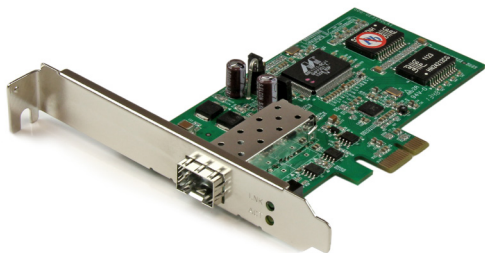


PCI Express Gigabit Ethernet Fiber Network Card with Open SFP Slot

PEX1000SFP2



*actual product may vary from photos

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FCC Compliance Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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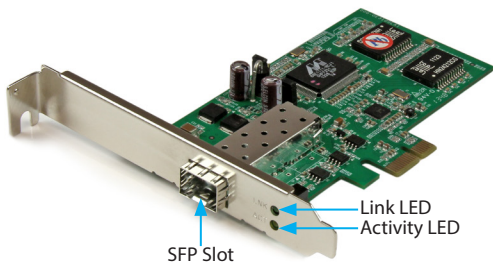
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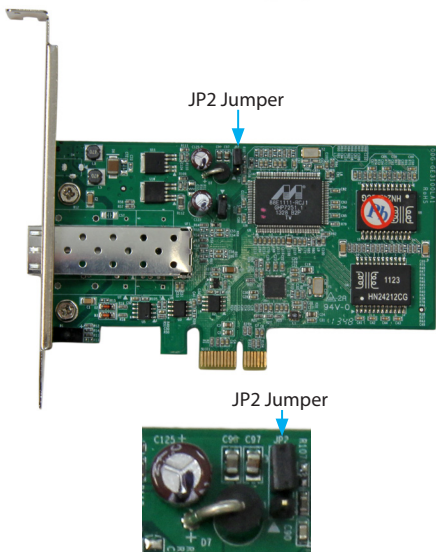
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Product Overview

Card



Jumper



Note: See the "Card to Card Direct Configuration" section on the following pages for further details on jumper configuration.

Introduction

Packaging Contents

- 1x 1 Port PCI Express Gigabit SFP Network Card
- 1x Low Profile Bracket
- 1x Driver CD
- 1x Instruction Manual

System Requirements

- PCI Express enabled computer with an available PCI Express slot
- Windows® 8 / 8.1 (32/64bit), 7 (32/64), Vista (32/64), XP (32/64), Windows Server® 2012, 2008 R2, 2003, Mac OS 10.5 and up (Tested up to 10.9), Linux 2.4.x, 2.6.x and 3.5.0, Microsoft Hyper-V®

Installation

Hardware Installation

WARNING! PCI Express cards, like all computer equipment, can be severely damaged by static electricity. Be sure that you are properly grounded before opening your computer case or touching your PCI Express card. StarTech.com recommends that you wear an anti-static strap when installing any computer component. If an anti-static strap is unavailable, discharge yourself of any static electricity build-up by touching a large grounded metal surface (such as the computer case) for several seconds. Also be careful to handle the PCI Express card by its edges and not the gold connectors.

1. Turn your computer off and any peripherals connected to the computer (i.e. Printers, external hard drives, etc.). Unplug the power cable from the rear of the power supply on the back of the computer and disconnect all peripheral devices.
2. Remove the cover from the computer case. See documentation for your computer system for details.
3. Locate an open PCI Express slot and remove the metal cover plate on the rear of the computer case (Refer to documentation for your computer system for details).
NOTE: This card will work in PCI Express slots of additional lanes (i.e.x4, x8, or x16 slots).

4. Gently insert the card into the open PCI Express slot and fasten the bracket to the rear of the case.
NOTE: If installing the card into a small form factor/low profile system, replacing the pre-installed full profile bracket with the included low profile installation bracket may be necessary.
5. Place the cover back onto the computer case.
6. Insert the power cable into the socket on the power supply and reconnect all other connectors removed in Step 1.

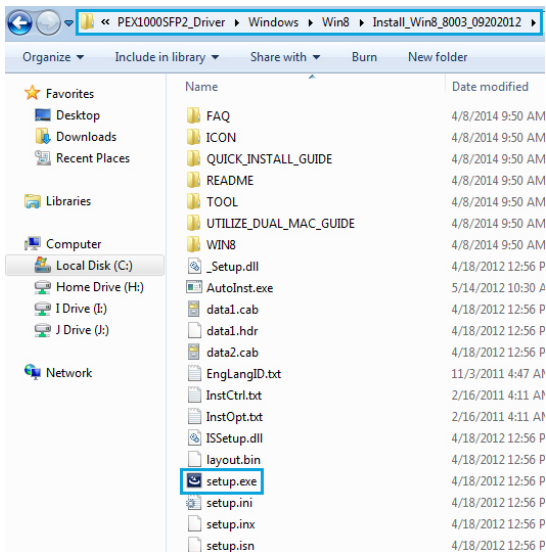
Driver Installation

Windows

NOTE: The card may auto-install using native drivers, however it is recommended to use the procedure below to update to the latest driver version.

1. Upon starting Windows, if the *Found New Hardware* dialog appears on the screen, cancel/close the window and insert the included Driver CD into the computer's CD/DVD drive.
2. If *AutoPlay* is enabled, select the **"Open folder to view files"** option when the dialog appears.
3. Open the *"PEX1000MMSC2_SFP2_Driver"* folder, and run the **"Setup.exe"** application within the appropriate Operating System folder for the system you are using.





4. If *AutoPlay* is disabled, browse to your CD/DVD drive, open the “PEX1000MMSC2_SFP2_Driver” folder, and run the “**Setup.exe**” application within the appropriate Operating System folder for the system you are using.
5. Follow any on-screen instructions to complete the software installation.
NOTE: You may be prompted to restart your system.

Mac OS

1. Insert the provided CD into your DVD/CD-ROM drive.
2. For OS 10.7 and up, browse to the “\PEX1000MMSC2_SFP2_Driver\MacOS\MacOS 10.7\Packages” folder on the disc and then run the “**dstroot.pkg**” application to start the install.

Name	Date Modified	Size	Kind
▶ MacOS 10.4&10.5	Dec 12, 2013, 3:09 AM	--	Folder
▶ MacOS 10.6	Dec 12, 2013, 3:09 AM	--	Folder
▶ MacOS 10.7	Dec 12, 2013, 3:09 AM	--	Folder

Name	Date Modified	Size	Kind
📦 dstroot.pkg	Dec 12, 2013, 3:09 AM	183 KB	Install...ackage

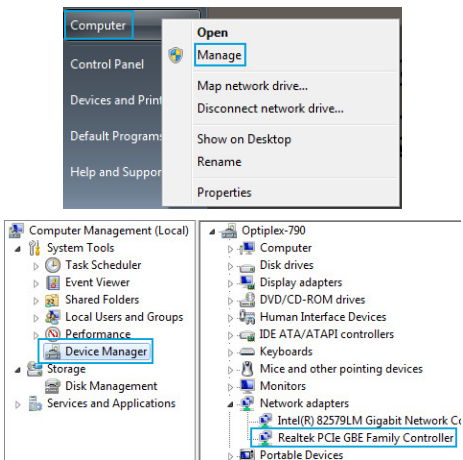
NOTE: For OS 10.4-10.6, please run the appropriate **“.pkg”** application from the applicable OS version folder for the system you are using.

3. Follow the on-screen instructions to complete the installation.

Verifying Installation

Windows

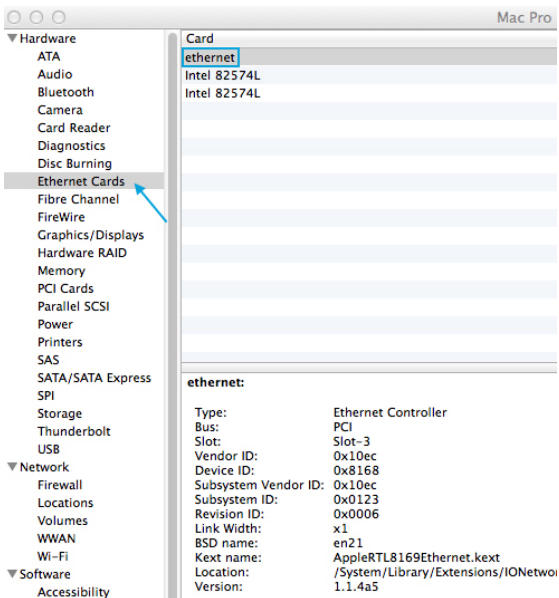
1. From the main desktop or start menu, right-click on **“Computer”** (“My Computer” in XP), then select **“Manage.”**
2. In the *Computer Management* window, select **“Device Manager”** from the left window panel. Windows 8.1 users can right click on the **“Start”** button and click **“Device Manager.”**



- Under the Network Adapters category should be a *“Realtek PCIe GBE Family Controller”* device. **“Right-click”** on the device and select **“Properties”** to make sure it is installed and working correctly.

Mac OS

- Open the *“System Profiler”* by clicking the Apple symbol in the top left corner, select *“About this Mac”*, then select *“More Info.”*
- On the next screen, select *“System Report”* and under the *“Ethernet Cards”* heading within the *“Hardware”* category should be an *“ethernet”* device.

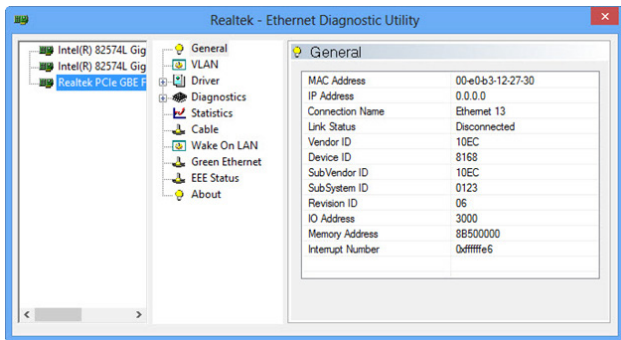


The screenshot shows the Mac OS System Profiler window. The left sidebar is expanded to 'Hardware', and 'Ethernet Cards' is selected, indicated by a blue arrow. The main pane shows a table of Ethernet cards with 'ethernet' selected. Below the table, the details for the selected 'ethernet' card are displayed.

ethernet:	
Type:	Ethernet Controller
Bus:	PCI
Slot:	Slot-3
Vendor ID:	0x10ec
Device ID:	0x8168
Subsystem Vendor ID:	0x10ec
Subsystem ID:	0x0123
Revision ID:	0x0006
Link Width:	x1
BSD name:	en21
Keyst name:	AppleRTL8169Ethernet.keyst
Location:	/System/Library/Extensions/IONetwo
Version:	1.1.4a5

Software Utility

The PCI Express Fiber Gigabit Ethernet Adapter also includes an optional monitoring and maintenance software utility. Run the “**setup.exe**” file located within the “PEX1000MMSC2_SFP2_Utility” folder on the included CD to provide access to configuration settings as well as testing and reporting statistics.



Connecting to a Network

Network Configuration

For connector type, cabling requirements, and maximum segment distance when connecting the PCI Express Gigabit Ethernet Adapter to your network, please refer to the following table:

Speed	Connector	Port Speed Half/Full Duplex	Cable	Max. Distance
1000Base-SX	SC, LC	2000 Mbps	MMF (62.5µm)	220 m 2 km
1000Base-SX	SC, LC	2000 Mbps	MMF (50µm)	550 m
1000Base-LX	SC, LC	2000 Mbps	SMF(9, 10µm)	10, 20, 50 km
1000Base-BX	SC, LC	2000 Mbps	SMF(9, 10µm)	20, 40 km

1. Install your desired SFP into the SFP slot on the card.
2. Prepare a network cable with corresponding connectors for the two end devices. One end to the PCI Express Fiber Gigabit Ethernet Adapter and the other to a 1000Mbps fiber port on the network switch.
3. Connect the network cable to the connector on the PCI Express Fiber Gigabit Ethernet Adapter. This network cable consists of two individual cables: one for "transmission (TX)", and the other for "reception (RX)".
4. Connect the other end of the network cable to a 1000BASE-SX/LX switch.
5.
 - i. Insert the cable that is connected to the transmit (TX) connector on the PCI Express Fiber Gigabit Ethernet Adapter into the receive (RX) connector on the network switch.
 - ii. Insert the cable that is connected to the receive (RX) connector on the PCI Express Fiber Gigabit Ethernet Adapter into the transmit (TX) connector on the network switch
6. When the cable is properly connected to two end devices, turn on the power to the PC.
7. Check the LNK (Link) LED. The LED will come on when the PCI Express Fiber Gigabit Ethernet Adapter is receiving a good link signal from the connected device, or switch.

Card to Card Direct Configuration

The PCI Express Fiber Gigabit Ethernet Adapter allows for a card-to-card direct fiber connection. One adapter should be set to "*auto negotiation mode*" while the other should be set to "*1000 Mbps full duplex mode*" when two card adapters are connected to each other via fiber connectors.

Follow the below jumper settings to create a direct configuration:

1. **Auto negotiation (default setting):** Set the **JP2** jumper configuration for "**Card A**" to jumper position "**2 and 3.**"
2. **1000Mbps full duplex:** Set the **JP2** jumper configuration for "**Card B**" to jumper position "**1 and 2.**"

LEDs

LEDs	Status	Indication
LNK (Link) (Green)	Steady	A valid network connection established.
	Off	No network connection.
ACT (Activity) (Yellow)	Flashing	Transmitting or receiving data.
	Off	No activity.

Specifications

Bus Type	PCI Express
Card Profile	Standard Profile (LP bracket incl.)
Chipset ID	Realtek - RTL8168E; Marvell - 88E1111B1
Industry Standards	IEEE802.3z 1000BASE-SX/LX, IEEE 802.1Q VLAN tagging, IEEE 802.1P Layer 2 Priority Encoding, RFC 1157 SNMP v1, IEEE 802.3x full duplex flow control
Interface	Fiber Ethernet
Ports	1
Connector Type(s)	1x PCI Express x1 1x SFP Slot Female
Auto MDIX	Yes
Buffer Size	48 KB
Compatible Networks	1000 Mbps (1 Gbps)
Full Duplex Support	Yes
Maximum Data Transfer Rate	2000Mbps (Full-Duplex)

OS Compatibility	Windows® 8 / 8.1 (32/64bit), 7 (32/64), Vista (32/64), XP (32/64), Windows Server® 2012, 2008 R2, 2003, Mac OS 10.5 and up (Tested up to 10.9), Linux 2.4.x, 2.6.x and 3.5.0, Microsoft Hyper-V®
Note	Fiber data transfer speeds and distances are dependent on the SFP used (sold separately)
Product Dimensions (LxWxH)	118mm x 19mm x 118mm
Product Weight	51g
LED Indicators	1x Link (Green) 1x Activity (Yellow)
Power Consumption	3.2W Max
Humidity	5-95% RH (Non-condensing)
Operating Temperature	0°C to 45°C (32°F to 113°F)
Storage Temperature	-20°C to 70°C (-4°F to 158°F)

Technical Support

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Warranty Information

This product is backed by a two year warranty.

In addition, StarTech.com warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only. StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

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