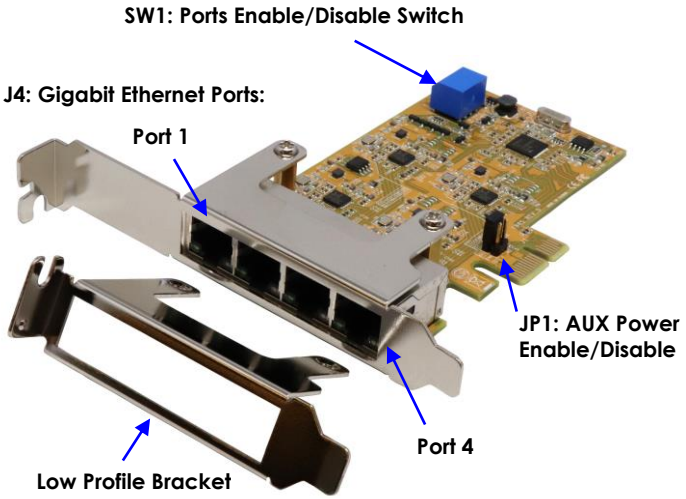
4-Port Gigabit Ethernet to PCIe Host Adapter
Installation Guide

1. Introduction

Thank you for purchasing this 4-Port Gigabit Ethernet to PCIe Host Adapter (hereinafter "the Product"). The Product is in PCI Express form factor with a built-in USB3.1 (Gen 1) Host Controller and 4 USB3.1 Gigabit Ethernet Converters to provide an instant expansion of 4 Gigabit Ethernet ports for your Desktop, Server and Thin-Client computers.

The Product complies PCI Express, USB3.1 Gen 1 and 10/100/1000 Ethernet specifications. It provides an ideal solution to expand your Ethernet ports for all Network based applications.

2. Connector Layout



Features:

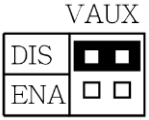
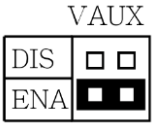
- ✓ Fully PCI Express Gen 2 Specification Compliant
- ✓ Supports Low Profile Form Factor
- ✓ Compliant with USB Specification 3.1 Gen 1
- ✓ Onboard Windows Drivers, no Extra Driver is Required for Installation in major Windows
- ✓ Adds 4 RJ45 Gigabit Ethernet Ports (10/100/1000M)
- ✓ A DIP Switch to Enable/Disable Each Port
- ✓ Supports IEEE 802.3, 802.3u, and 802.3ab, 802.1Q
- ✓ Supports IEEE 802.3az-2010 (Energy Efficient Ethernet)
- ✓ Supports Jumbo Frames up to 9K Bytes
- ✓ Supports Microsoft AOAC (Always On Always Connected)
- ✓ LEDs for Ethernet Status and Data Transferring Speed
- ✓ Supports Windows, Mac OS and Linux

J4: RJ45 Connectors and LED Indicators:

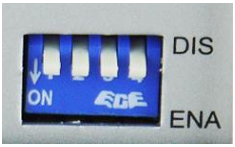
- **RJ45 Ethernet Connectors:** The 4 10/100/1000Mbps Ethernet ports. They support auto cross-over feature. You can use the same cable to connect to either a Hub/Switch or a host computer.
- **LAN LED Indicators:** There are 2 LEDs on each RJ45 connector, they are described as the following table:

LED Name	Color	LED Function
Link/Act	Green	**Steady on:** The Connection on the Ethernet port is built and Active **Blinking:** Transferring Ethernet Data **Off:** Ethernet Port Disconnected
Speed	Yellow	**Off:** 10/100Mbps Mode **Steady on:** Gigabit (1000Mbps) Mode

JP1: AUX Power Enable/Disable Settings

Jumper Position	Settings
	**Stand-by Power is disabled (Default):** The Product is not powered by the Stand-by power (3.3V AUX) when the system is powered off
	**Stand-by Power is enabled:** The Product is powered by the Stand-by power when the system goes to sleep or is powered down

Switch Description:



Switch Pin#	Ethernet Port Controlled	Switch Positions	Description
1	Port# 1	OFF	Disabled*
		ON	**Enabled* (Default)**
2	Port# 2	OFF	Disabled
		ON	**Enabled (Default)**
3	Port# 3	OFF	Disabled
		ON	**Enabled (Default)**
4	Port# 4	OFF	Disabled
		ON	**Enabled (Default)**

- ***Switch Pin# 1 also controls the onboard Windows drivers. When it is set ON, it enables the drivers. Otherwise, it disables the onboard Windows drivers.**

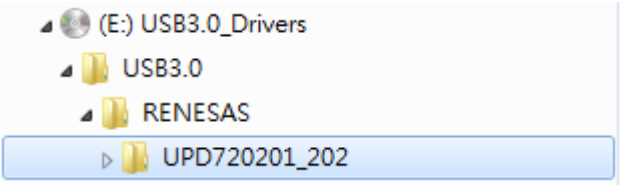
3. Installing the Product

Installing drivers for USB3.1 Gen 1 Host Adapter

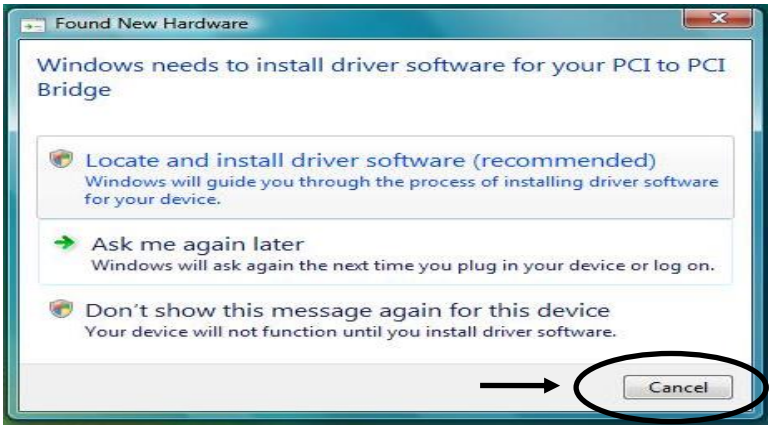
The Product has built-in a PCI Express USB3.1 Gen 1 host controller which may need drivers for early Windows. The following table gives a summary for the OS which need drivers. For Windows 8.x or above, they do not need any drivers due to their kernel supports USB3.1 Gen 1 directly.

OS	USB1.1 Supports (1.5Mbps, 12Mbps)	USB2.0 High Speed Supports (480Mbps)	USB3.0 Super Sped Supports (5Gbps)
Win XP	Yes	Yes	Yes
Vista	Yes	Yes	Yes
Windows 7	Yes	Yes	Yes

Note: The Required drivers are included in **E:*USB 3.0**RENESAS**UPD720201_202*** path on the driver CD:



1. When the first time the Product is installed, your Windows Wizard will detect this new hardware and display the dialog box as follows:



2. You have 2 choices to install the drivers. The first is to follow the instructions of the Windows' Wizard to complete the whole installations.

3. Or we strongly recommend you click "**Cancel**" to abort the Windows' Wizard installation and turn to run (by double-clicking) the Installer program (for example, **setup.exe** file) in the **E:*USB 3.0**RENESAS**UPD720201_202*** folder on the driver CD. Then follow the instructions of the installer program to complete the installations. The reason that we suggest to install with the Installer program is that you can uninstall with the same Installer Program once you need to do it.

Installing Drivers for Gigabit Ethernet Adapters

Review the settings of the 4-pin DIP switch. By default, all 4 switch pins are set ON to enable all 4 Gigabit Ethernet ports. It is OK if you don't care which port will be detected by the Windows first. However, because Windows usually tries to install all ports simultaneously and aligns them depends on which one is detected first. As a result, it won't guarantee the port numbers are aligned sequentially (e.g. 1, 2, 3, and 4 from the top of the PCIe bracket to the bottom). To solve this problem, you can use the DIP switch to enable the ports sequentially. Here is the procedure:

1. Set switch Pin 2, 3, 4 to OFF, only let Pin 1 is ON.
2. Turn the system power OFF before installation!
3. Use static electricity discharge precautions. To avoid damaging any components on the card, handle it by edges.
4. Remove the chassis cover from your computer
5. Locate an unused 4-lane (8-lane or 16lane) PCI Express slot (typically blue and longer) and remove the corresponding slot cover from computer chassis.
6. Plug the Quad Channel Ethernet PCIe card to the unused PCI Express expansion slot and attached the I/O card bracket to the computer chassis screw.
7. Turn ON the PC, Windows then will install the drivers automatically (the following dialog box will appear if this is first time you plug in the Product)

You will see only the Port 1 shown on Windows Device Manager, assigned as Ethernet Port #1

8. Set switch Pin 2 to ON while still keep Pin 3 and 4 at OFF, Windows then install the drivers for Port 2 and adds Ethernet Port #2 to its Device Manager
9. Set switch Pin 3 to ON, adds Ethernet Port #3
10. Set switch Pin 4 to ON, adds Ethernet Port #4

After installed the drivers for all ports, you are ready to plug the Network Cable to the RJ45 connectors of the Product.

4. Environmental Specifications

Power requirements:	3.3V DC, 1.1A (max)
Operating temperature:	0 to 558C (32 to 1318F)
Operating humidity:	5 to 95% RH