# TP-LINK®

# **User Guide**

# TG-3468

# **Gigabit PCI Express Network Adapter**



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## FCC STATEMENT

# FC

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 in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/ TV technician for help.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference.
- 2) This device must accept any interference received, including interference that may cause undesired operation.

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

## **CE Mark Warning**

# CE

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.



Продукт сертифіковано згідно с правилами системи УкрСЕПРО на відповідність вимогам нормативних документів та вимогам, що передбачені чинними законодавчими актами України.

# EHC

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## **Safety Information**

- When product has power button, the power button is one of the way to shut off the product; when there is no power button, the only way to completely shut off power is to disconnect the product or the power adapter from the power source.
- Don't disassemble the product, or make repairs yourself. You run the risk of electric shock and voiding the limited warranty. If you need service, please contact us.
- Avoid water and wet locations.

AT	BG	BY	СА	CZ	DE	DK	EE
ES	FI	FR	GB	GR	HU	IE	IT
LT	LV	MT	NL	NO	PL	PT	RO
RU	SE	SK	TR	UA			

• This product can be used in the following countries:

**TP-LINK** TP-LINK TECHNOLOGIES CO., LTD

## **DECLARATION OF CONFORMITY**

For the following equipment:

Product Description: Gigabit PCI Express Network Adapter

Model No.: TG-3468

Trademark: TP-LINK

We declare under our own responsibility that the above products satisfy all the technical regulations applicable to the product within the scope of Council Directives:

Directives 2004 / 108 / EC, Directives 2006 / 95 / EC, Directives 2011/65/EU

The above product is in conformity with the following standards or other normative documents:

EN 55022:2010

EN 55024:2010

EN 61000-3-2:2006+A1:2009+A2:2009

EN 61000-3-3:2008

EN 60950-1:2006+A11: 2009+A1:2010+A12:2011

The product carries the CE Mark



Person is responsible for marking this declaration:



Yang Hongliang

**Product Manager of International Business** 

Date of Issue: 2013

TP-LINK TECHNOLOGIES CO., LTD. Building 24 (floors 1, 3, 4, 5), and 28 (floors 1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China

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# **Package Contents**

The following contents should be found in your box:

- > One TG-3468 Gigabit PCI Express Network Adapter
- > Quick Installation Guide
- > One Resource CD for TG-3468, including:
  - Drivers
  - User Guide
  - Other Helpful Information

#### P Note:

Make sure that the package contains the above items. If any of the listed items is damaged or missing, please contact your distributor.

#### Conventions

The "Adapter" mentioned in this user guide stands for TG-3468 Gigabit PCI Express Network Adapter without any explanations.

# Chapter 1. Introduction

#### **1.1** Overview of the product

The TG-3468 10/100/1000Mbps PCI EXPRESS Gigabit Network Adapter is a highly integrated and cost-effective Gigabit Ethernet Adapter which is fully compliant with IEEE 802.3, IEEE 802.3u and IEEE 802.3ab specifications.

TG-3468 keeps low cost and eliminates usage barriers. It is the easiest way to upgrade a network from 10/100Mbps to 1000 Mbps. It supports 10/100Mbps network speed automatically both in Half-Duplex and Full-Duplex transfer modes, and 1000Mbps in Full-Duplex transfer mode, using Auto-Negotiation technology to detect the network speed. It can be widely used in most modern Operating Systems and includes a boot ROM for Diskless Workstations.

#### 1.2 Features

- Integrated 10/100/1000Mbps transceiver
- Support PCI Express 1.1
- ▶ Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE802.3ab
- Auto-Negotiation with Next Page capability
- Support pair swap/polarity/skew correction
- Crossover Detection & Auto-Correction
- Wake-on-LAN and remote wake-up support
- Microsoft NDIS5, NDIS6 Checksum Offload (IPv4, IPv6, TCP, UDP) and Segmentation Task-offload (Large send v1 and Large send v2) support
- Support Full Duplex flow control (IEEE802.3X)
- Support IEEE 802.1p Layer 2 Priority Encoding and IEEE802.1Q VLAN tagging
- Support power down/link down power saving
- Support drivers for Windows XP (32bit/ 64bit), Windows Vista (32bit/ 64bit), Windows 7 (32bit/ 64bit), and Windows 8 (32bit/ 64bit)

#### 1.3 LED Status

There are three LEDs, including a 10Mbps Link/Act LED, a 100Mbps Link/Act LED, a 1000Mbps Link/Act LED.

The Link/Act LEDs of TG-3468 PCI EXPRESS 10/100/1000M LAN Card indicates Link/Act status. They will light when connection has been built, and glitter when the adapter transmits or receives data.

# Chapter 2. Installation Guide

#### 2.1 Hardware Installation

To install the adapter, please follow these steps listed below:

- 1. Turn off your computer and unplug the power cord and all cables.
- 2. Remove your computer's case cover.
- 3. Locate an available PCI Express slot.
- 4. Remove the screw that secures the back plate (the small piece of metal that covers the opening for PCI Express card on the back panel of your computer), then remove the back plate.
- 5. Carefully insert the adapter into the PCI Express slot. Do not touch the metal connector on the adapter.
- 6. Secure the adapter to the case using the screw you removed from the back plate.
- 7. Reinstall your computer's case cover.
- 8. Plug in the power cord and other cables, and then turn on your computer.

#### Note:

When the hardware has been successfully installed on your computer, you will be prompted 'Found New Hardware Wizard' (as shown in Figure 2-1); please click Cancel, and then follow the Software Installation steps to install driver for your adapter.

Found New Hardware Wizard					
	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 (Becommended)				
	<ul> <li>Install from a list or specific location (Advanced)</li> </ul>				
	Click Next to continue.				
	< <u>B</u> ack <u>N</u> ext > Cancel				

Figure 2-1 Found New Hardware Wizard in Windows XP

#### 2.2 Software Installation

The section will guide you through the installation procedures for Windows XP, Windows 7, and Windows 8. Please carefully follow the steps.

#### 2.2.1 For Windows XP

- 1. Insert the TP-LINK Resource CD into the CD-ROM drive.
- 2. Right-click the icon My Computer on the desktop, and then click Manage.





3. The **Computer Management** screen will appear as shown in Figure 2-3. Click **Device Manager**, and then you will see the various options on the right. Click **Other devices**, and then from the drop-down list please find **Ethernet Controller**. Right-click it, and then select **Update Driver...**.



Figure 2-3

4. The Hardware Update Wizard window will show up as shown in Figure 2-4. Select Install from a list or specific location [Advanced], and then click Next.

Hardware Update Wizard						
	Welcome to the Hardware Update 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?					
	<ul> <li>Install the software automatically (Recommended)</li> <li>Install from a list or specific location (Advanced)</li> </ul>					
	Click Next to continue.					
	< Back Next > Cancel					

Figure 2-4

5. Select Don't search. I will choose the driver to install, and then click Next.

Hardware Update 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:
C:\Documents and Settings\English\Desktop\11053 🗸 🛛 Browse
On'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.
< Back Next > Cancel

Figure 2-5

6. Select Network adapters, and then click Next.

Hardware Update Wizard	
Hardware Type.	€\$
Select a hardware type, and then click Next. Common hardware types:	
Modems Monitors Multifunction adapters Multi-port serial adapters Network adapters Network Client Network Protocol Network Service Mon-Plug and Play Drivers	
< Back	Next > Cancel

Figure 2-6

7. Click Have Disk....

**Note:** Please do not select any network adapter which is listed in the window.

Hardware Update Wizard
Select Network Adapter Which network adapter do you want to install?
Click the Network Adapter that matches your hardware, then click OK. If you have an installation disk for this component, click Have Disk.
Show compatible hardware
Network Adapter:
This driver is digitally signed.
Tell me why driver signing is important
< Back Next > Cancel

Figure 2-7

8. Click Browse....



Figure 2-8

9. Find the right product model (**TG-3468**) and operation system (**Windows XP**) in the resource CD directory and choose the **.inf** file, and then click **Open**.

Locate File							? 🗙
Look jn:	🗀 Windows XP		*	G	ø	P .	
My Recent Documents	Nettple.inf						
Desktop							
My Documents							
My Computer							
	File <u>n</u> ame:	Nettple.inf				~	<u>O</u> pen
My Network	Files of <u>type</u> :	Setup Information (*.inf)				~	Cancel

Figure 2-9

10. Back to the Install From Disk screen, click OK.



Figure 2-10

11. Click Next.

Hardware Update Wizard
Select Network Adapter Which network adapter do you want to install?
Click the Network Adapter that matches your hardware, then click OK. If you have an installation disk for this component, click Have Disk.
Show <u>c</u> ompatible hardware
Network Adapter:
Gigabit PCI Express Network Adapter
Image: This driver is not digitally signed!       Have Disk         Tell me why driver signing is important       Have Disk
< <u>B</u> ack <u>N</u> ext > Cancel

Figure 2-11

12. There will pop up Figure 2-12; select Continue Anyway.



Figure 2-12

13. Wait a few seconds for the installation.

Hardware Up	odate Wizard
Please wai	it while the wizard installs the software
œ∎ ∎	Gigabit PCI Express Network Adapter
	Image: Second system 32
	< <u>B</u> ack <u>N</u> ext > Cancel

Figure 2-13

14. Click **Finish** to complete the installation.



Figure 2-14

#### 2.2.2 For Windows 7

- 1. Insert the TP-LINK Resource CD into the CD-ROM drive.
- 2. Right-click the icon Computer on the desktop, and then click Manage.





 The Computer Management screen will appear as shown in Figure 2-16. Click Device Manager, and then you will see the various options on the right. Click Other devices, and then from the drop-down list please find Ethernet Controller. Right-click it, and then select Update Driver Software....

2 Computer Management	
File Action View Help	
🌆 Computer Management (Local 🧧 🚔 english-PC	Actions
A 🙀 System Tools 🛛 🔋 📲 Computer	Device Manager 🔺
Disk drives	More Actions
▷ Breef Folder	
Solution of the second of	
OPerformance     A Mice and other pointing devices	
🚔 Device Manager 🛛 🕨 🖣 Monitors	
A 🔄 Storage 🔋 🖓 Network adapters	
Disk Management	
Jorden Services and Applications     Light Ethernet Controller     Update Driver Software	
b Processors Disable	
>	
> 📲 System devices	
▷-	
Properties	
Launches the Update Driver Software Wizard for the selected device.	

Figure 2-16

4. The next screen will appear as shown in Figure 2-17. Select **Browse my computer for driver software**.



Figure 2-17

5. Select Let me pick from a list of device drivers on my computer, and then click Next.

		×
$\bigcirc$	Update Driver Software - Ethernet Controller	
	Browse for driver software on your computer	
	Search for driver software in this location:	
	C:\Users\english\Documents Browse	
	✓ Include subfolders	
	A list we wish from a list of daying drivers on my computer	
	Let the 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	ancel

Figure 2-18

6. Click **Have Disk...** in the screen as shown in Figure 2-19.

In Update Driver Software - Ethernet Controller	<b>×</b>
Select the device driver you want to install for this hardware. Select the manufacturer and model of your hardware device and then click Net disk that contains the driver you want to install, click Have Disk.	ext. If you have a
(Retrieving a list of all devices)	
This driver is digitally signed. Tell me why driver signing is important	Have Disk
	Next Cancel

Figure 2-19

7. Click **Browse...** in the **Install From Disk** window as shown in Figure 2-20.

Install Fro	m Disk	<b>X</b>
~	Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below.	OK Cancel
	Copy manufacturer's files from:	Browse

Figure 2-20

 Find the right product model (TG-3468) and operation system (Windows 7 32 bits or Windows 7 64 bits) in the resource CD directory and choose the .inf file, and then click Open.

🜆 Locate File				x
Look <u>i</u> n:	Windows 7 32	′bit 👻	G 🌶 🖻 🖽 -	
Recent Places	Name pg86win7	^	Date modified 11/15/2011 3:44 PM	Type Setup Infc
Desktop				
Libraries				
Computer				
Network	•	m		×
	File <u>n</u> ame:	tpg86win7	-	<u>O</u> pen
	Files of type:	Setup Information (*.inf)		Cancel

Figure 2-21

#### P Note:

If you have no idea about your operating system being **Windows 7 32 bits** or **Windows 7 64 bits**, please refer to **Appendix B: Troubleshooting- T3**.

9. Back to the Install From Disk window as shown in Figure 2-22, click OK.



Figure 2-22

10. Click **Next** in the next screen as shown in Figure 2-23.

		×
$\bigcirc$	Update Driver Software - Ethernet Controller	
	Select the device driver you want to install for this hardware. Select the manufacturer and model of your hardware device and ther disk that contains the driver you want to install, click Have Disk.	n click Next. If you have a
	Show compatible hardware Model Gigabit PCI Express Network Adapter	
	* - <b>5</b>	
	This driver has an Authenticode(tm) signature. <u>Tell me why driver signing is important</u>	Have Disk
		Next Cancel

Figure 2-23

11. There will appear Figure 2-24 indicating the installation process.

	×
🕼 📱 Update Driver Software - Ethernet Controller	
Installing driver software	

Figure 2-24

12. During the above installation process, you will be prompted Figure 2-25. Select **Install** to continue with the above installation process.



Figure 2-25

13. A few moments later, Figure 2-26 will appear showing your successful installation of the driver software. Click **Close** to complete it.

🕞 🛽 Update Driver Software - Gigabit PCI Express Network Adapter	×
Windows has successfully updated your driver software	
Windows has finished installing the driver software for this device:	
Gigabit PCI Express Network Adapter	
	<u>C</u> lose

Figure 2-26

#### 2.2.3 For Windows 8

- 1. Insert the TP-LINK Resource CD into the CD-ROM drive.
- Enter the Apps interface, and find Computer under Windows System column. Then right-click the Computer icon, you will see the function bar below the Apps interface. Click Manage.

	Apps		
	Windows System	Sound Recorder	
	Command Prompt	Steps Recorder	
	Computer 🗸	Sticky Notes	
	Control Panel	Windows Fax and Scan	
	Default Programs	Windows Journal	
	File Explorer	Windows Media Player	
	Help and Support	WordPad	
	Run	XPS Viewer	
Pin to Start	Manage Properties	Map network Disconnect drive network drive	All apps

Figure 2-27

3. The **Computer Management** screen will appear as shown in Figure 2-28. Click **Device Manager**, and then you will see the various options on the right. Click **Other devices**, and then from the drop-down list please find **Realtek PCIe GBE Family Controller**. Right-click it, and then select **Update Driver Software...**.

£	Computer Management	- 🗆 🗙
File Action View Help		
🗢 🔿 🙍 🖬 🖬 🖉 🖬	20 🖗 🕼 🖗 65	
🔚 Computer Management (Local	🔺 🚔 wendang	Actions
A 🎁 System Tools	⊳ jЩ Computer	Device Manager
Task Scheduler	Disk drives	More Actions
Bernet Viewer	Second Seco	
B Shared Folders	DE ATA (ATADI controllers	
Performance	N Cevhoards	
Device Manager	Mice and other pointing devices	
A 🚝 Storage	Monitors	
Disk Management	🖌 👰 Network adapters	
B Services and Applications	😨 Gigabit PCI Express Network Adapter	
	👻 Qualcomm Atheros AR5008X Wireless Network Adapter #2	
	Realtek PCIe Controller	
	Ports (COM & LF     Opdate Driver Software	
	Print queues Disable	
	Decessors Uninstall	
	Software devices	
	G Storage controlle	
	System devices	
	Universal Serial Bus controllers	
< >		
Launches the Update Driver Software	Wizard for the selected device.	,

Figure 2-28

4. The next screen will appear as shown in Figure 2-29. Select **Browse my computer for driver software**.

G	Update Driver Software - Realtek PCIe GBE Family Controller	×
	How do you want to search for driver software?	
	Search automatically for updated driver software Windows will search your computer and the Internet for the latest driver software for your device, unless you've disabled this feature in your device installation settings.	
	Browse my computer for driver software Locate and install driver software manually.	
		Cancel

Figure 2-29

5. Select Let me pick from a list of device drivers on my computer, and then click Next.

	×
€	Update Driver Software - Realtek PCIe GBE Family Controller
	Browse for driver software on your computer
	Search for driver software in this location:
	C:\Users\admin\Documents V 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

Figure 2-30

6. Click **Have Disk...** in the screen as shown in Figure 2-31.

		×
€	Update Driver Software - Realtek PCIe GBE Family Controller	
	Select Network Adapter Click the Network Adapter that matches your hardware, then click OK. installation disk for this feature, click Have Disk.	lf you have an
	Show compatible hardware Network Adapter: Realtek PCIe GBE Family Controller	
	This driver is digitally signed. <u>Tell me why driver signing is important</u>	Have Disk
	[	Next Cancel

Figure 2-31

7. Click **Browse...** in the **Install From Disk** window as shown in Figure 2-32.

	Install From Disk	×
4	Insert the manufacturer's installation disk, and then make sure that the correct drive is selected below.	OK Cancel
	Copy manufacturer's files from:	Browse

Figure 2-32

 Find the right product model (TG-3468) and operation system (Window 8 32 bits or Windows 8 64 bits) in the resource CD directory and choose the .inf file, and then click Open.

2		Locate File			×
Look in:	) Windows 8 32	bit v	•	G 🌶 📂 🖽 -	
e	Name	<b>^</b>		Date modified	Туре
Recent places	i rt630x86			4/28/2013 7:04 PM	Setup Infc
Desktop					
Libraries					
Computer					
Network	<				>
	File name:	rt630x86		~	Open
	Files of type:	Setup Information (*.inf)		~	Cancel

Figure 2-33

#### Note:

If you have no idea about your operating system being **Windows 8 32 bits** or **Windows 8 64 bits**, please refer to **Appendix B: Troubleshooting- T3**.

9. Back to the Install From Disk window as shown in Figure 2-34, click OK.



Figure 2-34

10. Click Next in the next screen as shown in Figure 2-35.

	en e	^
€	Update Driver Software - Realtek PCIe GBE Family Controller	
	Select Network Adapter Click the Network Adapter that matches your hardware, then click OK. If you have an installation disk for this feature, click Have Disk.	
	Show compatible hardware Network Adapter:	
	Gigabit PCI Express Network Adapter	
	This driver is digitally signed. <u>Tell me why driver signing is important</u>	
	Next Cancel	

Figure 2-35

11. There will appear Figure 2-36 indicating the installation process.



Figure 2-36

12. After a few moments, Figure 2-37 will appear showing your successful installation of the driver software. Click **Close** to complete it.



Figure 2-37

# **Appendix A: Specifications**

Normal	
Interface	Support PCI Express 1.1
Buffer Size	Transmit/Receive On Chip Buffer(48K)support
Standards	IEEE802.3ab 1000Base-T, IEEE802.3x,
	IEEE802.1q, IEEE802.1p
Transmission Rate	10/100/1000Mbps
Connector supported	one 10/100/1000M Auto-Negotiation RJ45 port
Software	Support drivers for Windows 8 (32bit / 64bit), Windows 7 (32bit / 64bit), Windows Vista (32bit / 64bit), Windows XP
LEDs	one 10M Link/Act LED, one 100M Link/Act LED, one 1000M Link/Act LED
Safety & Emission	FCC,CE

Environmental and Physical	
Operating Temperature	0°C ~ 40°C
Storage Temperature	-20℃ ~ 70℃
Working Humidity	10% ~ 90%
Storage Humidity	5% ~ 90%

# **Appendix B: Troubleshooting**

#### T1. What should I do if PC cannot find the new hardware?

Check to see if the network adapter is inserted in the PCI Express slot properly; otherwise, please reinsert the adapter.

If the problem remains, please try to change another PCI Express slot.

T2. What should I do if I could not find "Ethernet Controller" under "(My) Computer >Device Manager >Other Devices"?

In such circumstance, you are recommended to go to "(My) Computer >Device Manager >Network adapters" to find "Realtek PCIe GBE Family Controller" instead, and continue with the rest steps of installation.



Figure B-1

#### T3. How could I know whether the operating system of my computer is 32-bit or 64-bit?

 Right-click Computer on the desktop, and then select Properties, as shown in Figure B-2 (for OS Windows 7) and Figure B-3 (for OS Windows 8) below.

		Open
Computer	۲	Manage
		Map network drive Disconnect network drive
		Create shortcut Delete
		Rename
		Properties

Figure B-2 (for Windows 7)

US .	Open
Ca	Pin to Start
0	Manage
	Map network drive
	Disconnect network drive
	Create shortcut
	Delete
	Rename
	Properties

Figure B-3 (for Windows 8)

2) You can find out whether your operating system is 32-bit or 64-bit, as shown below.



Figure B-4 (for Windows 7)



Figure B-5 (for Windows 8)