# **Dray** Tek

# Vigor 1000 Series

High Speed Gigabit Fiber Router



# Vigor1000 Series High Speed Gigabit Fiber Router Quick Start Guide

Version: 1.0

Firmware: V1.5.2\_RC1a

Date: 19/12/2011

#### **Copyright Information**

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#### Safety Instructions and Approval

#### Safety Instructions

- Read the installation guide thoroughly before you set up the router.
- The router is a complicated electronic unit that may be repaired only be authorized and qualified personnel. Do not try to open or repair the router yourself.
- Do not place the router in a damp or humid place, e.g. a bathroom.
- Do not stack the routers.
- The router should be used in a sheltered area, within a temperature range of +5 to +40 Celsius.
- Do not expose the router to direct sunlight or other heat sources. The housing and electronic components may be damaged by direct sunlight or heat sources.
- Do not deploy the cable for LAN connection outdoor to prevent electronic shock hazards.
- Keep the package out of reach of children.
- When you want to dispose of the router, please follow local regulations on conservation of the environment.

#### Warranty

We warrant to the original end user (purchaser) that the router will be free from any defects in workmanship or materials for a period of two (2) years from the date of purchase from the dealer. Please keep your purchase receipt in a safe place as it serves as proof of date of purchase. During the warranty period, and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, we will, at our discretion, repair or replace the defective products or components, without charge for either parts or labor, to whatever extent we deem necessary tore-store the product to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal value, and will be offered solely at our discretion. This warranty will not apply if the product is modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions. The warranty does not cover the bundled or licensed software of other vendors. Defects which do not significantly affect the usability of the product will not be covered by the warranty. We reserve the right to revise the manual and online documentation and to make changes from time to time in the contents hereof without obligation to notify any person of such revision or changes.

Be a Registered Owner Web registration is preferred. You can register your Vigor router via http://www.draytek.com.

Firmware & Tools Updates

Due to the continuous evolution of DrayTek technology, all routers will be regularly upgraded. Please consult the DrayTek web site for more information on newest firmware, tools and documents.

http://www.draytek.com



#### **European Community Declarations**

Manufacturer: DrayTek Corp.

Address: No. 26, Fu Shing Road, HuKou Township, HsinChu Industrial Park, Hsin-Chu, Taiwan

303

Product: Vigor1000 Series Router

DrayTek Corp. declares that Vigor1000 Series of routers are in compliance with the following essential requirements and other relevant provisions of R&TTE Directive 1999/5/EEC.

The product conforms to the requirements of Electro-Magnetic Compatibility (EMC) Directive 2004/108/EC by complying with the requirements set forth in EN55022/Class B and EN55024/Class B.

The product conforms to the requirements of Low Voltage (LVD) Directive 2006/95/EC by complying with the requirements set forth in EN60950-1.

#### **Regulatory Information**

Federal Communication Commission Interference Statement

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 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, and
- (2) This device may accept any interference received, including interference that may cause undesired operation.

Please visit http://www.draytek.com/user/AboutRegulatory.php



This product is designed for 2.4GHz WLAN network throughout the EC region and Switzerland with restrictions in France. Please see the user manual for the applicable networks on your product.



# **Table of Contents**

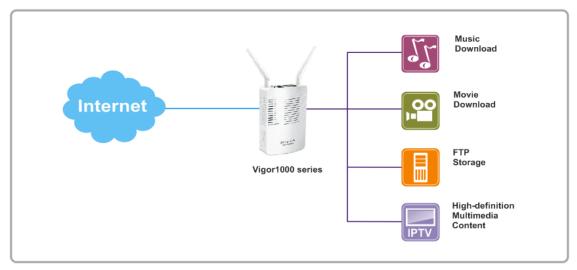
1. Introduction	1
1.1 Panel Explanation	2
1.1.1 For Vigor1000	2
1.1.2 For Vigor1000n	
1.2 Package Content	
2. Installing Your Router	6
2.1 Hardware Installation	
2.2 Printer Installation	7
3. Configuring Web Pages	13
3.1 Accessing Web Page	13
3.2 Basic Configuration	14
4. Trouble Shooting	23
4.1 Checking If the Hardware Status Is OK or Not	23
4.2 Checking If the Network Connection Settings on Your Computer Is OK or Not	24
4.3 Pinging the Router from Your Computer	26
4.4 Checking If the ISP Settings are OK or Not	27
4.5 Backing to Factory Default Setting If Necessary	27
4.6 Contacting Your Dealer	28



#### 1. Introduction

The Vigor1000 series are the routers with high speed in data transmission through WAN port and LAN ports. With the development of NGN (Next Generation Network), you may recently hear the news about FTTx deployment in your local area or even have already subscribed the unbundling last mile service (e.g. VDSL2) from local ITSP for FTTx. As adopting FTTx, the main question for end users is whether your legacy router could fully utilize its bandwidth or not.

For example, you purchase a 120 Mbps Internet connection from your ISP but your existing router cannot support 90 Mbps throughput. That's why DrayTek launches Vigor 1000 series – High speed Gigabit router, perfectly complied with VDSL2 environment including Vigor1000, Vigor1000n and Vigor1000Vn for speed-wanted customers. With high throughput performance and secured broadband connectivity provided by Vigor 1000 series, you can simultaneously engage these bandwidth-intensive applications, such as high-definition video streaming, online gaming, and Internet telephony / access.



Vigor1000 supports up to 2 VPN tunnels using advanced protocols such as IPSec/PPTP (for remote dial-in only) with AES (up to 256-bit) /3DES for encryption and MD5/SHA-1 for authentication.

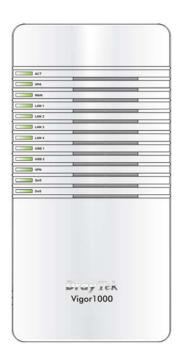
Vigor1000 'n' models comply with 802.11n standards. They support WEP/WPA/WPA2 encryption and MAC Address Control.

Vigor1000 'V' models provide two analogue phone connectors. It supports multiple SIP registrars with high flexible configuration and call handing options.

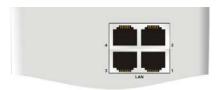
In addition, Vigor1000 series supports two USB interfaces for connecting USB printer to share printer or USB storage device for sharing files and 3G backup service.

# 1.1 Panel Explanation

## 1.1.1 For Vigor1000



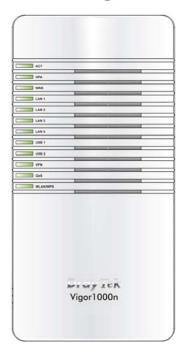
Status	Explanation
Blinking	The router is powered on and running
	normally.
Off	The router is powered off.
On	Hardware NAT is enabled.
Off	Hardware NAT is disabled.
On	The WAN port is connected.
Blinking	It will blink while transmitting data.
On	The port is connected.
Off	The port is disconnected.
Blinking	The data is transmitting.
On	A USB device is connected and active.
On	The VPN tunnel is active.
On	The QoS function is active.
On	The DoS/DDoS function is active.
	Off On Off On Blinking On Off Blinking On Off On On On



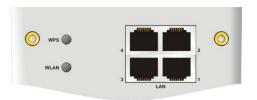


Interface	Description
LAN (1-4)	Connectors for local networked devices.
Factory Reset	Restore the default settings. Usage: Turn on the router (ACT LED is blinking). Press the hole and keep for more than 5 seconds. When you see the ACT LED begins to blink rapidly than usual, release the button. Then the router will restart with the factory default configuration.
PWR	Connector for a power adapter.
ON/OFF	Power switch.
USB (1-2)	Connector for USB storage device (Pen Driver/Mobile HD) or printer or 3G backup.
WAN	Connector for accessing the Internet.

# 1.1.2 For Vigor1000n



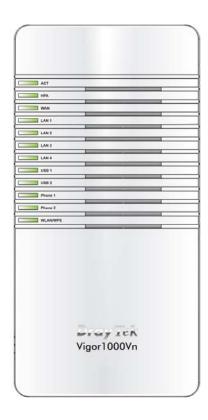
LED	Status	Explanation	
ACT (Activity)	Blinking	The router is powered on and running normally.	
	Off	The router is powered off.	
HPA	On	Hardware NAT is enabled.	
(Hardware Packet	Off	Hardware NAT is disabled.	
Accelerate) WAN	0	The WANI went is necessarily	
WAN	On	The WAN port is connected.	
	Blinking	It will blink while transmitting data.	
	On	The port is connected.	
LAN1/2/3/4	Off	The port is disconnected.	
	Blinking	The data is transmitting.	
USB1/2	On	A USB device is connected and active.	
VPN	On	The VPN tunnel is active.	
QoS	On	The QoS function is active.	
WLAN /WPS	On (Green)	Wireless access point is ready.	
	Blinking (Green)	Data transmitting via WLAN.	
	Blinking (Orange)	Quickly: WPS function is enabled. Slowly: Data transmitting via WPS.	
	Off	Wireless access point is turned off.	



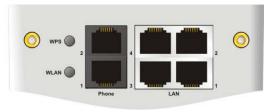


Interface	Description
WPS	Press WPS Button for 2 seconds to wait for client device making network connection through WPS. When the LED lights up, the WPS connection will be on.
WLAN	Press the button once to enable (WLAN LED on) or disable (WLAN LED off) wireless connection.
LAN (1-4)	Connectors for local networked devices.
Factory Reset	Restore the default settings. Usage: Turn on the router (ACT LED is blinking). Press the hole and keep for more than 5 seconds. When you see the ACT LED begins to blink rapidly than usual, release the button. Then the router will restart with the factory default configuration.
PWR	Connector for a power adapter.
ON/OFF	Power switch.
USB (1-2)	Connector for USB storage device (Pen Driver/Mobile HD) or printer or 3G backup.
WAN	Connector for accessing the Internet.

## 1.1.3 For Vigor1000Vn



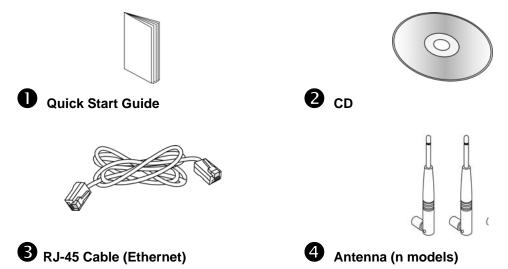
LED	Status	Explanation
ACT (Activity)	Blinking	The router is powered on and running normally.
	Off	The router is powered off.
HPA	On	Hardware NAT is enabled.
(Hardware Packet Accelerate)	Off	Hardware NAT is disabled.
WAN	On	The WAN port is connected.
	Blinking	It will blink while transmitting data.
	On	The port is connected.
LAN1/2/3/4	Off	The port is disconnected.
	Blinking	The data is transmitting.
USB1/2	On	A USB device is connected and active.
	Blinking	The data is transmitting.
Phone1/ Phone2	On	The phone connected to this port is off-hook.
	Off	The phone connected to this port is on-hook.
	Blinking	A phone call comes.
WLAN/ WPS	On (Green)	Wireless access point is ready.
	Blinking (Green)	Data transmitting via WLAN.
	Blinking (Orange)	Quickly: WPS function is enabled. Slowly: Data transmitting via WPS.
	Off	Wireless access point is turned off.



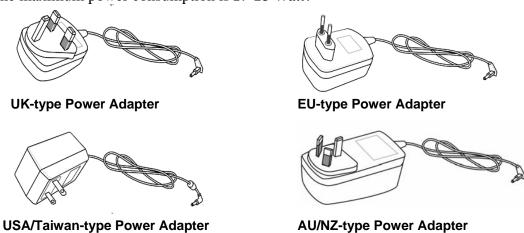


Interface	Description
WPS	Press WPS Button for 2 seconds to wait for client device making network connection through WPS. When the LED lights up, the WPS connection will be on.
WLAN	Press the button once to enable (WLAN LED on) or disable (WLAN LED off) wireless connection.
Phone2/Phone1	Connector of analog phone for VoIP communication.
LAN (1-4)	Connectors for local networked devices.
Factory Reset	Restore the default settings. Usage: Turn on the router (ACT LED is blinking). Press the hole and keep for more than 5 seconds. When you see the ACT LED begins to blink rapidly than usual, release the button. Then the router will restart with the factory default configuration.
PWR	Connector for a power adapter.
ON/OFF	Power switch.
USB (1-2)	Connector for USB storage device (Pen Driver/Mobile HD) or printer or 3G backup.
WAN	Connector for accessing the Internet.

# 1.2 Package Content



**5** The type of the power adapter depends on the country that the router will be installed. \* The maximum power consumption is *17-23 Watt*.



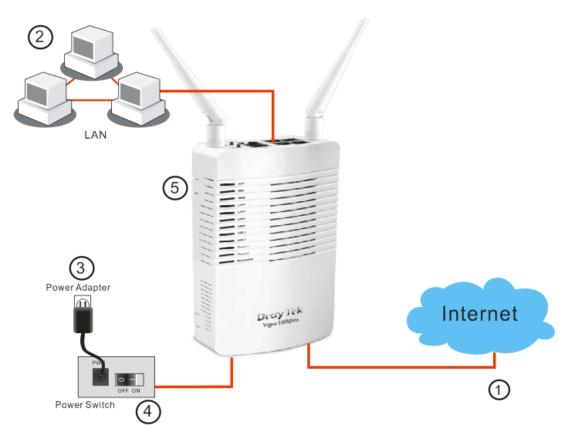
# 2. Installing Your Router

This section will guide you to install the router through hardware connection and configure the router's settings through web browser.

#### 2.1 Hardware Installation

Before starting to configure the router, you have to connect your devices correctly.

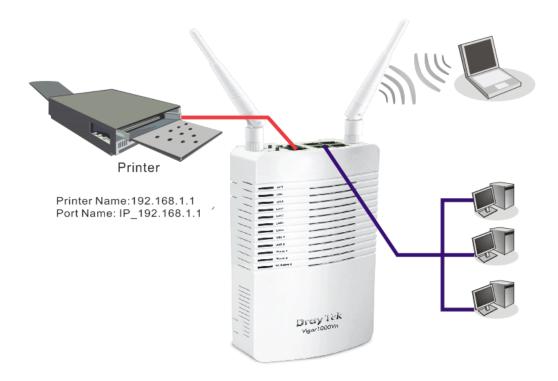
- 1. Connect the fiber-optic cable to this device.
- 2. Connect one port of 4-port switch to your computer with a RJ-45 cable. This device allows you to connect 4 PCs directly.
- 3. Connect one end of the power cord to the power port of this device. Connect the other end to the wall outlet of electricity.
- 4. Power on the router.
- 5. Check the **ACT** and **WAN**, **LAN** LEDs to assure network connections.



(For the detailed information of LED status, please refer to section 1.1.)

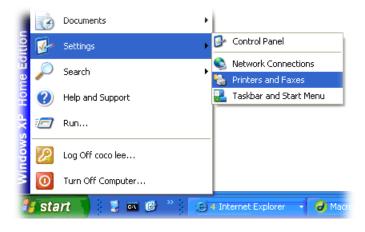
#### 2.2 Printer Installation

You can install a printer onto the router for sharing printing. All the PCs connected this router can print documents via the router. The example provided here is made based on Windows XP/2000. For Windows 98/SE/Vista, please visit www.draytek.com.

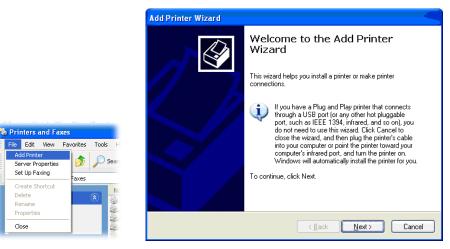


Before using it, please follow the steps below to configure settings for connected computers (or wireless clients).

- 1. Connect the printer with the router through USB port.
- 2. Open Start->Settings-> Printer and Faxes.



3. Open **File->Add a New Computer**. A welcome dialog will appear. Please click **Next**.



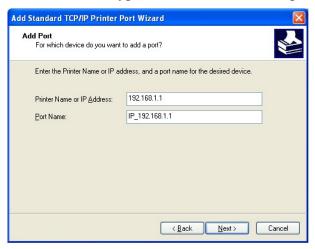
4. Click Local printer attached to this computer and click Next.



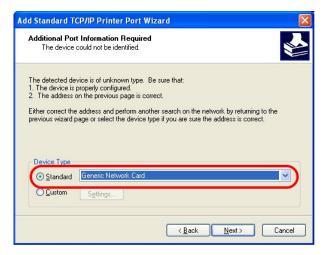
5. In this dialog, choose **Create a new port Type of port** and use the drop down list to select **Standard TCP/IP Port**. Click **Next**.



6. In the following dialog, type **192.168.1.1** (router's LAN IP) in the field of **Printer Name or IP Address** and type **IP\_192.168.1.1** as the port name. Then, click **Next**.



7. Click Standard and choose Generic Network Card.



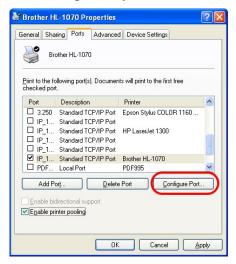
8. Then, in the following dialog, click **Finish**.



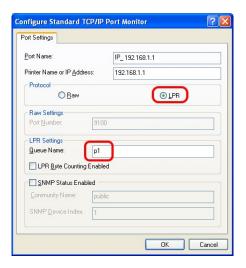
9. Now, your system will ask you to choose right name of the printer that you installed onto the router. Such step can make correct driver loaded onto your PC. When you finish the selection, click **Next**.



10. For the final stage, you need to go back to **Control Panel-> Printers** and edit the property of the new printer you have added.

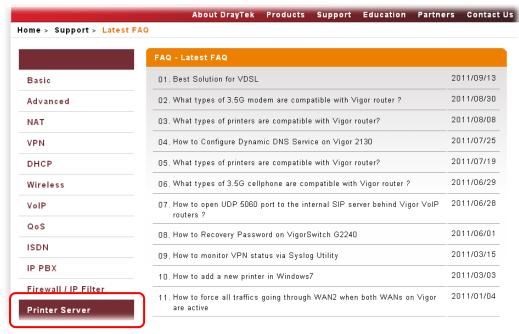


11. Select "LPR" on Protocol, type **p1** (number 1) as Queue Name. Then click **OK**. Next please refer to the red rectangle for choosing the correct protocol and LPR name.

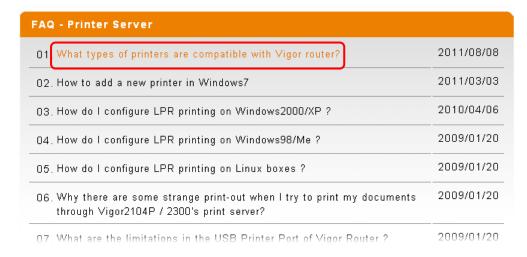


The printer can be used for printing now. Most of the printers with different manufacturers are compatible with vigor router.

**Note 1:** Some printers with the fax/scanning or other additional functions are not supported. If you do not know whether your printer is supported or not, please visit www.draytek.com to find out the printer list. Open **Support >FAQ**; find out the link of **Printer Server** and click it.



Then, click the **What types of printers are compatible with Vigor router**? link.



**Note 2:** Vigor router supports printing request from computers via LAN ports but not WAN port.

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# 3. Configuring Web Pages

To access Internet, please finish basic configuration after completing the hardware installation.

## 3.1 Accessing Web Page

1. Make sure your PC connects to the router correctly.



**Notice:** You may either simply set up your computer to get IP dynamically from the router or set up the IP address of the computer to be the same subnet as **the default IP address of Vigor router 192.168.1.1**. For the detailed information, please refer to the later section - Trouble Shooting of the guide.

2. Open a web browser on your PC and type http://192.168.1.1. The following window will be open to ask for username and password.

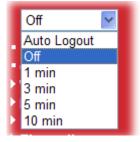


3. Please type "admin/admin" as Username/Password and click **Login**.



**Notice:** If you fail to access to the web configuration, please go to "Trouble Shooting" for detecting and solving your problem.

4. The web page can be logged out according to the chosen condition. The default setting is **Auto Logout**, which means the web configuration system will logout after five minutes without any operation. Change the setting for your necessity.



#### 3.2 Basic Configuration

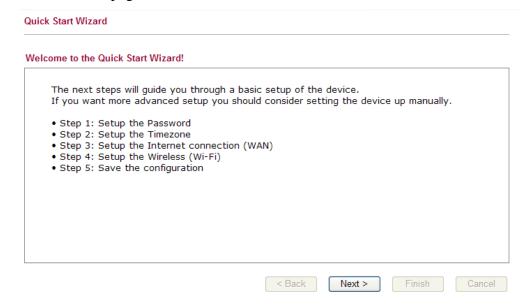
The **Quick Start Wizard** is designed for you to easily set up your router for Internet access. You can directly access the **Quick Start Wizard** via Web Configurator.

- 1. Access into the web configurator of Vigor1000 on your PC.
- 2. The **Main Screen** will appear as follows. Click **Quick Start Wizard**.

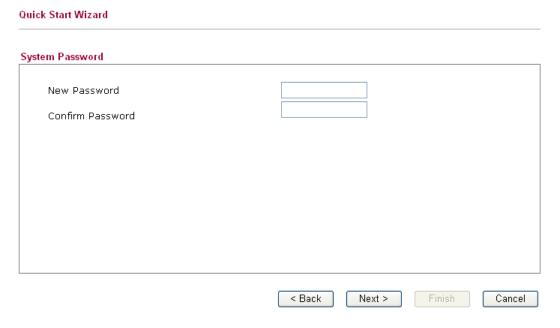


The home page will change slightly in accordance with the router you have.

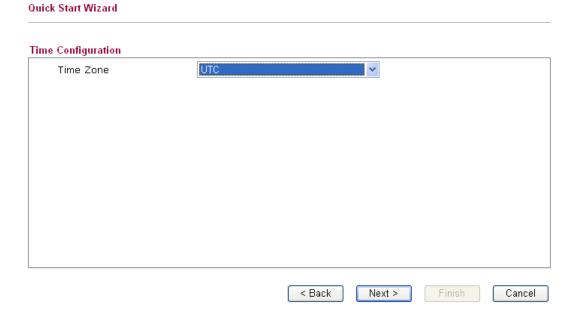
3. The welcome page will be shown as below. Please click **Next**.



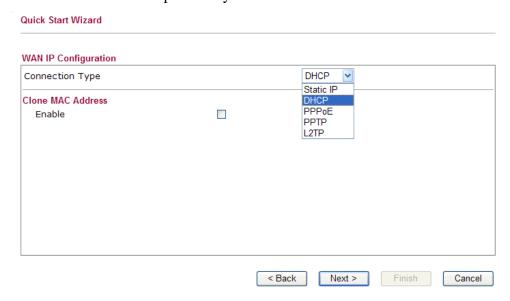
4. Enter the login password on the field of **New Password** and retype it on the field of **Confirm Password**. Then click **Next** to continue. After restarting the router, new password must be typed for accessing into router web page.



5. On the next page as shown below, please choose time zone for your router. Then click **Next** for next step.



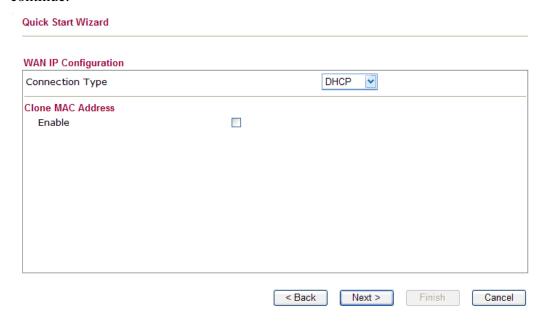
6. On the next page as shown below, please select the appropriate Internet access type **according to the information from your ISP**. For example, you should select PPPoE mode if the ISP provides you PPPoE interface.



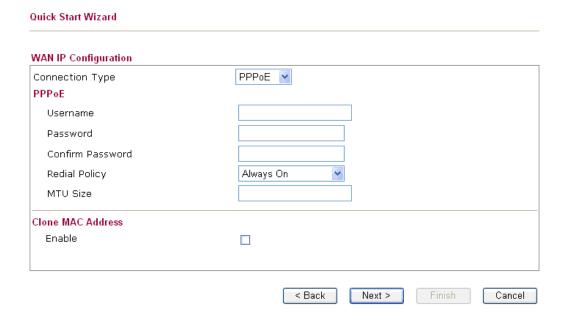
**Static IP:** if you click Static IP, you will get the following page. Please type in the IP address information originally provided by your ISP. Then click **Next** for next step.



**DHCP:** if you click DHCP, you will get the following page. Simply click **Next** to continue.



**PPPoE:** if you click PPPoE as the protocol, please manually enter the Username/Password provided by your ISP and all the required information. Then, click **Next**.



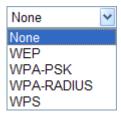
**PPTP/L2TP:** if you click PPTP/L2TP as the protocol, please manually enter the Username/Password provided by your ISP and all the required information. Then, click **Next**.

Quick Start Wizard	
WAN IP Configuration	
Connection Type	PPTP Y
PPTP Settings	
Username	
Password	
Server Address	
WAN IP Network Settings	Static IP 💌
IP Address	172.16.3.102
Subnet Mask	255.255.0.0
Redial Policy	Always On 💌
MTU Size	
Clone MAC Address	
Enable	

7. In an Infrastructure Mode of wireless network, Vigor wireless router plays a role as an **Access Point** (**AP**) connecting to lots of wireless clients or Stations (STA). All the STAs (clients) will share the same Internet connection with other wired hosts via Vigor wireless router. Fore wireless connection, please configure the parameters listed in this page. Then, click **Next**. For the user of Vigor1000, please skip this step.

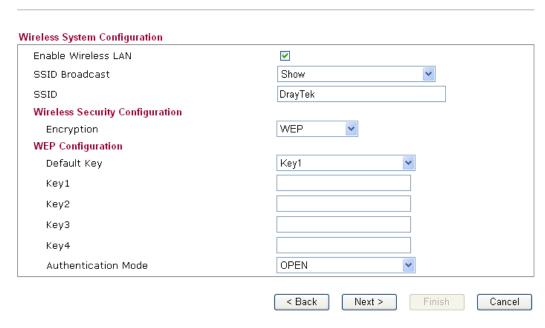


Select an appropriate encryption mode to improve the security and privacy of your wireless data packets.

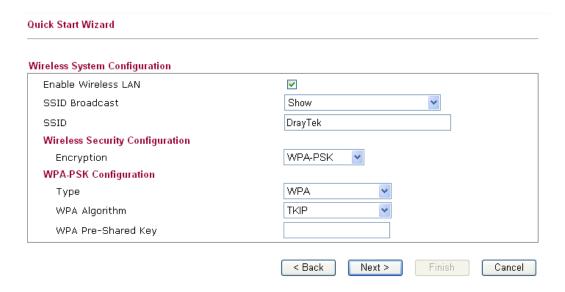


**WEP**: if you choose WEP as the security configuration, you have to specify encryption key and authentication mode.

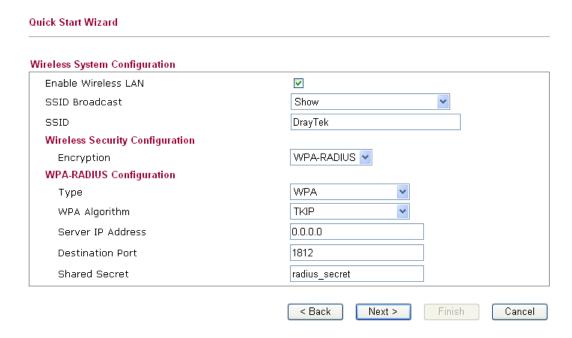
#### Quick Start Wizard



**WPA-PSK**: if you choose WPA-PSK as the security configuration, you have to specify WPA mode, algorithm and pre-shared key.



**WPA-RADIUS**: if you choose WPA-Radius as the security configuration, you have to specify WPA mode, algorithm, Radius server, Radius server port and Radius server secret respectively.



**WPS**: if you choose WPS as the security configuration, you can press Start WPS PIN and Start WPS PBC to complete the wireless connection.



8. Click **Next** to continue. Now you can see the following screen. It indicates that the setup is complete. Different types of connection modes will have different summary. Click **Finish** and then restart the router.



Now, you can enjoy surfing on the Internet.

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# 4. Trouble Shooting

This section will guide you to solve abnormal situations if you cannot access into the Internet after installing the router and finishing the web configuration. Please follow sections below to check your basic installation status stage by stage.

- > Checking if the hardware status is OK or not.
- Checking if the network connection settings on your computer are OK or not.
- Pinging the router from your computer.
- Checking if the ISP settings are OK or not.
- ➤ Backing to factory default setting if necessary.

If all above stages are done and the router still cannot run normally, it is the time for you to contact your dealer for advanced help.

#### 4.1 Checking If the Hardware Status Is OK or Not

Follow the steps below to verify the hardware status.

- 1. Check the power line and LAN cable connections. Refer to "2.1 Hardware Installation" for details.
- 2. Turn on the router. Make sure the **ACT LED** blink once per second and the correspondent **LAN LED** is bright.



3. If not, it means that there is something wrong with the hardware status. Simply back to "2.1 Hardware Installation" to execute the hardware installation again. And then, try again.

# 4.2 Checking If the Network Connection Settings on Your Computer Is OK or Not

Sometimes the link failure occurs due to the wrong network connection settings. After trying the above section, if the link is stilled failed, please do the steps listed below to make sure the network connection settings is OK.

#### **For Windows**



The example is based on Windows XP. As to the examples for other operation systems, please refer to the similar steps or find support notes in **www.draytek.com**.

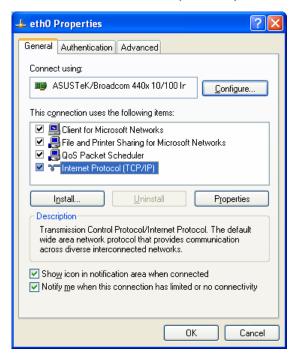
1. Go to **Control Panel** and then double-click on **Network Connections.** 



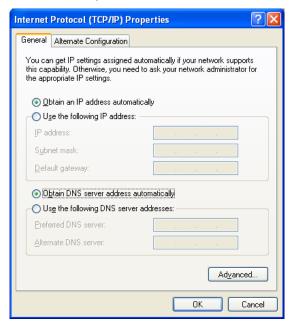
2. Right-click on **Local Area Connection** and click on **Properties**.



3. Select Internet Protocol (TCP/IP) and then click Properties.

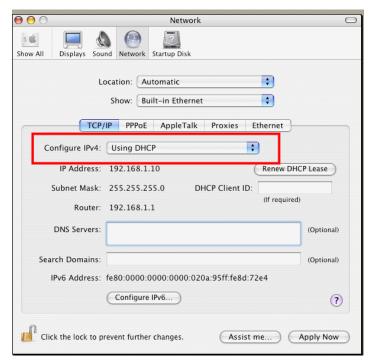


4. Select Obtain an IP address automatically and Obtain DNS server address automatically.



#### For Mac OS

- 1. Double click on the current used Mac OS on the desktop.
- 2. Open the **Application** folder and get into **Network**.
- 3. On the **Network** screen, select **Using DHCP** from the drop down list of Configure IPv4.



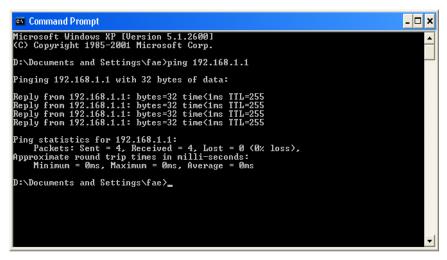
#### 4.3 Pinging the Router from Your Computer

The default gateway IP address of the router is 192.168.1.1. For some reason, you might need to use "ping" command to check the link status of the router. **The most important thing is that the computer will receive a reply from 192.168.1.1.** If not, please check the IP address of your computer. We suggest you setting the network connection as **get IP automatically**. (Please refer to the section 4.2)

Please follow the steps below to ping the router correctly.

#### For Windows

- 1. Open the **Command** Prompt window (from **Start menu> Run**).
- 2. Type **command** (for Windows 95/98/ME) or **cmd** (for Windows NT/ 2000/XP/Vista). The DOS command dialog will appear.



- 3. Type **ping 192.168.1.1** and press [Enter]. If the link is OK, the line of "**Reply from 192.168.1.1:bytes=32 time<1ms TTL=255**" will appear.
- 4. If the line does not appear, please check the IP address setting of your computer.

#### For Mac OS (Terminal)

- 1. Double click on the current used Mac OS on the desktop.
- 2. Open the **Application** folder and get into **Utilities**.
- 3. Double click **Terminal**. The Terminal window will appear.
- 4. Type **ping 192.168.1.1** and press [Enter]. If the link is OK, the line of "64 bytes from 192.168.1.1: icmp\_seq=0 ttl=255 time=xxxx ms" will appear.

```
\Theta \Theta \Theta
                           Terminal - bash - 80x24
Last login: Sat Jan 3 02:24:18 on ttyp1
                                                                                  9
Welcome to Darwin!
Vigor10:~ draytek$ ping 192.168.1.1
PING 192.168.1.1 (192.168.1.1): 56 data bytes
64 bytes from 192.168.1.1: icmp_seq=0 ttl=255 time=0.755 ms
64 bytes from 192.168.1.1: icmp_seq=1 ttl=255 time=0.697 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=255 time=0.716 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=255 time=0.731 ms
64 bytes from 192.168.1.1: icmp_seq=4 ttl=255 time=0.72 ms
--- 192.168.1.1 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 0.697/0.723/0.755 ms
Vigor10:~ draytek$
```

#### 4.4 Checking If the ISP Settings are OK or Not

Open **WAN>>Internet Access** page and then check whether the ISP settings are set correctly. Use the **Connection Type** drop down list to choose correct mode (e.g., Static IP/DHCP/PPPoE/PPTP/L2TP...) for reviewing the settings that you configured previously.



# 4.5 Backing to Factory Default Setting If Necessary

Sometimes, a wrong connection can be improved by returning to the default settings. Try to reset the router by software or hardware.

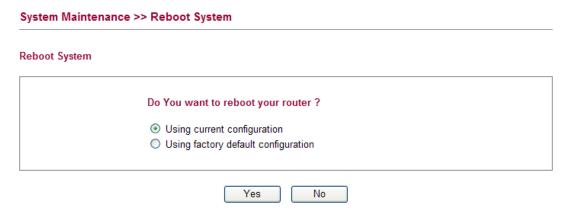


**Warning:** After pressing **factory default setting**, you will loose all settings you did before. Make sure you have recorded all useful settings before you pressing.

#### **Software Reset**

You can reset the router to factory default via Web page.

Go to **System Maintenance** and choose **Reboot System** on the web page. The following screen will appear. Choose **Using factory default configuration** and click **OK**. After few seconds, the router will return all the settings to the factory settings.



#### **Hardware Reset**

While the router is running (ACT LED blinking), press the **Factory Reset** button and hold for more than 5 seconds. When you see the **ACT** LED blinks rapidly, please release the button. Then, the router will restart with the default configuration.



After restore the factory default setting, you can configure the settings for the router again to fit your personal request.

## 4.6 Contacting Your Dealer

If the router still cannot work correctly after trying many efforts, please contact your dealer for further help right away. For any questions, please feel free to send e-mail to support@draytek.com.