item other than the specified ones. Doing so may result in an abnormal operation.

Table 6-5:

No.	Setting item	Selectable value	Default value for Windows 2003/Windows 2008	Default value for Windows 2008 R2 environment
1	AutoMap	0: Disabled, 1: WWNN, 2: WWPn, 3: DID	2	2
2	Class	2: Class 2, 3: Class 3	3	3
3	CoalesceMsCnt	0-63	0	0
4	CoalesceRspCnt	0-255	8	8
5	DiscoveryDelay	0-2	0	0
6	EnableAck0	Enabled or Disabled	Enabled	Enabled
7	EnableAUTH	Enabled or Disabled	Disabled	Disabled
8	EnableFDMI	0: Disabled, 1: Enabled, 2: Host Name	0	0
9	EnableNPIV	Enabled or Disabled	Disabled	Disabled
10	ExtTransferSize	0: 512kbytes, 1: 1Mbytes, 2: 2Mbytes	-	0
11	FrameSizeMSB	0: 2048, 1: 256, 2: 512, 8: 2048	0	0
12	InitTimeOut	5-30	15	15
13	LinkSpeed	Auto Detect, 2G , 4G , 8G	-	Auto Detect
14		Auto-Select, 2G , 4G , 8G	Auto-Select	-
15	LinkTimeOut	0-255	30	30
16	LogErrors	0-3	3	3
17	NodeTimeOut	0-255	30	30
18	PerPortTrace	0: Disabled, 1: Enabled	0	0
19	QueueDepth	1-254	32	32
20	QueueTarget	0: Per Lun Basis 1: QueueDepth applies on a Per Target basis	0	0
21	RmaDepth	8-64	16	16

No.	Setting item	Selectable value	Default value for Windows 2003/Windows 2008	Default value for Windows 2008 R2 environment
22	ScanDown	0: Scan FC-AL AL_PAs in Ascending Order 1: Scan in Descending Order	-	1
23		Enabled or Disabled	Enabled	-
24	SlimMode	0: Auto, 2: SLI2 – remove all vports first 3: SLI3	0	0
25	Topology	0: Loop, 1: F_Port Fabric, 2: Loop then F_Port, 3: F_Port then Loop	2	2
26	TraceBufSiz	250000-2000000	250000	250000



LED Information

This chapter explains the LED information on this Card.

- [LED Indication and Action Taken](#)

LED Indication and Action Taken

This section describes the indications by the LEDs on the bracket of this Card.

If an LED status other than explained below occurs, contact your sales representative or our maintenance staff.

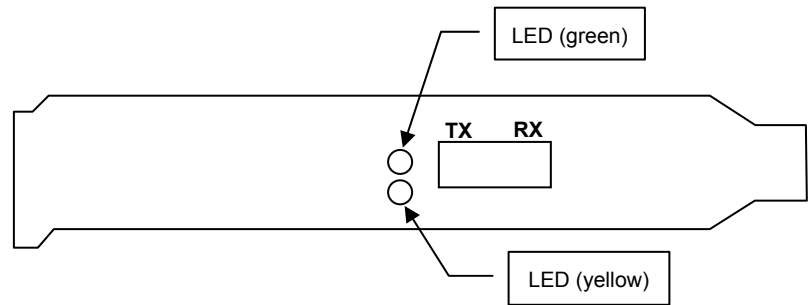


Figure 7-1:

Table 7-1:

No.	LED status		Condition	Action
	Green	Yellow		
1	●	▲3	Links up status with 4Gbps.	No action is needed.
2	●	▲2	Links up status with 24Gbps.	No action is needed.
3	△	○	Link Down status	Check the condition of the connected device and wiring. Check the transfer rate setting of the Card and the connected device.
4	○	○	No power is supplied to the Card.	Turn on the power to the system unit.
5	●	▲4	[Only for CC7822] Links up status with 8Gbps.	No action is needed.



LED status indication

●: Lit, ○: Unlit, ▲x: Blinking and its number of times, △: Slow blinking
If an LED status other than explained above occurs, contact our maintenance staff.

Specifications

This chapter describes the major specifications of this Card.

- [Hardware Specifications](#)
- [Quality Standards](#)
- [Supports OS](#)

Hardware Specifications

Table 8-1:

Category	Specification	Remarks
Interface	<ul style="list-style-type: none">Conform to Fibre Channel Physical and Signaling Interface-3 (FC-PH-3)Conform to Fibre Channel Arbitrated Loop (FC-AL-2)PCI-Express Card Electromechanical SpecificationPCI-Express Base Specification 1.0aPCI-Express Base Specification 2.0	PCI-Express Base Specification 2.0
Maximum transfer rate	800 MB/s	Asynchronous transfer
FC physical I/F	SFF Connector (Optical) × 2	
PCI BUS transfer width	× 8	
BUS transfer rate	20 GB/s (250MB/s × 8)	

Quality Standards

Table 8-2:

General Specifications	Category	Specification	Remarks
	Dimensions	56±2mm (height) × 169±2mm (depth) × 18mm (width)	Bracket excluded
	Weight	Approximately 170g or less	
	Power source	3.3±0.25 VDC, 12±0.25 VDC	Supplied from the system unit
	Consumption current	3.3V: 0.52A (normal)/0.61A (maximum) 12V: 0.60A (normal)/0.95A (maximum)	
	Operating temperature	0 to 55°C	
	Operating humidity	5 to 95%Rh	No condensation

Supports OS

This Card supports the following OSs:

- Microsoft® Windows Server® 2008 R2 Standard (Japanese) 64-bit version
- Microsoft® Windows Server® 2008 R2 Enterprise (Japanese) 64-bit version
- Microsoft® Windows Server® 2008 R2 Datacenter (Japanese) 64-bit version

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