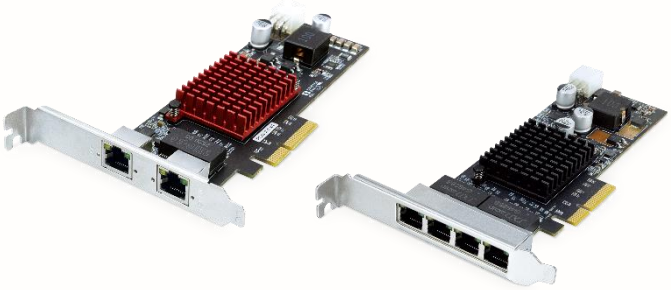
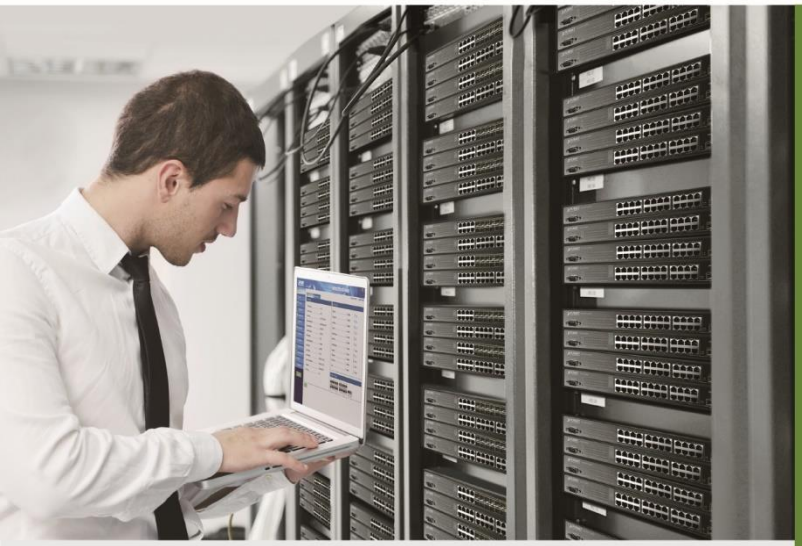
PLANET
Networking & Communication

User's Manual



Gigabit PoE Network Interface Card

ENW-9720P/ENW-9740P



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Trademarks

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FCC Warning

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 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 whose own expense.

CE Mark Warning

This is a Class B product. In a domestic environment, this product may cause radio interference, in which case the user may be required to take adequate measures.

WEEE Warning

To avoid the potential effects on the environment and human health as a result of the presence of hazardous substances in electrical and electronic equipment, end users of electrical and electronic equipment should understand the meaning of the crossed-out wheeled bin symbol. Do not dispose of WEEE as unsorted municipal waste and have to collect such WEEE separately.

Revision

User Manual of PLANET Gigabit PoE Network Interface Card

Models: ENW-9720P(V2) and ENW-9740P(V3)

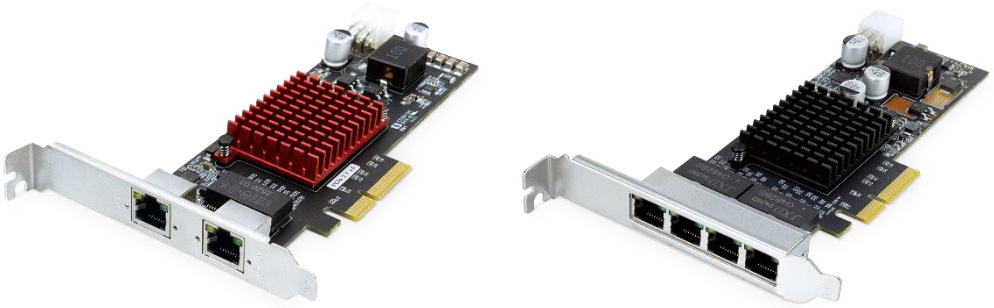
Revision: 2.0 (August 2025)

Part No.: EM-ENW-9720P_ENW-9740P_v2.0

Table of Contents

Chapter 1 Introduction

Thank you for purchasing PLANET ENW-9720P/ENW-9740P 2-/4-Port 10/100/1000T 802.3at PoE+ PCI Express (PCIe) server adapter. Both the ENW-9720P and ENW-9740P incorporate not only Intel server-grade GbE MAC Controller but also IEEE 802.3at with each port having up to 30W power. The 802.3at PoE+ PCI Express server adapter is a highly cost-effective solution to deliver Power over Ethernet to an industrial network of IP surveillance products such as cameras.



Simple Plug and Play PoE Solution for IPC System

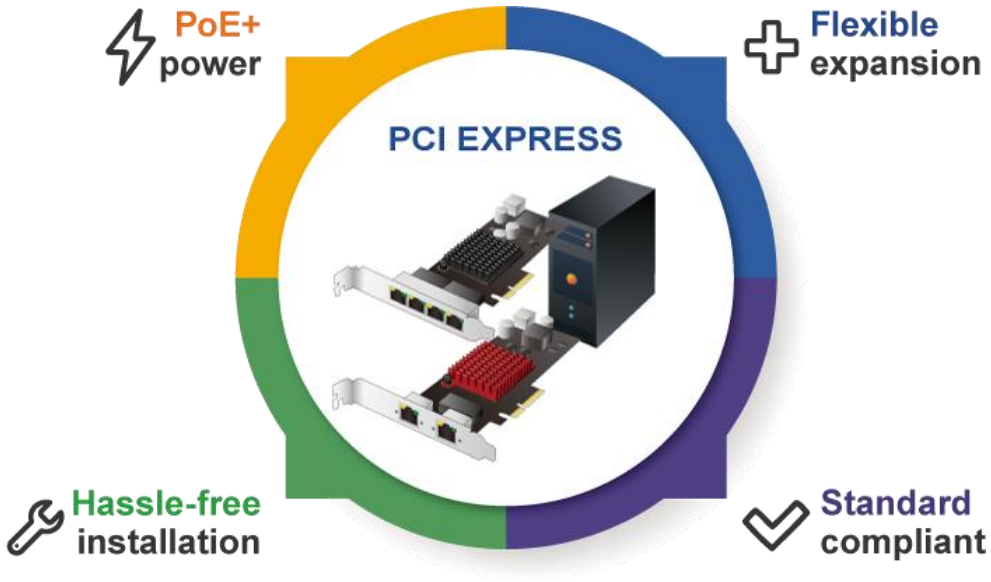
PLANET ENW-9720P is a **2-port 10/100/1000T 802.3at PoE+ PCI Express server adapter** with a maximum of up to **60 watts of power output** over Ethernet cables. ENW-9740P is a **4-port 10/100/1000T 802.3at PoE+ PCI Express server adapter** with a maximum of up to **120 watts of power output** over Ethernet cables. Incorporated with **Intel® I350** server-grade GbE Mac controller, the ENW-9720P/ENW-9740P provide superb performance to fulfill the requirements of **Industrial networks**. Compliant with **PCIe Express x4 interface (PCIe 2.1)**, the ENW-9720P/ENW-9740P can be easily installed into any IPC or server motherboard with a PCIe x4 slot, delivering reliable performance and compliance with industry standards.

Each port of the ENW-9720P/ENW-9740P can deliver **30W** of power and **1Gbps bandwidth** over a networking cable of up to **100 meters**. Its PoE+ capability can power not only **PTZ (pan, tilt and zoom) surveillance cameras**, but also the latest **Wi-Fi 6/6E/7 wireless access points**, enabling ultra-high-speed wireless connectivity for modern enterprise networks.

Hassle-free Installation for PoE Deployment

PLANET ENW-9720P/ENW-9740P are backward compatible with both **IEEE 802.3af/at PoE** standards which allow users to flexibly deploy standard and high-powered devices to transfer data and power simultaneously through one Ethernet cable for up to 100 meters. In addition, the ENW-9720P and ENW-9740P are powered by the **PCIe bus power** and via a **12V Mini-Fit 6-Pin power** connector, providing greater flexibility in installation.

With PoE technology, the ENW-9720P/ENW-9740P free IP cameras and wireless APs from power outlet and extra wiring limitations, reducing cabling, simplifying installation, and significantly saving deployment time.



Standard 802.1Q VLAN and Jumbo Frame Support

The ENW-9720P/ENW-9740P support **IEEE 802.1Q VLAN and 9.5K jumbo frame** which allow it to operate in a flexible and secure network environment. With IEEE 802.3 flow control support, it further optimizes throughput and wire-speed packet transfer performance without the risk of packet loss. The high data throughput of the device makes it ideal for most Gigabit Ethernet environments.

Multiple OS Support

The ENW-9720P/ENW-9740P operate completely well with most of the popular and latest operating systems including Microsoft Windows® 7/8/8.1/10/11(64-bit) Windows Server® 2008 R2/2012 / 2012 R2/2016/2019/2022/2025 and Linux Kernel 2.6.x to 6.x(RHEL / SLES supported, igb driver), enabling simple integration into network designs.

Low Profile Design

The ENW-9720P/ENW-9740P support both **full-height and low-profile** PCI Express slot. The ENW-9720P/ENW-9740P provide an accessory of low profile bracket to fulfill IPC with low profile slot. The flexibility of low profile design can help the ENW-9720P/ENW-9740P meet various applications of industrial networks.

1.1 Package Contents

Make sure your package contains the following items:

- 1 x ENW-9720P/ENW-9740P 10/100/1000T 802.3at PoE+ PCIe Server Adapter (with full-height bracket)
- 1 x Low Profile Bracket
- 6-Pin Mini-Fit Power Cable

If any of these are missing or damaged, please contact your dealer immediately. If possible, retain the carton including the original packing material, and use them again to repack the product in case there is a need to return it to us for repair.

1.2 Product Features

- Intel® server-grade GbE Mac Controller (Intel I350)
- PCI Express (PCIe) x4 interface, compliant with PCI Express 2.1 specification
- Supports 2 Gigabit Ethernet MAC Controller (ENW-9720P)

  Supports 4 Gigabit Ethernet MAC Controller (ENW-9740P)
- PXE network boot support
- IEEE 802.3at compliant with up to 30W power per port, maximum 60W power budget (ENW-9720P)

  IEEE 802.3at compliant with up to 30W power per port, maximum 120W power budget (ENW-9740P)
- PCI Express 12V power supply and optional 12V Mini-Fit 6-Pin power connector input
- Powered device (PD) auto detection and classification
- IEEE 802.1Q VLAN tagging support
- 9.5K jumbo frame size
- Dual-profile design (low profile and full-height bracket)
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab
- IEEE 802.3az Energy Efficient Ethernet (EEE)
- Compatible with Microsoft Windows® 7/8/8.1/10/11(64-bit) Windows Server® 2008 R2/2012 / 2012 R2/2016/2019/2022/2025 and Linux Kernel 2.6.x to 6.x(RHEL / SLES supported, igb driver)

1.3 Product Specifications

Product	ENW-9720P	ENW-9740P
Hardware Specifications		
Controller	Intel I350AM2	Intel I350AM4
Interface	2 x RJ45	4 x RJ45
LED Indicator	LNK/ACT: Green PoE-in-Use: Amber	
Data Rate	10/100/1000Mbps	
Dimensions (WxDxH)	163 x 22 x 120 mm	163 x 22 x 120 mm
Weight	100 g	113 g
PCIe Bus Type	PCI Express x4, compliant with PCIe 2.1	
Power Supply	PCIe 12V bus power and 12V Mini-Fit 6-Pin power connector	
Typical Power Consumption	Max. 3 watts/ 10.23BTU (No Loading) Max.63 watts/ 214.83BTU (Full loading)	Max. 3 watts/ 10.23BTU (No Loading) Max.123 watts/ 419.43BTU (Full loading)
Power over Ethernet		
PoE Standard	IEEE 802.3at Power over Ethernet (PSE)	
PoE Power Supply Type	End-span	
PoE Power Output	Per port up to 52 VDC, max. 30 watts	
Power Pin Assignment	1/2(+), 3/6(-)	
Single PoE Output	30 watts	
PoE Power Budget	60-watt maximum	120-watt maximum
Advanced Functions		
Layer 2 Features	IEEE 802.1Q VLAN support PXE Network Boot	
Operating System Support	Windows® 7/8/8.1/10/11(64-bit) Windows Server® 2008 R2/2012 / 2012 R2/2016/2019/2022/2025 Linux Kernel 2.6.x to 6.x(RHEL / SLES supported, igb driver)	
Standards Conformance		
Standards Compliance	IEEE 802.3 10BASE-T Ethernet IEEE 802.3u 100BASE-TX Fast Ethernet IEEE 802.3ab 1000BASE-T Gigabit Ethernet IEEE 802.1Q VLANs IEEE802.3x Flow Control	

	IEEE802.3af Power over Ethernet IEEE802.3at Power over Ethernet Plus IEEE 802.3az Energy Efficient Ethernet (EEE)
Regulatory Compliance	FCC Part 15 Class B, CE
Environment	
Operating Temperature	-10 ~ 60 degrees C
Storage Temperature	-40 ~ 70 degrees C
Operating Humidity	5 ~ 90%, relative humidity, non-condensing
Storage Humidity	5 ~ 90%, relative humidity, non-condensing

1.4 Gathering Tools and Documentations

To install the ENW-9720P/ENW-9740P Gigabit PoE server adapter, you will need the following items:

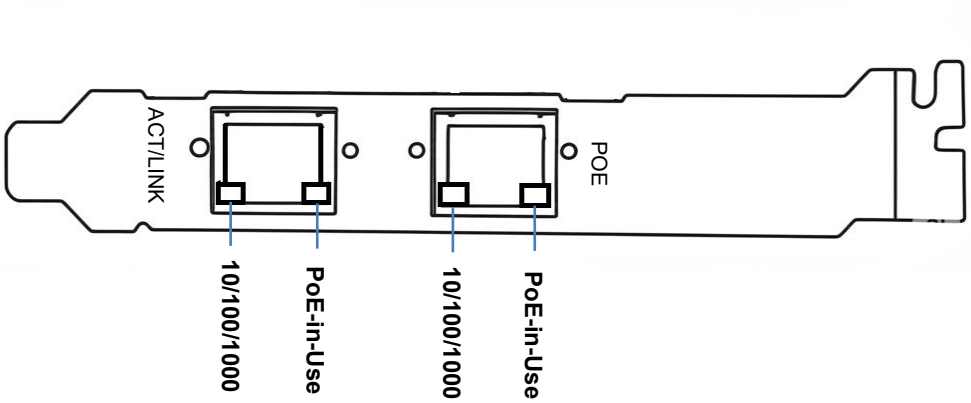
- A suitable screw driver
- Your operating system documentation
- Your system unit documentation, including any service documentation

Chapter 2 Hardware Installation

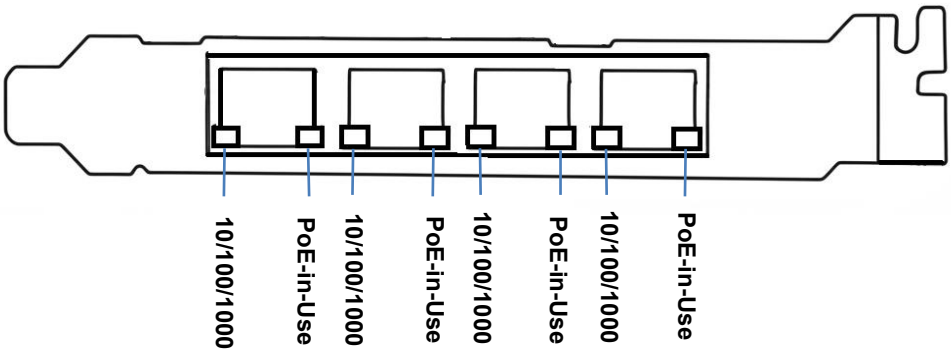
2.1 LED Definition

Below are the pictures of the face plates of the ENW-9720P and 9740P, consisting of two LEDs: PoE-in Use and Link/ ACT.

- **ENW-9720P**



- **ENW-9740P**



LED	Color	STATUS	FUNCTION
10/100/1000 LNK/ACT	Green	Lights	To indicate the port is successfully established.
		Blink	To indicate that the network adapter is actively sending or receiving data over that port.
PoE-in-Use	Amber	Lights	To indicate the port is providing DC in-line power.
		Off	To indicate the connected device is not a PoE PD.

2.2 System Requirement

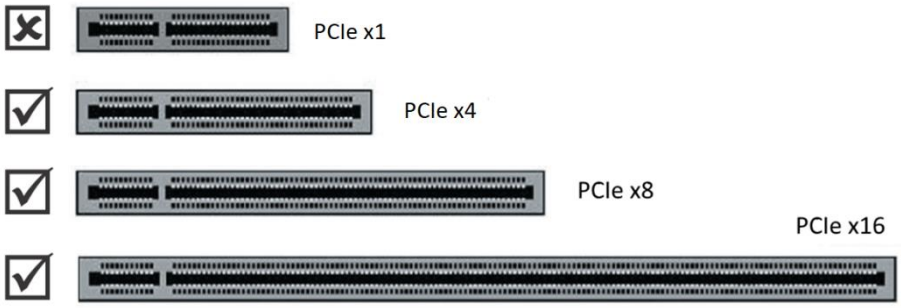
- PCIe support

  ENW-9720P: The Server/Workstation supports PCIe v2.1 (5GT/s) x4 interface.

  ENW-9740P: The Server/Workstation supports PCIe v2.1 (5GT/s) x4 interface.

Note

Shown below are different PCIe Slots. The ENW-9720P/ENW-9740P is compatible with PCIe 2.1 x4 slot or larger.



- Power Supply support

  The power requirement relies on the power usage of the total computer components. When you calculate power supply for PoE server adapter, we recommend you to reserve an additional **60W** power for the ENW-9720P and **120W** power for the ENW-9740P.

- Operating Systems Supported:

  Windows® 7 (64-bit)

  Windows® 8 / 8.1 (64-bit)

  Windows® 10 (64-bit)

  Windows® 11 (64-bit)

  Windows Server® 2008 R2

  Windows Server® 2012 / 2012 R2

  Windows Server® 2016

  Windows Server® 2019

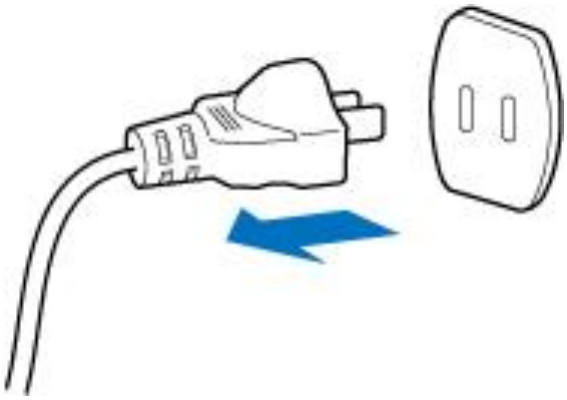
  Windows Server® 2022

  Windows Server® 2025

  Linux Kernel 2.6.x – 6.x (RHEL / SLES supported, igb driver)

2.3 Hardware Installation

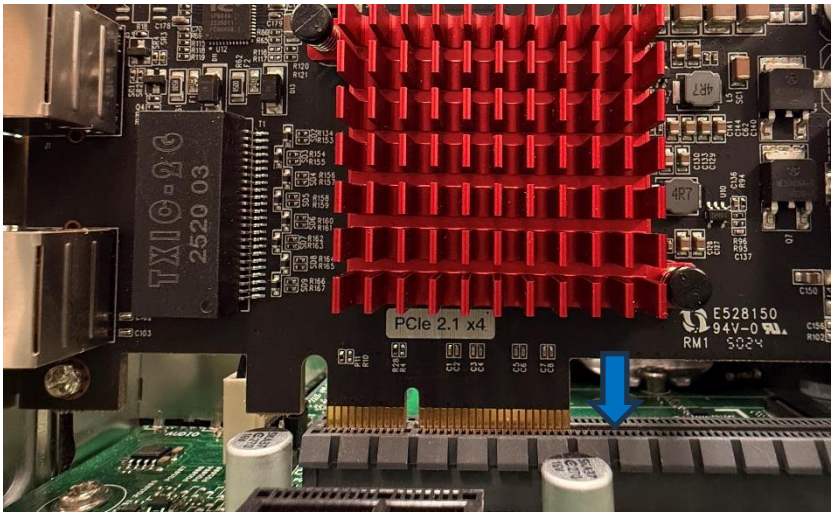
Step 1: Please **turn off** your PC.



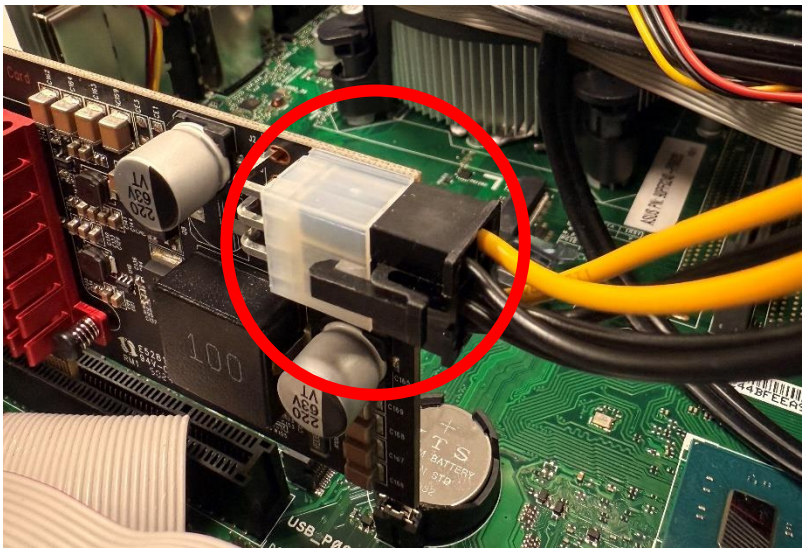
Step 2: Remove any metal decorations from your hands and wrists.

Step 3: Remove the cover from your PC.

Step 4: Locate an empty PCIe slot and carefully insert the 802.3at PoE+ PCIe server adapter into the chosen slot firmly.



Step 5: If the ENW-9720P or ENW-9740P is installed, please plug in firmly the 6-Pin Mini-Fit Power Cable .



Step 6: Secure the 802.3at PoE+ PCIe server adapter with the screw.

Step 7: Replace the PC cover.

Step 8: Power on your PC and refer to the next section to install driver.

Chapter 3 Support / Driver Download

The ENW-9720P and ENW-9740P are designed with **Intel® I350** controller.

To ensure compatibility with multiple operating systems, please download the driver package below.

Operating System	**Driver Availability**	**Installation Method**
Windows 7 / 8 / 8.1	Included in driver package (NDIS65 / NDIS68)	Manual installation required
Windows Server 2008R2 / 2012	Included in driver package (NDIS65 / NDIS68)	Manual installation required
Windows 10 / 11	Windows Update (auto) or driver package (W11)	Auto-install via Windows Update, or manual installation if not detected
Windows Server 2016 / 2019 / 2022 / 2025	Windows Update (auto) or driver package (WS2022 / WS2025)	Auto-install via Windows Update, or manual installation if not detected
Linux (Kernel 2.6.x ~ 6.x)	igb driver (kernel built-in) or driver package (source/RPM)	Usually auto-installed in kernel, otherwise compile/install from package

Driver for the ENW-9720P and ENW-9740P

https://www.planet.com.tw/en/support/downloads?&method=keyword&keyword=ENW-97&view=4#list

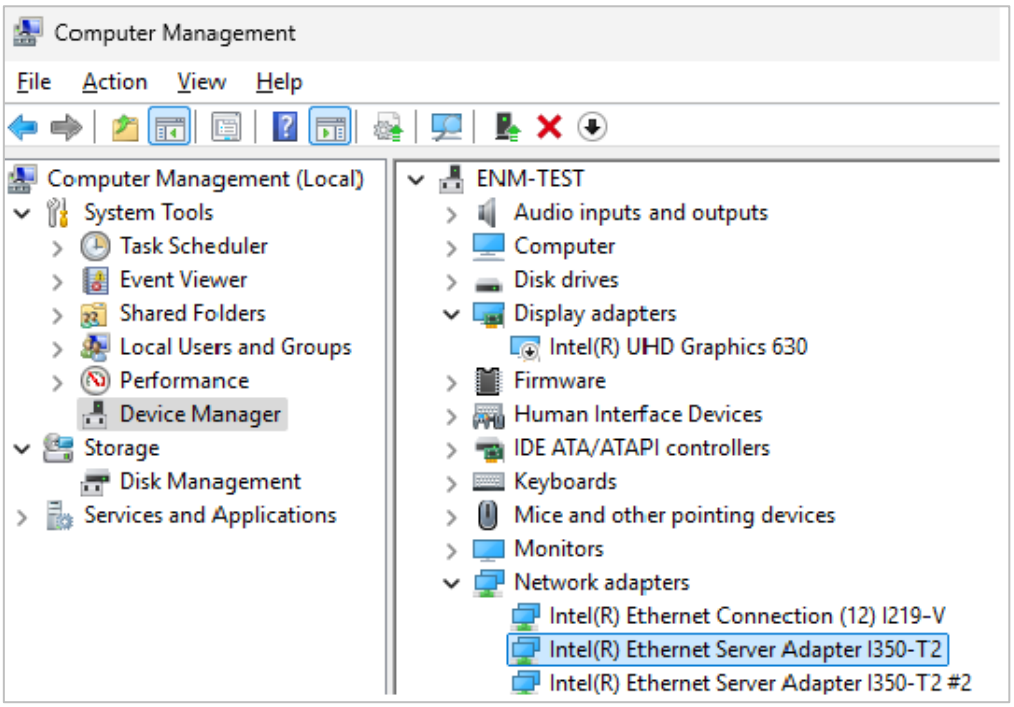
For the latest Intel updates, please visit:

Intel® Ethernet Adapter Complete Driver Pack

3.1 Windows 10/11 and Windows Server 2016/2019/2022/2025

On most systems, the driver is delivered by Windows Update. If the adapter is not detected automatically, install the driver manually:

1. Open **Device Manager** → **Network adapters**.
2. Right-click the adapter and select **Update driver** → **Browse my computer for drivers** → **Let me pick** (if needed).
3. **Browse** to the extracted driver folder and click **Next** to install.
4. Verify the device shows as an Intel® I350-based adapter under **Network adapters**.



3.2 Windows 7/8/8.1 and Windows Server 2008 R2/2012/2012 R2

These operating systems require a manual installation using the provided package. Follow the same steps as above to browse to the driver folder and complete installation.

3.3 Linux (Kernel 2.6.x–6.x) – igb Driver

Most distributions include the igb driver in the kernel.

Check detection: lspci | grep -i i350 , ip link

Check driver info: ethtool -i <iface> , modinfo igb

Load the module (if needed): sudo modprobe igb

If your distribution does not include a suitable version, build from source using your distro's toolchain.

3.4 Post-Installation Checks & Troubleshooting

- **Windows:** Device Manager → Network adapters → Intel® I350-based adapter present; **Properties** → **Driver** shows a loaded driver.
- **Linux:** dmesg | grep igb shows the interface created without errors; ip link reports the interface **UP**.
- If the adapter is not listed, re-seat the card, confirm PCIe x4 slot availability, and verify PSU capacity for PoE operation.

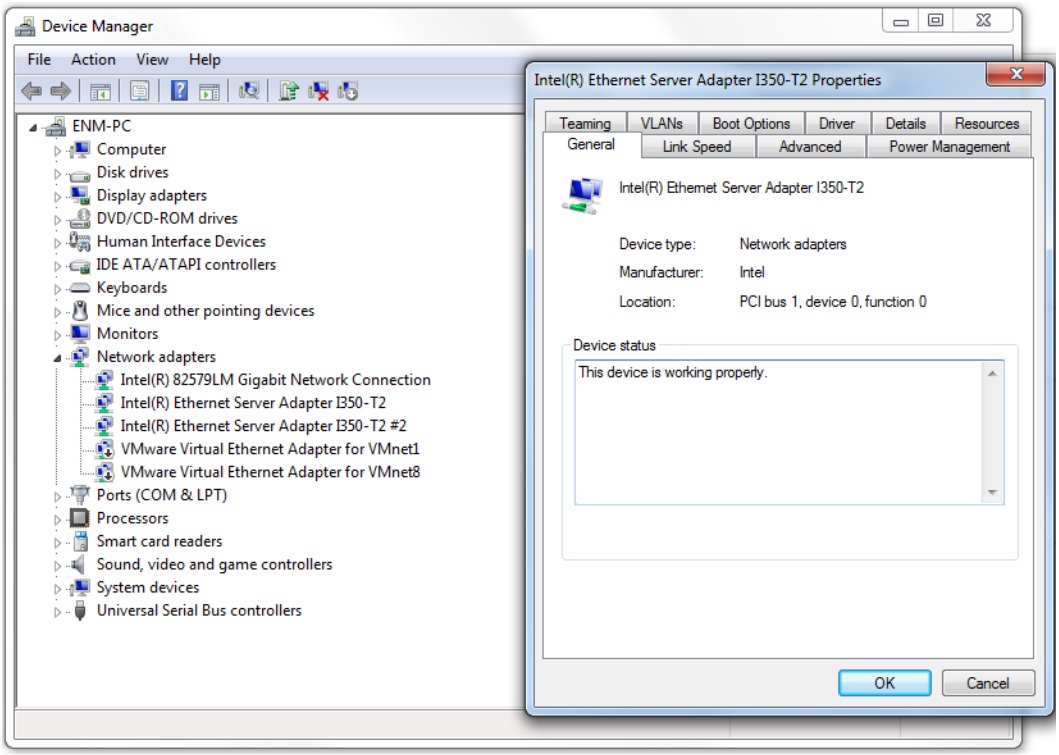
Chapter 4 Driver Configuration

The ENW-9720P and ENW-9740P provides Gigabit Ethernet connectivity with Intel I350 GbE controller. When connecting to high-speed PoE devices, such as a Gigabit camera or 802.11ac access point, we recommend that you can configure some driver settings to have better performance and connection stability.

4.1 Jumbo Frame

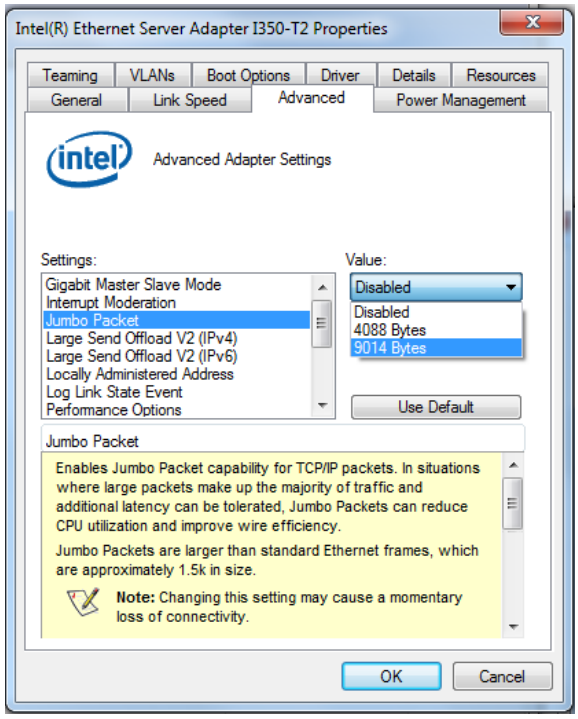
Jumbo frames are Ethernet frames with more than 9500 bytes of payload. By increasing the payload size, a certain large amount of data can be transferred with less interruption generated, thus reducing the CPU utilization and increasing overall data throughput. You can modify the jumbo frame settings when connecting a high-speed PoE device.

Step 1: Open the Device Manager of Computer Management and click the right button of **Intel(R) Ethernet Server Adapter I350-T2** and select Property.



Step 2: Click on the **Advanced** tab and select the **Jumbo Packet** settings

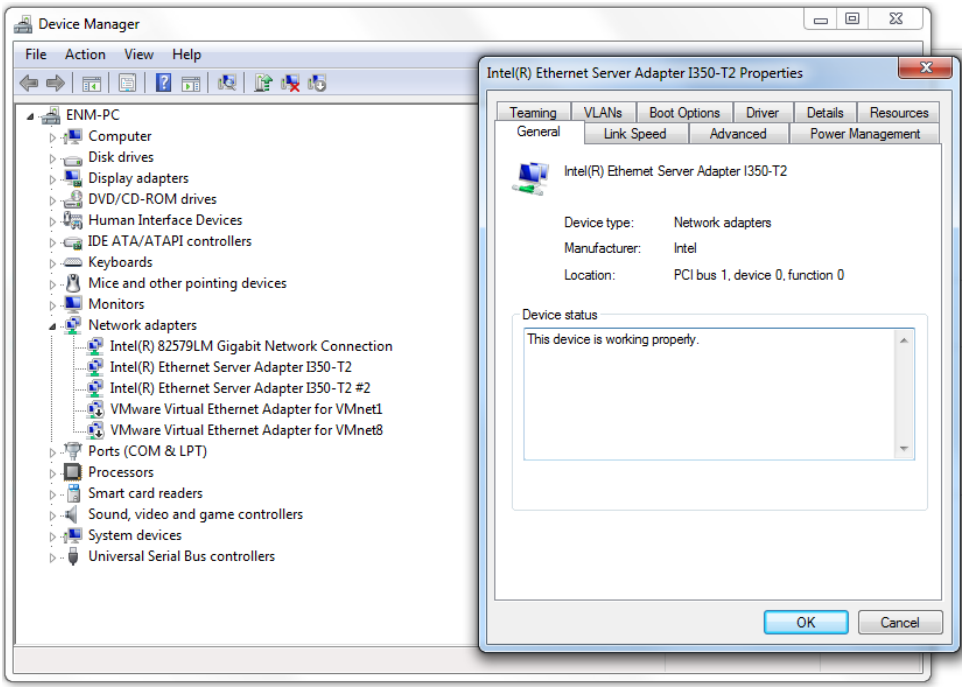
Step 3: Select the expected jumbo frame size (for connecting a Gigabit Ethernet device; 9014 bytes is suggested.).



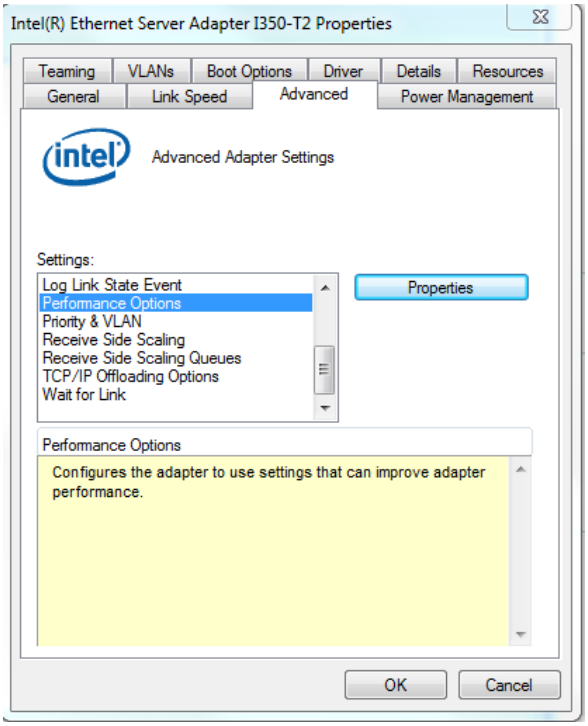
4.2 Receive Buffer

Receive Buffers is the buffer size of system memory that can be used by the adapter for received packets, which can be increased to help improve the performance of outgoing network traffic, but it consumes system memory. The default settings of receive buffer is 256 bytes. You can set this option to a larger value (maximal 2048 bytes) for better performance.

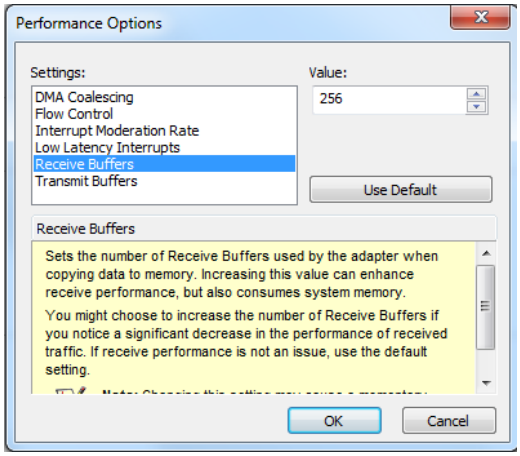
Step 1: Open the Device Manager of Computer Management and click the right button of **Intel(R) Ethernet Server Adapter I350-T2** and select Property.



Step 2: Click on the **Advanced** tab and select the **Performance Options** settings



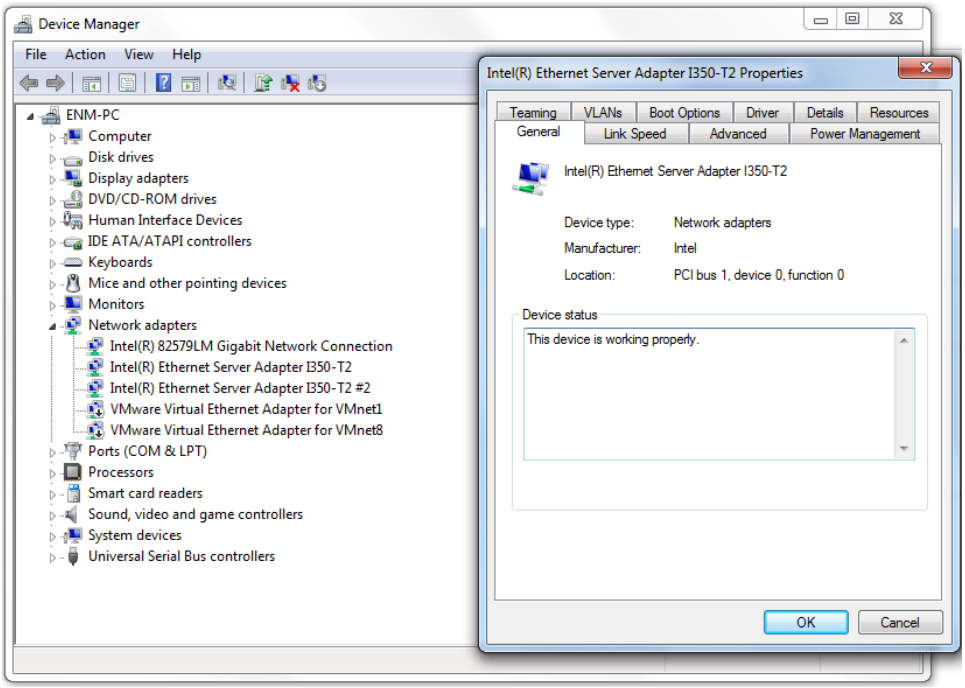
Step 3: Adjust the value of **Receive Buffers** (for connecting a Gigabit Ethernet device; 2048 bytes is suggested.).



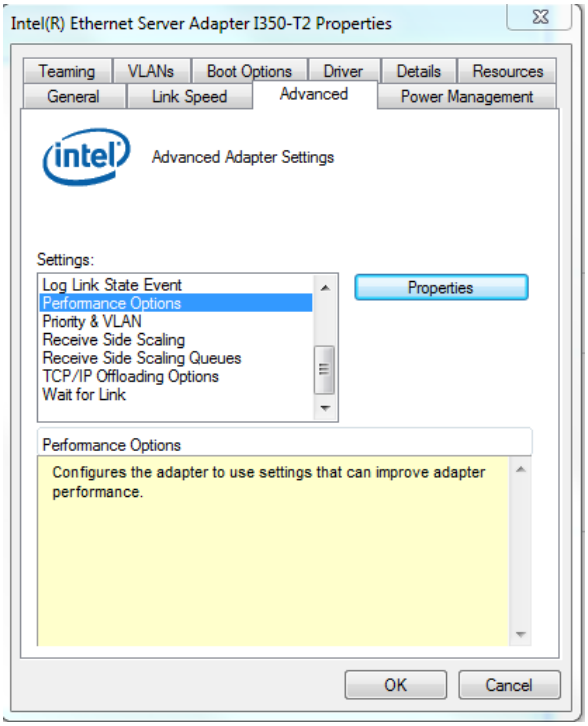
4.3 Transmit Buffers

Transmit Buffers is the buffer size of system memory that can be used by the adapter for sending packets, which can be increased to help improve the performance of outgoing network traffic, but it consumes system memory. The default settings of receive buffer is 512 bytes. You can adjust the size of transmit buffer to a larger value (maximal 2048 bytes) for better performance.

Step 1: Open the Device Manager of Computer Management and click the right button of **Intel(R) Ethernet Server Adapter I350-T2** and select Property.



Step 2: Click on the **Advanced** tab and select the **Performance Options** settings.



Step 3: Adjust the value of **Transmit Buffers** (for connecting a Gigabit Ethernet device; 2048 bytes is suggested.).