PLANET
Networking & Communication

User's Manual



PCI Express 10G Ethernet Adapter

- ENW-9801/ENW-9803



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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's Manual of PLANET 10Gbps PCI Express Server Adapter

FOR MODELS: ENW-9801 and ENW-9803

REVISION: 2.3 (April 2017)

Part No.: EM-ENW9801v2_ENW9803v2_v2.3 (2080-A14100-002)

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Chapter 1 Introduction

Thank you for purchasing PLANET ENW-9801/ENW-9803 PCI Express 10 Gigabit Ethernet adapter. It supports x4, PCI Express interface. The 10 Gigabit Ethernet adapter provides a highly cost-effective solution to upgrading to the 10 Gigabit network with your existing Ethernet infrastructures. Especially, the new version of ENW-9803 has been upgraded to using with Marvell 88X3310P PHY, which is a low-power, high-performance NBASE-T PHYs device that supports IEEE 802.az Energy Efficient Ethernet (EEE). The new ENW-9803 NIC adapter's reference design supports auto-negotiation for allowing the NBASE-T solution to optimally select the best and flexible speed like 10 Gigabit Ethernet (10GbE), 5 Gigabit Ethernet (5GbE), 2.5 Gigabit Ethernet (2.5GbE), 1Gigabit Ethernet (GbE) or 100 Megabit Ethernet (100MbE) over Cat5e/Cat6 or better cabling.



Next-generation Server Adapter for Expansion of Networking Environments

The ENW-9801/ENW-9803 PCI Express 10G Ethernet adapter is designed to address high-performance system application requirements. With the innovative PCI Express Bus architecture, the ENW-9801/ENW-9803 provides better performance than the network cards based on 32/64bit PCI architecture. It provides the best solution for one of the major issues of Server Farm Networks -- communication speed. PLANET ENW-9801/ENW-9803 is designed to connect your servers and workstations, and guarantees its extremely high throughput and excellent signal quality.

10GbE Device Designed for Low-power, Low-cost and Single-port Applications

The ENW-9801/ENW-9803 is an optimized 10GbE device designed for low-power, low-cost and single-port applications required in application servers, high-end workstations and personal computers. This makes it ideal for enabling 1GbE to migrate to 10GbE for bandwidth-intensive workstation

applications and low-end to mid-range network appliances. With the innovative PCI Express Bus architecture, it offers increased bandwidth, reliability and additional functionality compared with standard GbE network cards. The performance of throughput at rates up to 20Gbps is unbelievable, thus eliminating the bottleneck that exists with the current Gigabit network.

Standard 802.1Q VLAN Support

Moreover, the ENW-9801/ENW-9803 supports IEEE 802.1Q VLAN which allows it to operate in a flexible and secure network environment. With 9K jumbo frame ability and IEEE 802.3 flow control support, it further optimizes throughput and wire-speed packet transfer performance without risk of packet loss. The high data throughput of the device makes it ideal for most 10 Gigabit Ethernet environments.

Multiple OS Support

The ENW-9801/ENW-9803 operates completely well with most of the popular and latest operating systems including **Microsoft Windows Server**, **Linux** and **VMware**, enabling simple integration into network designs. There is no need of any modification to the server's operating system or any special software required for the ENW-9801/ENW-9803 to be integrated into the system.

1.1 Package Contents

Make sure your package contains the following items:

- 1 x ENW-9801/ENW-9803 10 Gigabit Ethernet Adapter (with long profile bracket)
- 1 x Quick Installation Guide
- 1 x CD-ROM (including this User's Manual, Quick Installation Guide and Driver)
- 1 x Low Profile Bracket

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 Features

- PCI Express rev. 2.0 specification x4 Interface
- Complies with IEEE 802.3an 10GBASE-T, IEEE 802.3ab 1000BASE-T, IEEE 802.3u 100BASE-TX,
- Complies with IEEE P802.3bz (NBASE-T) 5GBASE-T and 2.5GBASE-T
- IP, TCP, UDP checksum offloading
- IEEE 802.1Q VLAN ID tagged/IEEE 802.1q QoS
- Reduced CPU utilization and improved throughput
- Wake-on-LAN
- 9K jumbo frame size
- IEEE 802.3x full-duplex flow control
- Complies with Microsoft and Linux platforms

1.3 Gathering Tools and Documentations

To install the ENW-9801/ENW-9803 10 Gigabit Ethernet adapter, you 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 faceplates of the ENW-9801, consisting of one LED: Link / ACT. Table 1 explains the function and state of the LED.

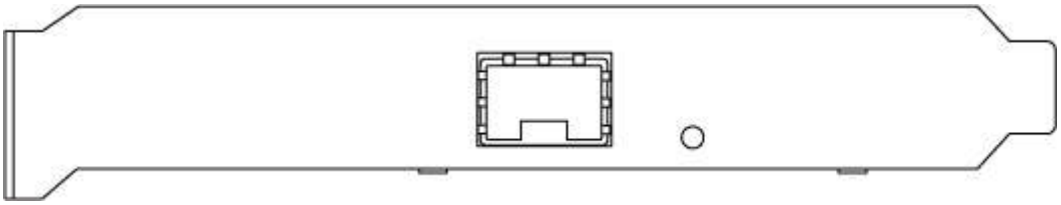


Figure 1: Long Profile Bracket of ENW-9801

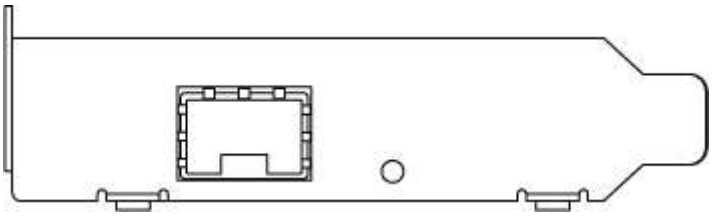


Figure 2: Low Profile Bracket of ENW-9801

LED	Color	Description
LNK/ACT	**Green**	When lit, it indicates a functional network link through the port. When blinking fast, it indicates data is transmitting and receiving through the port.

Table 1: Descriptions of the ENW-9801 LED

Below are the pictures of the faceplates of the ENW-9803, consisting of two LED: Link and ACT. Table 2 explains the function and state of the LED.

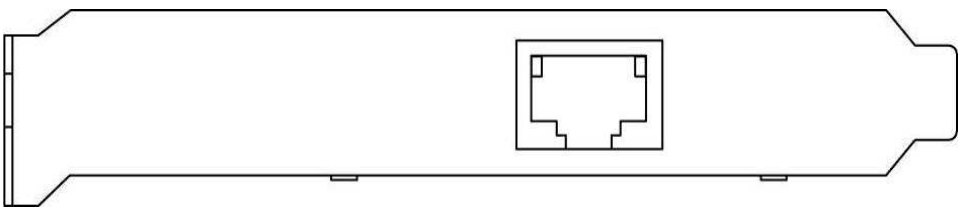


Figure 3: Long Profile Bracket of ENW-9803

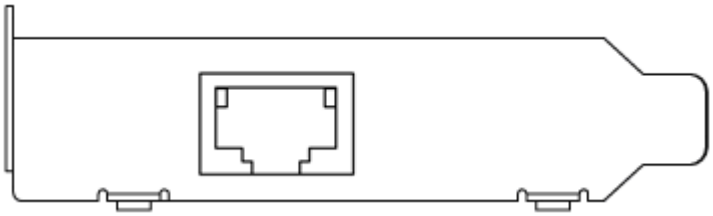


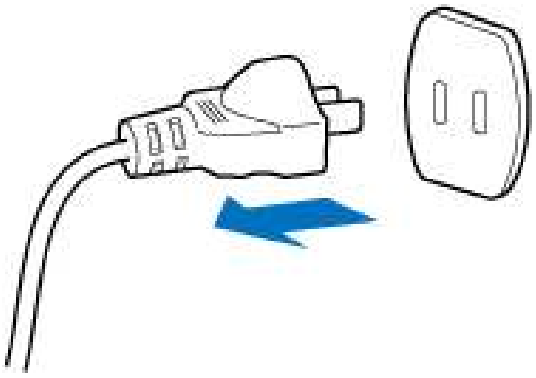
Figure 4: Low Profile Bracket of ENW-9803

LED	Color	Description
Link Speed	**Orange**	Indicates the link is established at 10Gbps full duplex mode.
	Green	Indicates the link is established at 5G/2.5G/1Gbps full duplex mode.
	OFF	Indicates the link is established at 100Mbps full duplex mode.
Active	**Green**	When blinking, it indicates data is transmitting and receiving through the port.

Table 2: Descriptions of the ENW-9803 LED

2.2 Hardware Installation

Step 1: Please turn off your PC.

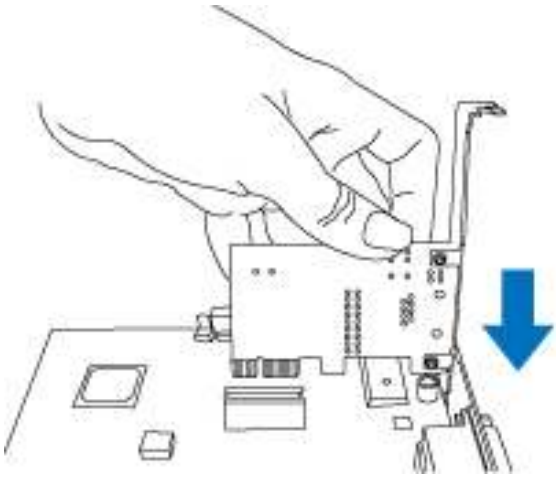


Step 2: Remove any metal decorations from your hands and wrists.

Step 3: Remove the cover from your PC.

Step 4: Locate an empty PCI Express slot and remove the corresponding back plate. Save the screw for use in Step 6.

Step 5: Carefully insert the 10 Gigabit Ethernet adapter into the chosen slot and press firmly with proper push to ensure it is fully seated in the slot.



Step 6: Secure the 10 Gigabit Ethernet adapter with the screw you saved in step 4.

Step 7: Replace the PC cover.

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

Chapter 3 Driver Installation

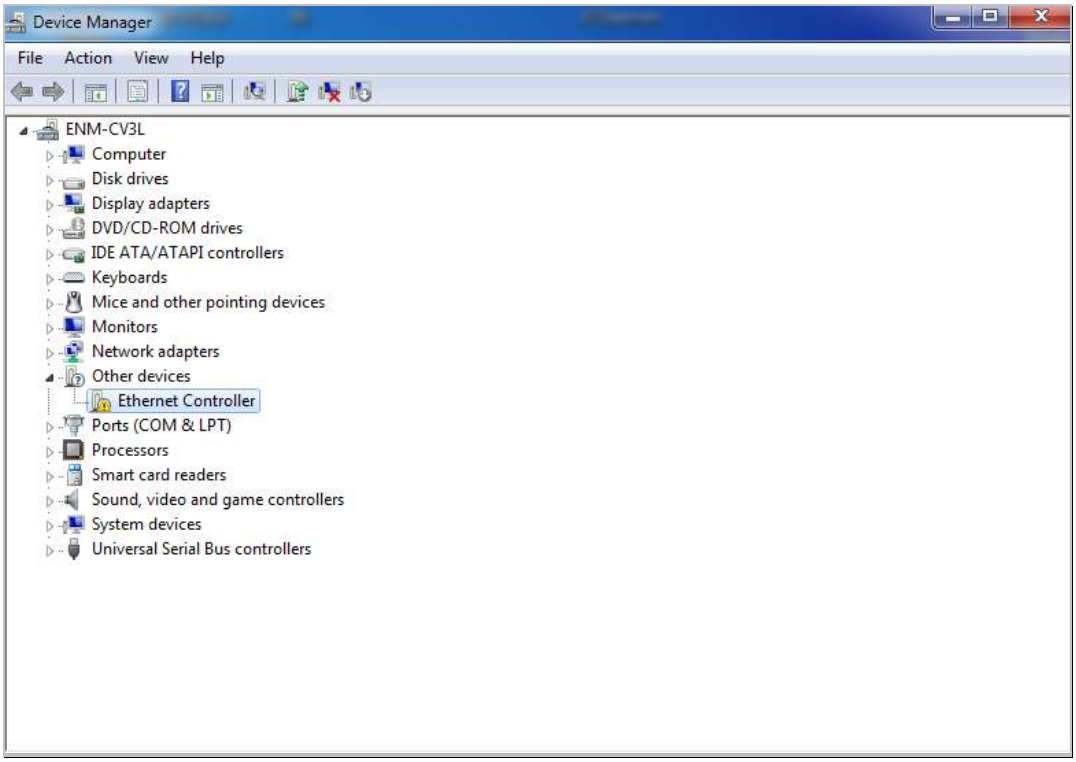
A device driver must be installed before your ENW-9801/ENW-9803 can be used with your computer. This chapter describes how to install the driver for various operating systems. Before you begin the driver installation process, make sure you have the installation disks for your computer's operation system.

3.1 Installing Driver on Windows 7/8/10/Server 2008 and 2012

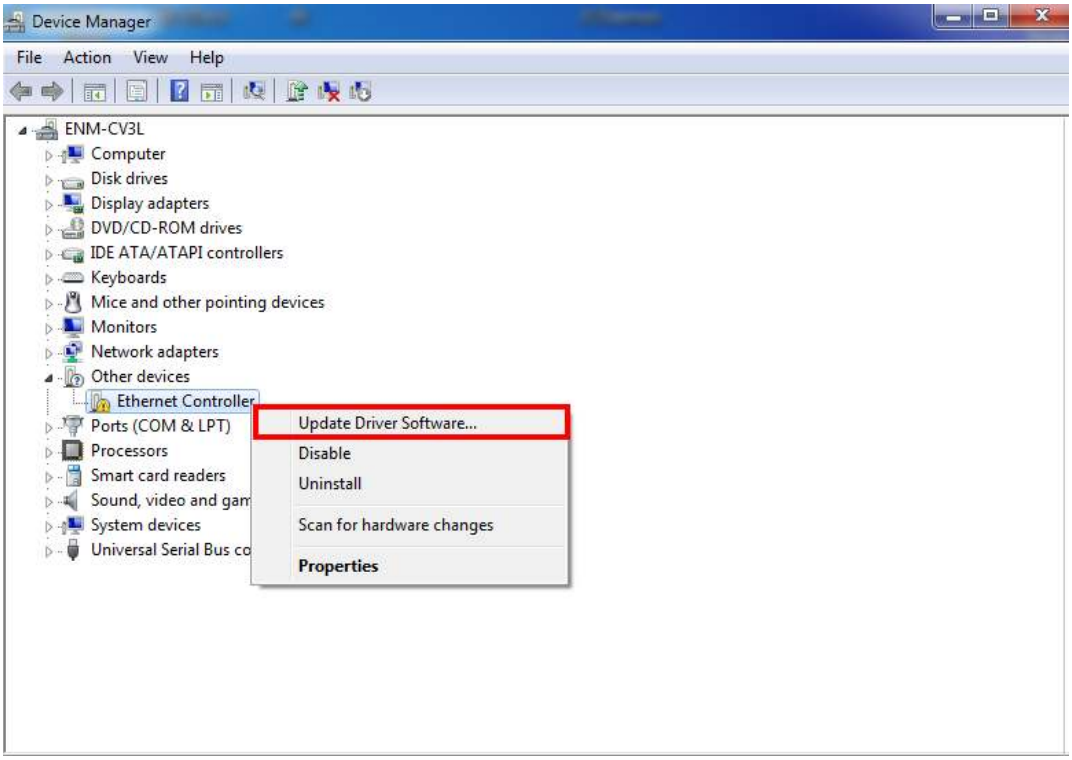


The installation of the following ENW-9801/ENW-9803 operates under Windows 7; the Installation procedures are similar to those of the Windows 8/10, Windows Server 2008, Windows Server 2012 and Windows Server 2016.

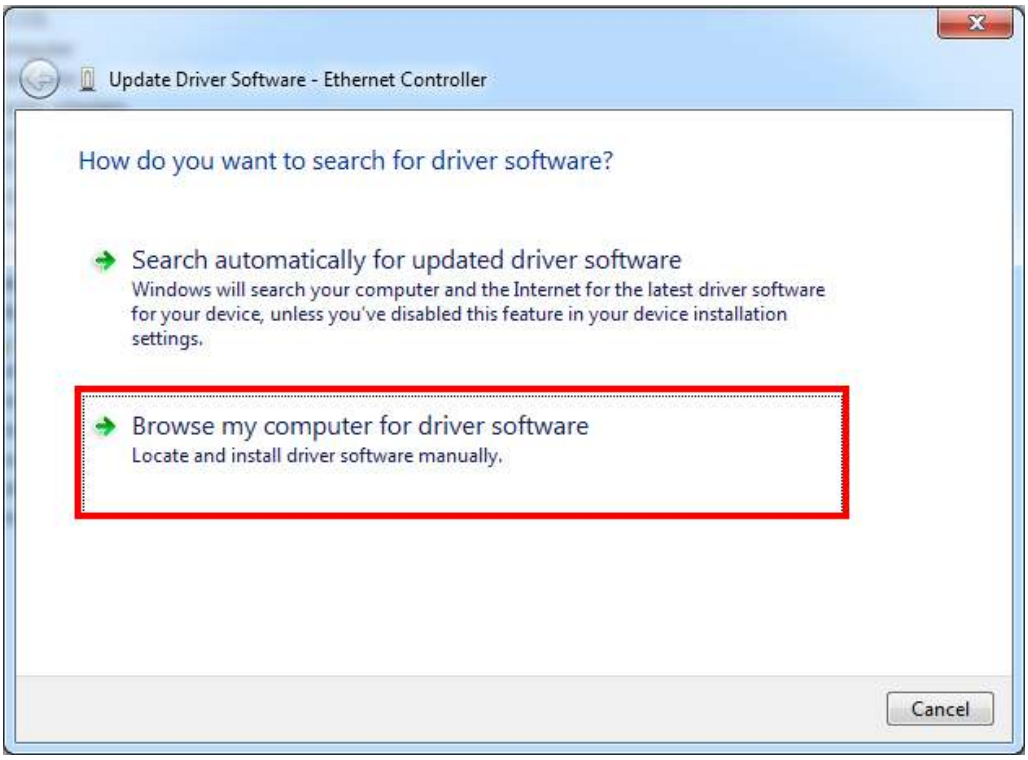
1. After installing the ENW-9801/ENW-9803 on your PC and booting it up, Windows 7 will detect it and you have to install the driver.



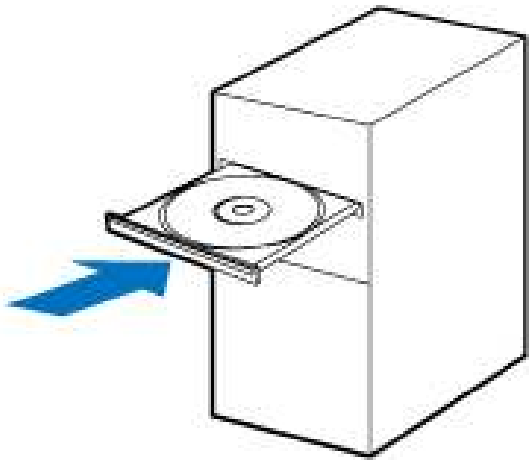
2. Please move and right-click the mouse button for Ethernet Controller item and select **"Update Driver Software"**



3. Please select **"Browse my computer for driver software"** for the next step.



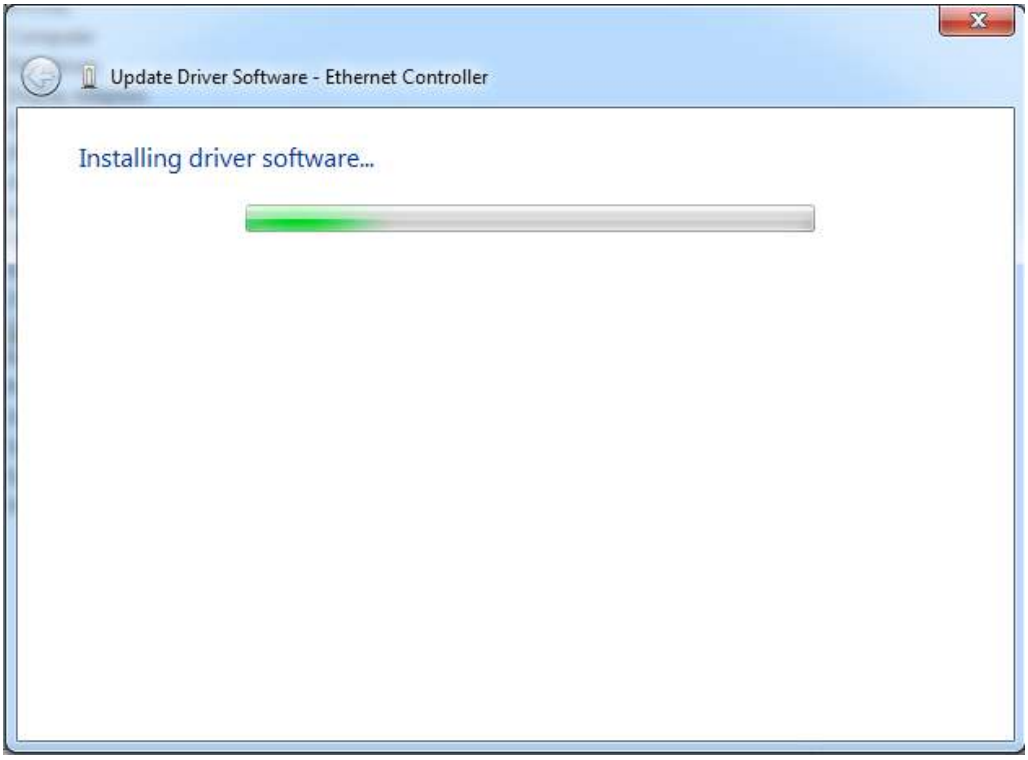
4. Insert the bundled CD into the CD-ROM driver.



5. Please click **"Browse"** to specify the driver location to install. (Assume **"E"** is your CD-ROM drive; the driver can be found in E:). Click **"Next"** to continue.



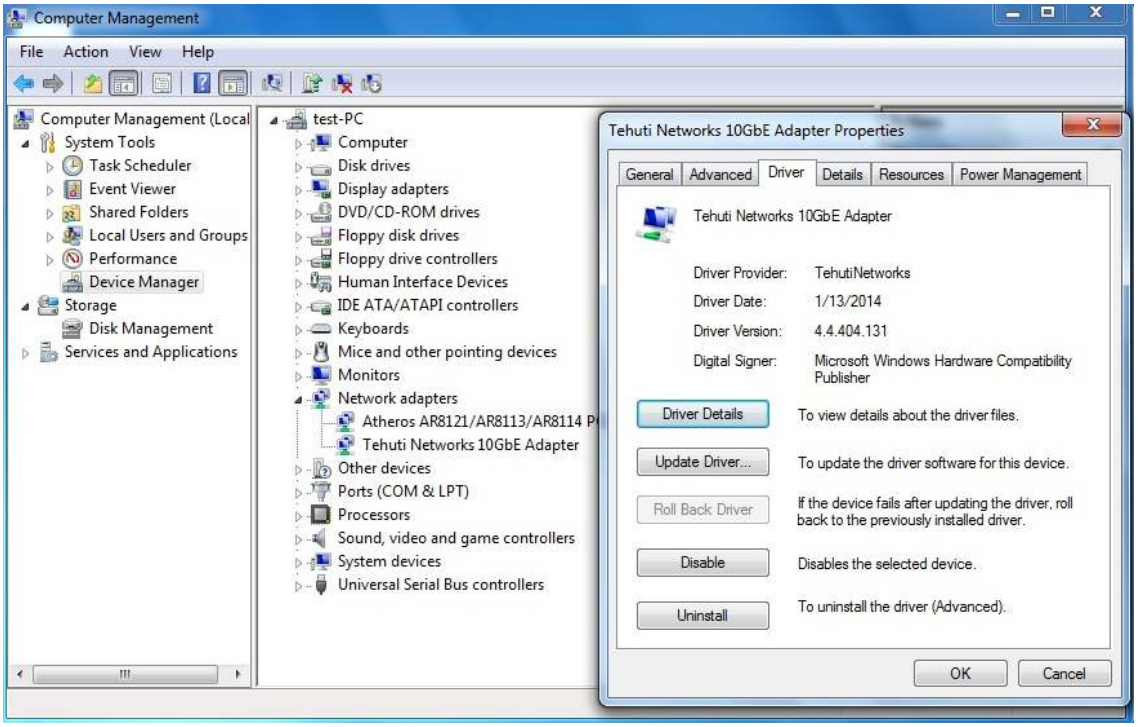
The driver is installing…



6. Click the **"Close"** button to complete the driver installation.



For more details, please refer to the manual found on the CD-ROM.



Chapter 4 Specifications

Product	**ENW-9801**	**ENW-9803**
Hardware Specifications		
Attachment Interface	PCI Express rev. 2.0 specification x4 interface	
Optical Module Options	LRM, LR, SR	NA
NBASE-T Support	NA	YES
Memory	1Mbit internal memory	
Jumbo Frame	4K/9K bytes	
LED Indicators	**LNK** / **ACT:** Green	**Link Speed:** 10GBASE-T: Orange 5GBASE-T: Green 2.5GBASE-: Green 1000BASE-TX: Green 100BASE-T: None **Active:** Green
Dimensions (W x D x H)	62 x 83 x 22 mm	82 x 120 x 22 mm
Weight	47g	45g
Typical Power Consumption	5 watts	
Advanced Functions		
Layer 2 Features	IEEE 802.3x Flow Control support IEEE 802.1Q VLAN support	
Operating System Support	Windows Server 2012 64bits Windows Server 2016 64bits Windows 7 32/64bits Windows 8 32/64bits Windows 10 32/64bits Linux 2.6.x, Linux 4.x VMware® 6.0	
Standards Conformance		
Regulatory Compliance	FCC Part 15 Class B, CE	
Standards Compliance	IEEE 802.3ae IEEE 802.3an IEEE P802.3bz IEEE 802.3ab IEEE 802.3u IEEE 802.3x IEEE 802.1Q	10GBASE-X Ethernet over Fiber (ENW-9801) 10GBASE-T Ethernet (ENW-9803) 5/2.5GBASE-T Ethernet (ENW-9803) 1GBASE-T Ethernet (ENW-9803) 100BASE-TX Ethernet (ENW-9803) Flow control and back pressure VLAN tagging
Environment		
Operating	Temperature: 0 ~ 50 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	
Storage	Temperature: -10 ~ 85 degrees C Relative Humidity: 5 ~ 95% (non-condensing)	