

User's Manual

ENW-9701

PCI-E Single Port Gigabit Fiber Adapter

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FCC Caution

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.

Revision

User's Manual for PLANET PCI Express Single Port Gigabit Fiber Adapter For Model: ENW-9701 Revision: 1.0 (March.2011) Part No. EM-ENW9701_v1.0 (2080-A14110-000)



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Chapter 1 Introduction

PLANET ENW-9701 PCI Express Gigabit Fiber adapter can provide the best solution for one of the major issues of Local Area Networks - communication speed. Ten times as fast as the existing 100Base-TX solutions, using the PLANET ENW-9701 to connect your servers and workstations guarantees extremely high throughput and excellent signal quality.

The ENW-9701 is a PCI Express Gigabit Fiber Port adapter designed to address high-performance system application requirements. With the bandwitdh of x1 PCI Express Bus Architecture, ENW-9701 can provide better performance than the network cards which base on 32/64bit PCI architecture. It is specifically designed to allow throughput at rates up to 2.5Gbps, thus eliminating the existing 32/64bit PCI network card.

1.1 Package Content

Check that your package contains the following items:

- ✓ 1 x ENW-9701 Gigabit Fiber Adapter
- ✓ 1 x Quick Installation Guide
- ✓ 1 x CD-ROM Manual / Driver

Please contact the seller if any of the items is missing or damaged.



Be sure to retain your proof of purchase, as it is required to receive warranty service.

1.2 Features

- Compliant with PCI Express 1.1
- Supports IEEE 802.3z, IEEE 802.3x, IEEE 802.1Q VLAN.
- Supports Jumbo Frame up to 9K
- > IP, TCP and UDP checksum offload

1.3 Gathering Tools and Documentations

To install the 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

The faceplate of ENW-9701 has one LED: Link / ACT. The pictures below have showed the faceplate of ENW-9701. Table 2-1 explains the function and state of the LED.



Link / ACT LED

Faceplate of ENW-9701

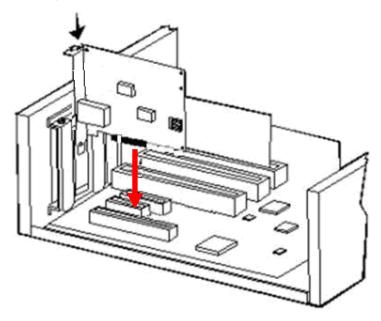
LED	Description
Link	Lights to indicate a functional network link through the port.
Act	Blinks to indicate data has been sending and receiving via the port.

 Table 2-1 Descriptions of ENW-9701 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 adapter into the chosen slot and press firmly with proper push to ensure it is fully seated in the slot.



- Step 6: Secure the adapter with the screw you saved in step 4.
- Step 7: Replace the PC cover.
- Step 8: Power on the PC and refer to next chapter to install the driver of this adapter.



Chapter 3 Driver Installation

A device driver must be installed before your ENW-9701 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 to Windows Server 2000



The following installation uses ENW-9701 and operates under Window2000 and Windows XP. Procedures will be similar to the other Operating Systems.

- 1. Install ENW-9701 into your PC's PCI Express slot.
- 2. Power on the PC and insert Driver Disk into CD-ROM drive.
- Windows 2000 will detect ENW-9701 and ask you to install driver. Please select the first option and click "Next".

Found New Hardware Wizard
Install Hardware Device Drivers A device driver is a software program that enables a hardware device to work with an operating system.
This wizard will complete the installation for this device:
A device driver is a software program that makes a hardware device work. Windows needs driver files for your new device. To locate driver files and complete the installation click Next.
What do you want the wizard to do?
Search for a suitable driver for my device (recommended)
Display a list of the known drivers for this device so that I can choose a specific driver
< <u>B</u> ack <u>N</u> ext > Cancel

4. Please select "Specify a location" and click "Next".



Found New Hardware Wizard
Locate Driver Files Where do you want Windows to search for driver files?
Search for driver files for the following hardware device:
The wizard searches for suitable drivers in its driver database on your computer and in any of the following optional search locations that you specify.
To start the search, click Next. If you are searching on a floppy disk or CD-ROM drive, insert the floppy disk or CD before clicking Next.
Optional search locations:
Floppy <u>d</u> isk drives
CD-ROM drives
Specify a location
Microsoft Windows Update
< <u>B</u> ack <u>N</u> ext > Cancel

5. Please click **"Browse**" to find the driver location. (Assume "E" is your CD-ROM drive, the driver can be found in E:\Drivers\Win2K). After find out the driver, please click **"OK**" to continue.

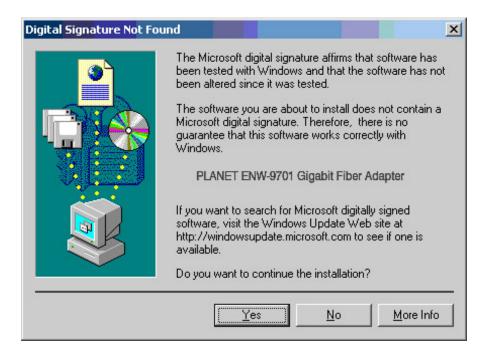
Found Nev	v Hardware Wizard	2	×1
2	Insert the manufacturer's installation disk into the drive selected, and then click OK.	OK Cancel	
	<u>C</u> opy manufacturer's files from: E:\Drivers\WIN2K	Browse	



6. Please click "Next" to continue.

Found New Hardware Wizard
Driver Files Search Results The wizard has finished searching for driver files for your hardware device.
The wizard found a driver for the following device:
Windows found a driver for this device. To install the driver Windows found, click Next.
e:\drivers\win2k\yk50x86.inf
The wizard also found other drivers that are suitable for this device. To view a list of these drivers or install one of these drivers, select the following check box, and then click Next.
< <u>B</u> ack Cancel

7. You can see the device name in this dialog box. If the device name is correct, please press"**Yes**" to continue.





8. Please click **"Finish"** to complete the driver installation.





3.2 Installing Driver to Windows XP

1. After installing ENW-9701 to your PC and boot up, Windows XP will detect it and ask you to install driver. Please select the second option and click "**Next**".

Found New Hardware Wiza	ard
	Welcome to the Found New Hardware Wizard
	This wizard helps you install software for:
	Ethernet Controller
	If your hardware came with an installation CD or floppy disk, insert it now.
	What do you want the wizard to do?
	 Install the software automatically (Recommended)
	Install from a list or specific location (Advanced)
	Click Next to continue.
	< <u>B</u> ack <u>N</u> ext > Cancel

 Please select "Include this location in the search" and then click "Browse" to specify the driver location to install. (Assume "E" is your CD-ROM drive, the driver can be found in E:\Drivers\WinXP). Click "Next" to continue.

Found New Hardware Wizard
Please choose your search and installation options.
 Search for the best driver in these locations. Use the check boxes below to limit or expand the default search, which includes local paths and removable media. The best driver found will be installed. Search removable media (floppy, CD-ROM) Include this location in the search:
E:\Drivers\WinXP Don't search. I will choose the driver to install. Choose this option to select the device driver from a list. Windows does not guarantee that the driver you choose will be the best match for your hardware.
< <u>B</u> ack <u>N</u> ext > Cancel



3. WinXP will show this dialog box to prompt you the driver has not passed Windows logo testing, please click "**Continue Anyway**", then WinXP will start to install the driver.

Hardwar	e Installation
<u>.</u>	The software you are installing for this hardware: PLANET ENW-9701 Gigabit Fiber Adapter has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.) Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.
	Continue Anyway STOP Installation

4. Click "Finish" to complete the driver installation.

Hardware Update Wizard	
	Completing the Hardware Update Wizard
	The wizard has finished installing the software for:
	PLANET ENW-9701 Gigabit Fiber Adapter
	Click Finish to close the wizard.
	< Back Finish Cancel

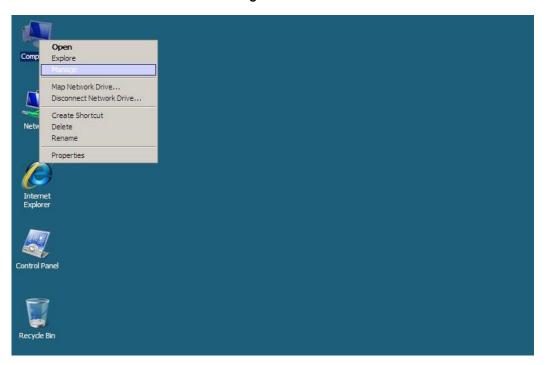


3.3 Installing Driver to Windows 2008

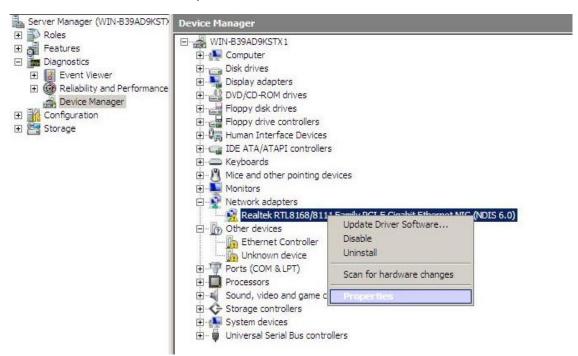


The following installation uses ENW-9701 and operates under Window2008 Procedures will be similar to the Windows Vista 32/64 Operating Systems.

1. After installing ENW-9701 to your PC and boot up, move the mouse to the Computer icon and right click the mouse button and select the "Manage"



 On the Server Manage window; please select the Device Manager on the left column then open the Network adapters on the right column, Move and right click the mouse button for Realtek RTL8168xxxx item and select "Properties"





3. On the Realtek RTL8168xxxx window, please click "Update Driver..." button.

Realtek RTL81	1 68/8111 Fa	amily PCI-E Gigabit Ethernet NIC (NDL <mark>?</mark> 🗙
General Adv	anced Drive	er Details Resources
	altek RTL816 ; (NDIS 6.0)	8/8111 Family PCI-E Gigabit Ethemet
Driv	ver Provider:	Microsoft
Driv	ver Date:	6/21/2006
Driv	ver Version:	6.1837.926.2006
Dig	ital Signer:	microsoft windows
Driver D	etails	To view details about the driver files.
Update D	river	To update the driver software for this device.
Roll Back	Driver	If the device fails after updating the driver, roll back to the previously installed driver.
Disab	le	Disables the selected device.
Uninst	all	To uninstall the driver (Advanced).
		OK Cancel

4. Click "Browse my computer for driver software" button.

•	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your
10	device.
+	Browse my computer for driver software
	Locate and install driver software manually.



5. Click "Let me pick from a list of device drivers on my computer" button.

Update Driver Software - Realtek RTL8168/8111 Family PCI-E Gigabit Ethernet NIC (NDIS 6.0)	
🔋 🚊 Update Driver Software - Realtek RTL8168/8111 Family PCI-E Gigabit Ethernet NIC (ND	IS 6.0)
Browse for driver software on your computer	
Search for driver software in this location:	
D:\Realtek Bryant Wu\WinVista_2008_32_64Bryant Wu\64 Browse	
✓ Include subfolders	
Let me pick from a list of device drivers on my computer This list will show installed driver software compatible with the device, and all driver software in the same category as the device.	
Next	Cancel

6. Click "Have Disk..." button.

Select Network Adapter		
Click the Network Adapte	er that matches your hardware, t sture, click Have Disk,	then click OK. If you have an
Show compatible hardware		
Network Adapter:		
Realtek RTL8168/8111 Family	y PCI-E Gigabit Ethemet NIC (N	VDIS 6.0)
		Have Disk
This driver is digitally signed.		
This driver is digitally signed. <u>Tell me why driver signing is in</u>	nportant	



7. Click "**Browse...**" button to specify the driver location to install. (Assume "D" is your CD-ROM drive, the driver can be found in D:\) then click "**OK**" to continue.

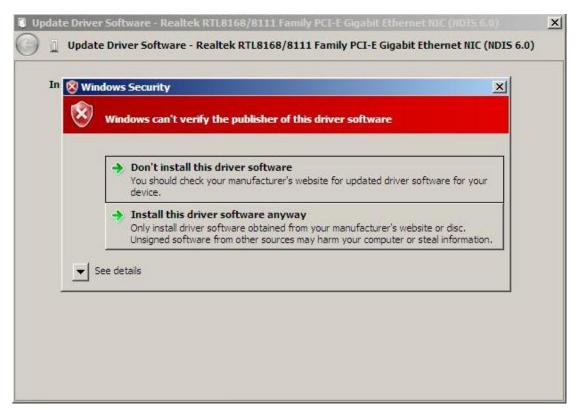
tall Fr	om Disk	
U	Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below.	ОК
		Cancel
	Copy manufacturer's files from:	

8. On the Update Driver Software window, the Network Adapter column will show the PLANET ENW-9701 Gigabit Fiber Adapter, just click "**Next**" button

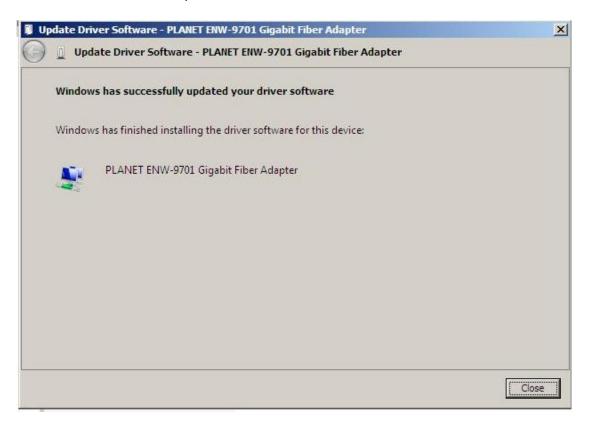
	ily PCI-E Gigabit Ethernet NIC (NDIS 6.
Select Network Adapter	
Click the Network Adapter that matches your hardware, the installation disk for this feature, click Have Disk.	n click OK. If you have an
Show compatible hardware	
Network Adapter: PLANET ENW-9701 Gigabit Fiber Adapter	
This driver is not digitally signed!	Have Disk
Tell me why driver signing is important	



9. During the Driver installation, it will pop up one Windows Security message. Please Click **"Install this driver software anyway"** button for continue installation.



10. Click "Close" button to complete the driver installation.





3.4 Installing Driver to Linux

Requirements:

- Kernel source tree (supported Linux kernel 2.6.x and 2.4.x)
- For linux kernel 2.4.x, this driver supports 2.4.20 and latter.
- Compiler / binutils for kernel compilation

Quick install with proper kernel settings:

Unpack the tarball : # tar vjxf r8168-8.aaa.bb.tar.bz2

Change to the directory:

cd r8168-8.aaa.bb

If you are running the target kernel, then you should be able to do:

./autorun.sh (as root or with sudo)

You can check whether the driver is loaded by using following commands.

lsmod | grep r8168 # ifconfig -a

If there is a device name, ethX, shown on the monitor, the linux driver is loaded. Then, you can use the following command to activate the ethX.

ifconfig ethX up ,where X=0,1,2,...

Set the network related information:

- 1. Set manually
 - a. Set the IP address of your machine.

ifconfig ethX "the IP address of your machine"

b. Set the IP address of DNS.

Insert the following configuration in /etc/resolv.conf.nameserver "the IP address of DNS"

c. Set the IP address of gateway.

route add default gw "the IP address of gateway"



2. Set by doing configurations in

/etc/sysconfig/network-scripts/ifcfg-ethX for Redhat and Fedora /etc/sysconfig/network/ifcfg-ethX for SuSE. There are two examples to set network configurations.

a. Fixed IP address:

- DEVICE=eth0 BOOTPROTO=static ONBOOT=yes TYPE=ethernet NETMASK=255.255.255.0 IPADDR=192.168.1.1 GATEWAY=192.168.1.254 BROADCAST=192.168.1.255
- b. DHCP:

DEVICE=eth0 BOOTPROTO=dhcp ONBOOT=yes

Modify the MAC address:

There are two ways to modify the MAC address of the NIC.

1. Use ifconfig:

ifconfig ethX hw ether YY:YY:YY:YY:YY:YY

where X is the device number assigned by Linux kernel, and YY:YY:YY:YY:YY:YY is the MAC address assigned by the user.

2. Use ip:

ip link set ethX address YY:YY:YY:YY:YY:YY

where X is the device number assigned by Linux kernel, and YY:YY:YY:YY:YY:YY is the MAC address assigned by the user.

Jumbo Frame:

Transmitting Jumbo Frames, whose packet size is bigger than 1500 bytes, please change mtu by the following command.

ifconfig ethX mtu MTU

, where X=0,1,2,..., and MTU is configured by user.



Chapter 4 Specifications

	ENW-9701		
Product	1000Base-SX / LX PCI Express Fiber Adapter		
Hardware Specification			
Attachment Interface	PCI Express Host Bus Interface, 1 lane PCI Express Rev 1.1		
Media Interface	SFP slot (LC Interface)		
Cabling Options	SFP LC connector : 50/125µm & 62.5/125µm Multi-Mode fiber cable. 9/125µm Single-Mode cable.		
Jumbo Frame	9KBytes		
LED Indicators	Link / Active per port		
Dimension (W x D)	121.4 x 119.5mm		
Advanced Function			
Layer 2 Features	IEEE 802.3x Flow Control supportIEEE 802.1Q VLAN support		
Performance enhancements	 Receive-side scaling (RSS): Optimization for multiple CPUs under Windows OS control Reduced host bus traffic IP, TCP and UDP Checksum Offloading Transmit / Receive On-Chip Buffer Support IPv4, IPv6 		
NOS Support	 Windows Server 2003, Windows Server 2008 Windows XP, Windows Vista™, Windows 7 Linux 2.4, Linux 2.6, Linux 64-bit Redhat Enterprise Linux 4.7 & 5.3 		
Standards Conformance			
Regulation Compliance	FCC Part 15 Class B, CE		
Standards Compliance	IEEE 802.3z IEEE 802.3x IEEE 802.1Q	1000Base-X Gigabit Ethernet Flow Control and Back pressure VLAN Tagging	
Environment			
Operating	Temperature: Relative Humidity:	0 ~ 65 Degree C 5 ~ 95% (non-condensing)	
Storage	Temperature: Relative Humidity:	-10 ~ 85 Degree C 5 ~ 95% (non-condensing)	



EC Declaration of Conformity

For the following equipment:

*Type of Product	:	1000Base-X SFP PCI Express Gigabit Ethernet Adapter
*Model Number	:	ENW-9701
* Produced by:		
Manufacturer's Nam	e	: Planet Technology Corp.
Manufacturer's Add	ress	: 10F., No.96, Minquan Rd., Xindian Dist.,
		New Taipei City 231, Taiwan (R.O.C.)

is herewith confirmed to comply with the requirements set out in the Council Directive on the Approximation of the Laws of the Member States relating to Electromagnetic Compatibility Directive on (89/336/EEC). For the evaluation regarding the EMC, the following standards were applied:

	Emission	EN 55022	(1994 + A1:1995 + A2:1997)
	Harmonic	EN 61000-3-2	(2000)
	Flicker	EN 61000-3-3	(1995 + A1:2001)
	Immunity	EN 55024	(1998)
	ESD	EN 61000-4-2	(1995 + A1:1998 + A2:2000)
	RS	EN 61000-4-3	(1995 + A1:1998 + A2:2000)
	EFT/ Burst	EN 61000-4-4	(1995 + A1:2000)
	Surge	EN 61000-4-5	(1995 + A1:2000)
	CS	EN 61000-4-6	(1996 + A1:2000)
	Magnetic Field	EN 61000-4-8	(1993 + A1:2000)
	Voltage Disp	EN 61000-4-11	(1994 + A1:2000)
	-		

Responsible for marking this declaration if the:

☑ Manufacturer □ Authorized representative established within the EU

Authorized representative established within the EU (if applicable):

Company Name: Planet Technology Corp.

Company Address: 10F., No.96, Minquan Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.)

Person responsible for making this declaration

Name, Surname Kent Kang

Position / Title : Product Manager

Taiwan

Place

8, March, 2011 Date

Legal Signature

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