4-Port Gigabit Ethernet PCIe Card

User Manual

Ver. 1.00

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Chapter 1: Introduction

1.1 Product Introduction

PCI Express is the next revolution in I/O interconnect standards that will deliver the bandwidth and features required by PCs, consumer electronics and communications devices. The architecture is a cost-effective, low-pin count, and point-to-point technologies offering maximum bandwidth, reducing cost and design complexity and enabling smaller form factors. This card is the best solution for Gigabit Ethernet PCI Express and the interface has a potential transfer rate of 2.5 Gbps using a four-lane (or x4) PCI Express link.

This card is a 4-Port Gigabit Ethernet PCI Express Card, which is specifically designed to plug into a desktop equipped with an available x4, x8 or x16 PCI Express slot. It comes with a comprehensive of software drives for all desktop operating systems, including Microsoft Windows and Linux.

1.2 Features

- Adds four 10Mbps/100Mbps/1G compatible RJ-45 Ethernet ports
- Designed to meet PCI Express Specification Revision 2.1
- Four-lane (or x4) PCI Express compatible with x4, x8 and x16 PCI Express slots
- Fully Compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- Supports 10/100/1000M data auto-negotiation
- Automatic MDI/MDIX crossover at all speeds
- Up to 9K jumbo frame support
- Supports Wake On Lan (WOL) power management
- Features full duplex mode that doubles the network connections speed

1.3 System Requirements

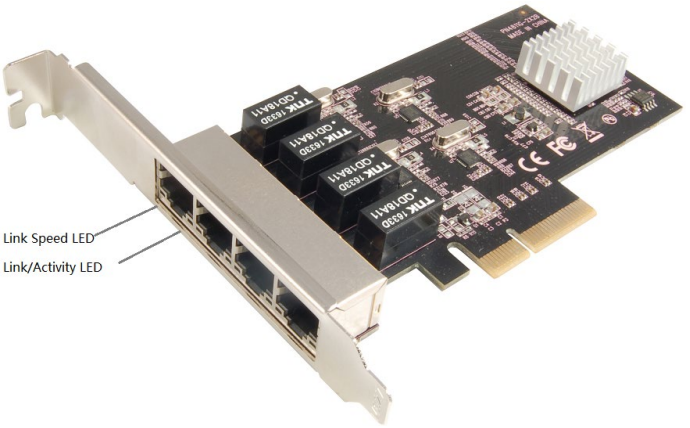
- Windows® 7/8.x/10/11,
  Windows Server 2008 R2/2012 R2/2016/2019
- Linux 2.6.x or later
- PCI Express x4, x8 or x16 slots

1.4 Package Contents

- 1 x 4-Port Gigabit Ethernet PCIe Card
- 1 x User Manual

Chapter 2: Getting Started

2.1 Hardware Layout



There are two LEDs at the two bottom corners of each of the Ethernet port on the network card.

LED	Description
Link Speed LED	Indicates Link speed: • Solid Amber = 1000Mbps • Solid Green = 100Mbps
Link /Activity LED	Indicates Network Card Activity: • Solid Green = Network port is connected • Flashing Green = Network port is active

2.2 Hardware Installation

1. Turn off the power to your computer.
2. Unplug the power cord and remove your computer's cover.
3. Remove the slot bracket from an available PCIe slot.
4. To install the card, carefully align the card's bus connector with the selected PCIe slot on the motherboard. Push the board down firmly.
5. Replace the slot bracket's holding screw to secure the card.
6. Secure the computer cover and reconnect the power cord.

2.3 Driver Installation

The following section shows you how to install 4-Port Gigabit Ethernet PCIe Card driver on different operating systems.

2.3.1 Installation for Windows

1. Go to URL http://www.sunrichtech.com.hk/
2. Search N-451, download the driver.
3. Follow the on-screen instructions to finish installing the driver.

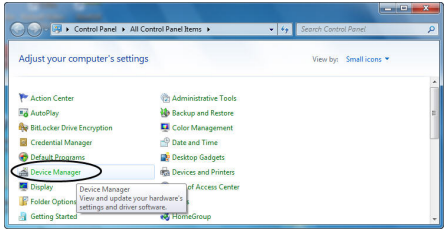
2.3.2 Installation for Linux

1. Go to URL http://www.sunrichtech.com.hk/
2. Search N-451, download the driver.
3. Follow the Readme.txt which is in the driver folder to finish installing the driver.

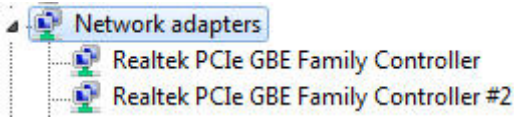
2.4 Hardware Verify

1. Click on the **"Device Manager"** tab in the Windows Control Panel.

   Start > Control Panel > Device Manager



2. Expand **"Network adapters"** item, and you can read four **"Realtek PCIe GBE Family Controller"** item in the Device Manager.



Chapter 3: Troubleshooting Tips

- The computer does NOT detect the 4-Port Gigabit Ethernet PCIe Card

  1. Make sure that the PCI Express card is correctly plugged into the PCI Express slot; if not, turn off the computer and plug it again.

2. If the PCI Express card is plugged in correctly, check if the golden connectors on the card are clean; if not, clean the connector surface.
3. If still NOT, please change to another PCI Express slot on your motherboard.
4. Please upgrade your motherboard BIOS to the latest version. If it still doesn't work, contact your motherboard vendor to ask for the advanced supporting for BIOS update.
5. The board itself might be defective. You can try another motherboard to test the 4-Port Gigabit Ethernet PCIe Card.

- Computer fails to start after inserting the 4-Port Gigabit Ethernet PCIe Card

  Turn off the computer, remove the 4-Port Gigabit Ethernet PCIe Card, and try to restart the computer. If the computer starts successfully, it means that the card has not been inserted into the PCI Express slot correctly. Please clean gold fingers by rubber firstly, then change to another PCI Express slot.

- I can't use Gigabit Ethernet transfer speed

1. Please affirm that your Ethernet environment supports Gigabit speed.
2. Please use CAT 5e UTP/STP cable.