DrayTek

Vigor2850 Series

VDSL2 Security Firewall

Quick Start Guide

V 2.0

Vigor2850 Series
VDSL2 Security Firewall
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Version: 1.1

Firmware Version: V3.6.2_RC1

Date: 02/03/2012

Copyright Information

Copyright Declarations

Trademarks

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- Windows, Windows 95, 98, Me, NT, 2000, XP, 7 and Explorer are trademarks of Microsoft Corp.
- Apple and Mac OS are registered trademarks of Apple Computer Inc.
- Other products may be trademarks or registered trademarks of their respective manufacturers.

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, Hsinchu County, Taiwan 303
Product:	Vigor2850 Series Router

DrayTek Corp. declares that Vigor2850 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/EEC 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/EEC 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.

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

This product is designed for the DSL, ISDN, POTS, and 2.4GHz/5GHz 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

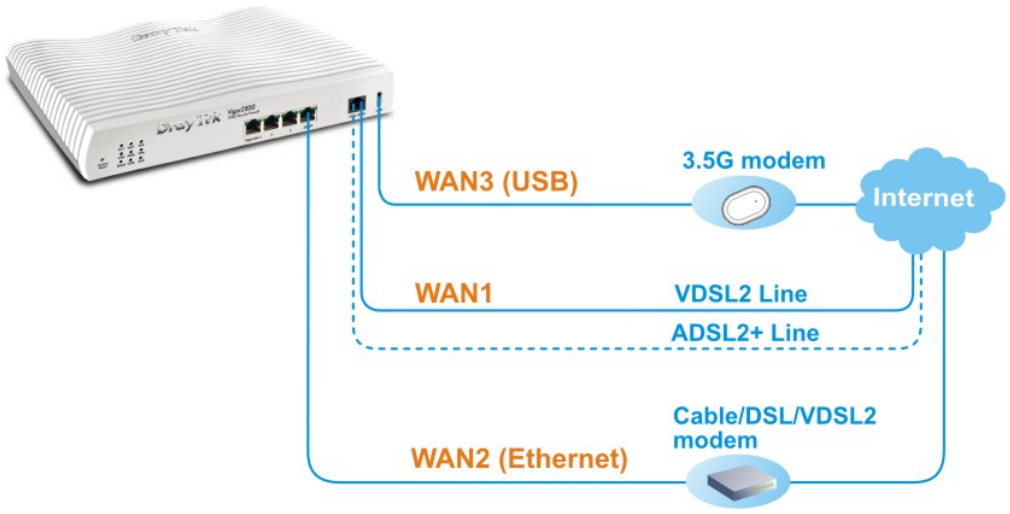
Vigor2850 series is a VDSL2 router with multi-subnet for secure and efficient workgroup management. It integrates IP layer QoS, NAT session/bandwidth management to help users control works well with large bandwidth.

By adopting hardware-based VPN platform and hardware encryption of AES/DES/3DES, and hardware key hash of SHA-1/MD5, the router increases the performance of VPN greatly and offers several protocols (such as IPSec/PPTP/L2TP) with up to 32 VPN tunnels.

The object-based design used in SPI (Stateful Packet Inspection) firewall allows users to set firewall policy with ease. CSM (Content Security Management) provides users control and management in IM (Instant Messenger) and P2P (Peer to Peer) more efficiency than before. In addition, DoS/DDoS prevention and URL/Web content filter strengthen the security outside and control inside.

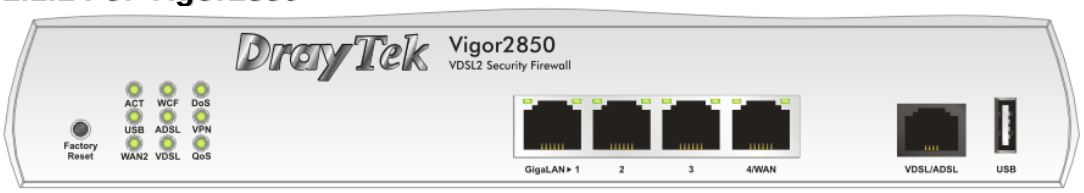
Vigor2850 series supports USB interface for connecting USB printer to share printing function, 3G USB modem for network connection, or connectivity for network FTP service.

Multi-WAN Load Balancing/Failover



1.1 Panel Explanation

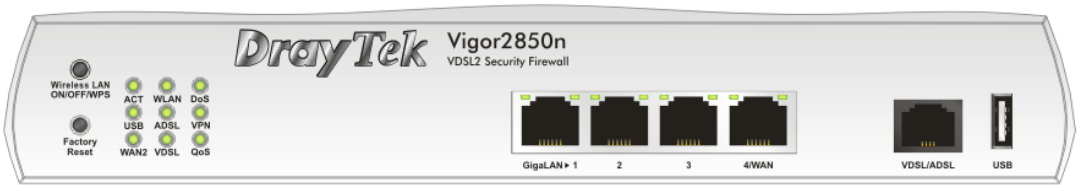
1.1.1 For Vigor2850



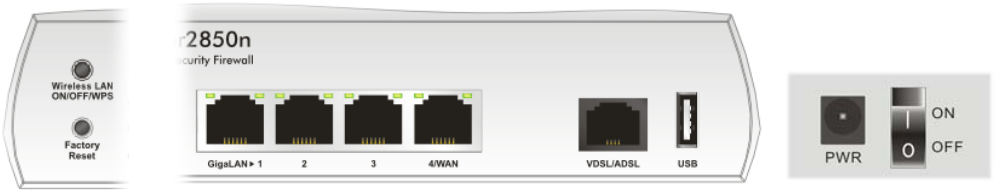
LED		Status	Explanation
ACT (Activity)		Blinking	The router is powered on and running normally.
		Off	The router is powered off.
USB		On	USB device is connected and ready for use.
		Blinking	The data is transmitting.
WAN2		On	Internet connection is ready.
		Off	Internet connection is not ready.
		Blinking	The data is transmitting.
WCF		On	The Web Content Filter is active. (It is enabled from **Firewall >> General Setup**).
ADSL		On	The router is ready to access Internet through ADSL link.
		Blinking	Slowly: The ADSL connection is ready. Quickly: The connection is training.
VDSL		On	The router is ready to access Internet through VDSL link.
		Blinking	Slowly: The VDSL connection is ready. Quickly: The connection is training.
DoS		On	The DoS/DDoS function is active.
		Blinking	It will blink while detecting an attack.
VPN		On	The VPN tunnel is active.
QoS		On	The QoS function is active.
LED on Connector			
GigaLAN 1/2/3	Left LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED (Green)	On	The port is connected with 1000Mbps.
		Off	The port is connected with 10/100Mbps
GigaLAN 4/WAN	Left LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED (Green)	On	The port is connected with 1000Mbps.
		Off	The port is connected with 10/100Mbps

Interface	Description
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.
GigaLAN (1-3)	Connecters for local network devices.
4/WAN	Connecter for local network devices or modem for accessing Internet.
VDSL/ADSL	Connecter for accessing the Internet.
USB	Connecter for a USB device (for 3G USB Modem or printer).
PWR	Connecter for a power adapter.
ON/OFF	Power Switch.

1.1.2 For Vigor2850n

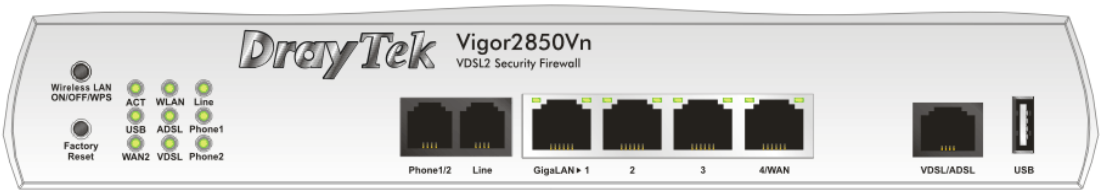


LED		Status	Explanation
ACT (Activity)		Blinking	The router is powered on and running normally.
		Off	The router is powered off.
USB		On	USB device is connected and ready for use.
		Blinking	The data is transmitting.
WAN2		On	Internet connection is ready.
		Off	Internet connection is not ready.
		Blinking	The data is transmitting.
WLAN		On	Wireless access point is ready.
		Blinking	It will blink slowly while wireless traffic goes through. ACT and WLAN LEDs blink quickly and simultaneously when WPS is working, and will return to normal condition after two minutes. (You need to setup WPS within 2 minutes.)
ADSL		On	The router is ready to access Internet through ADSL link.
		Blinking	Slowly: The ADSL connection is ready. Quickly: The connection is training.
VDSL		On	The router is ready to access Internet through VDSL link.
		Blinking	Slowly: The VDSL connection is ready. Quickly: The connection is training.
DoS		On	The DoS/DDoS function is active.
		Blinking	It will blink while detecting an attack.
VPN		On	The VPN tunnel is active.
QoS		On	The QoS function is active.
LED on Connector			
GigaLAN 1/2/3	Left LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED (Green)	On	The port is connected with 1000Mbps.
		Off	The port is connected with 10/100Mbps
GigaLAN 4/WAN	Left LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED (Green)	On	The port is connected with 1000Mbps.
		Off	The port is connected with 10/100Mbps

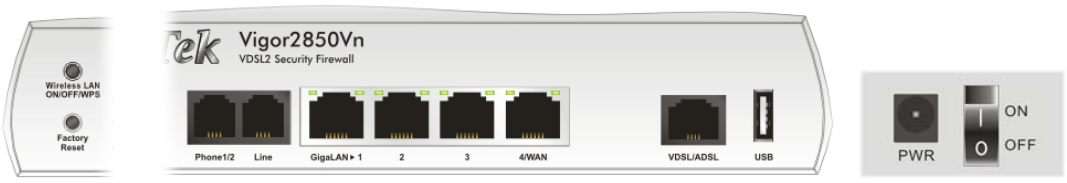


Interface	Description
Wireless LAN ON/OFF/WPS	Press "Wireless LAN ON/OFF/WPS" button once to wait for client device making network connection through WPS. Press "Wireless LAN ON/OFF/WPS" button twice to enable (WLAN LED on) or disable (WLAN LED off) wireless connection.
Factory Reset	Restore the default 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.
GigaLAN (1-3)	Connecters for local network devices.
4/WAN	Connecter for local network devices or modem for accessing Internet.
VDSL/ADSL	Connecter for accessing the Internet.
USB	Connecter for a USB device (for 3G USB Modem or printer).
PWR	Connecter for a power adapter.
ON/OFF	Power Switch.

1.1.3 For Vigor2850Vn

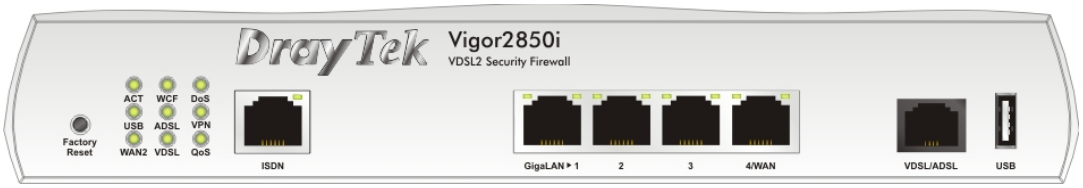


LED		Status	Explanation
ACT (Activity)		Blinking	The router is powered on and running normally.
		Off	The router is powered off.
USB		On	USB device is connected and ready for use.
		Blinking	The data is transmitting.
WAN2		On	Internet connection is ready.
		Off	Internet connection is not ready.
		Blinking	The data is transmitting.
WLAN		On	Wireless access point is ready.
		Blinking	It will blink slowly while wireless traffic goes through. ACT and WLAN LEDs blink quickly and simultaneously when WPS is working, and will return to normal condition after two minutes. (You need to setup WPS within 2 minutes.)
ADSL		On	The router is ready to access Internet through ADSL link.
		Blinking	Slowly: The ADSL connection is ready. Quickly: The connection is training.
VDSL		On	The router is ready to access Internet through VDSL link.
		Blinking	Slowly: The VDSL connection is ready. Quickly: The connection is training.
Line		On	A PSTN phone call comes (in and out). However, when the phone call is disconnected, the LED will be off.
		Off	There is no PSTN phone call.
Phone 1/2		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.
LED on Connector			
GigaLAN 1/2/3	Left LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED (Green)	On	The port is connected with 1000Mbps.
		Off	The port is connected with 10/100Mbps
GigaLAN 4/WAN	Left LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED (Green)	On	The port is connected with 1000Mbps.
		Off	The port is connected with 10/100Mbps

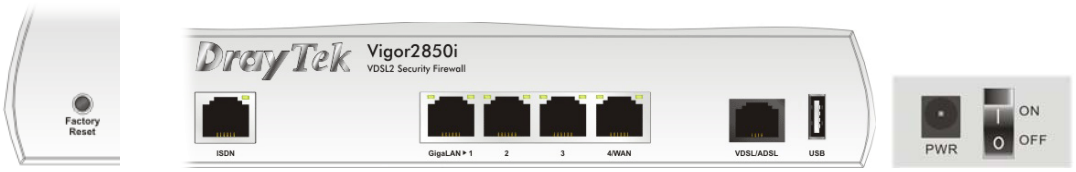


Interface	Description
Wireless LAN ON/OFF/WPS	Press "Wireless LAN ON/OFF/WPS" button once to wait for client device making network connection through WPS. Press "Wireless LAN ON/OFF/WPS" button twice to enable (WLAN LED on) or disable (WLAN LED off) wireless connection.
Factory Reset	Restore the default 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.
Phone 1/2	Connecter for analog phone(s).
Line	Connector for PSTN life line.
GigaLAN (1-3)	Connecters for local network devices.
4/WAN	Connecter for local network devices or modem for accessing Internet.
VDSL/ADSL	Connecter for accessing the Internet.
USB	Connecter for a USB device (for 3G USB Modem or printer).
PWR	Connecter for a power adapter.
ON/OFF	Power Switch.

1.1.4 For Vigor2850i

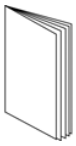


LED		Status	Explanation
ACT (Activity)		Blinking	The router is powered on and running normally.
		Off	The router is powered off.
USB		On	USB device is connected and ready for use.
		Blinking	The data is transmitting.
WAN2		On	Internet connection is ready.
		Off	Internet connection is not ready.
		Blinking	The data is transmitting.
WCF		On	The Web Content Filter is active. (It is enabled from **Firewall >> General Setup**).
		Off	The Web Content Filter is disabled.
ADSL		On	The router is ready to access Internet through ADSL link.
		Blinking	Slowly: The ADSL connection is ready. Quickly: The connection is training.
VDSL		On	The router is ready to access Internet through VDSL link.
		Blinking	Slowly: The VDSL connection is ready. Quickly: The connection is training.
DoS		On	The DoS/DDoS function is active.
		Blinking	It will blink while detecting an attack.
VPN		On	The VPN tunnel is active.
QoS		On	The QoS function is active.
LED on Connector			
ISDN	Right LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data and voice are transmitting.
GigaLAN 1/2/3	Left LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED (Green)	On	The port is connected with 1000Mbps.
		Off	The port is connected with 10/100Mbps
GigaLAN 4/WAN	Left LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED (Green)	On	The port is connected with 1000Mbps.
		Off	The port is connected with 10/100Mbps

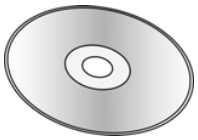


Interface	Description
Factory Reset	Restore the default settings. Usage: Turn on the router (ACT LED is blinking). Press the hole and keep for more than 5 seconds. When you see the ACT LED begins to blink rapidly than usual, release the button. Then the router will restart with the factory default configuration.
ISDN	Connecter for ISDN line.
GigaLAN (1-3)	Connecters for local network devices.
4/WAN	Connecter for local network devices or modem for accessing Internet.
VDSL/ADSL	Connecter for accessing the Internet.
USB	Connecter for a USB device (for 3G USB Modem or printer).
PWR	Connecter for a power adapter.
ON/OFF	Power Switch.

1.2 Package Content

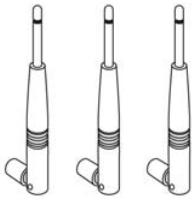


❶ **Quick Start Guide**

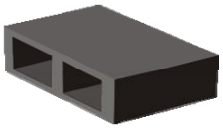


❷ **CD**

❸ **RJ-45 Cable (Ethernet)**

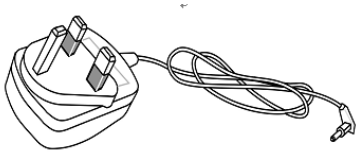


❹ **Antenna (n models)**

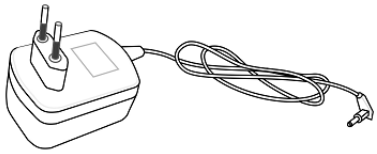


❺ **Analog phone adapter (V models)**

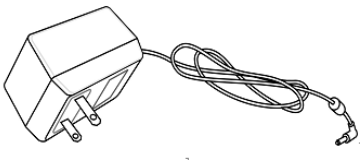
❻ The type of the power adapter depends on the country that the router will be installed:



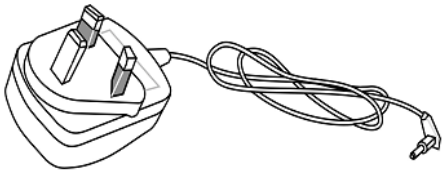
UK-type Power Adapter



EU-type Power Adapter



USA/Taiwan-type Power Adapter



AU/NZ-type Power Adapter

* The maximum power consumption is ***24 Watt***.

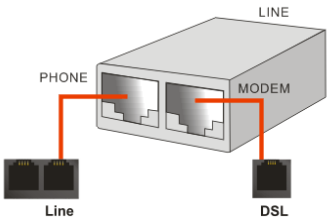
2. Installing Your Router

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

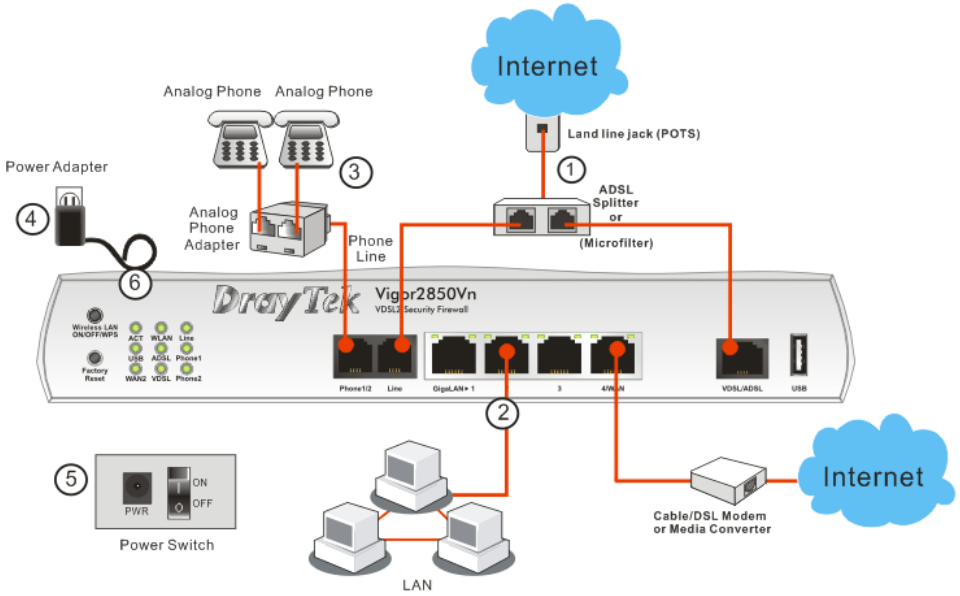
Before starting to configure the router, you have to connect your devices correctly.

1. Connect the XDSL interface to the external XDSL splitter with an XDSL line cable for all models. For Vigor2850Vn, also connect Line interface to external XDSL splitter.



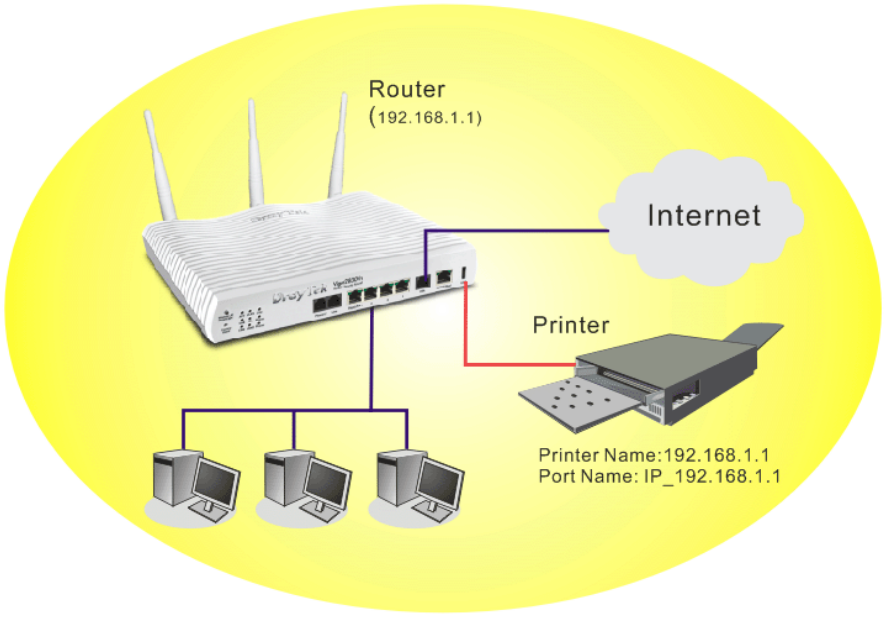
2. Connect one end of an Ethernet cable (RJ-45) to one of the **LAN** ports of the router and the other end of the cable (RJ-45) into the Ethernet port on your computer.
3. Connect the telephone set with phone lines (for using VoIP function). For the model without phone ports, skip this step.
4. Connect one end of the power adapter to the router's power port on the rear panel, and the other side into a wall outlet.
5. Power on the device by pressing down the power switch on the rear panel.
6. The system starts to initiate. After completing the system test, the **ACT** LED will light up and start blinking.

   (For the hardware connection, we take *"Vn"* model as an example.)



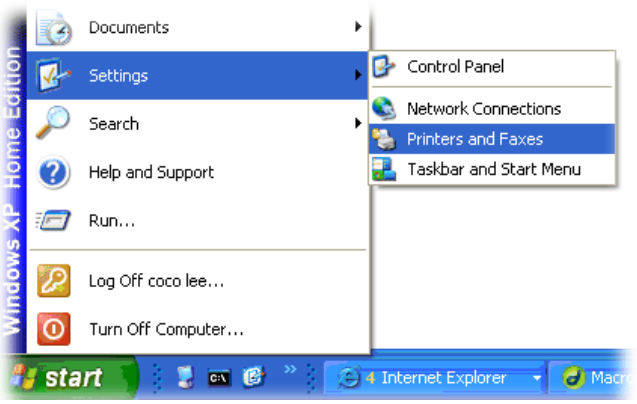
2.2 Printer Installation

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.

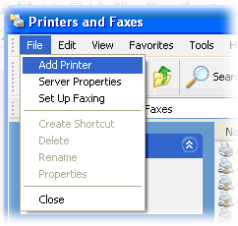


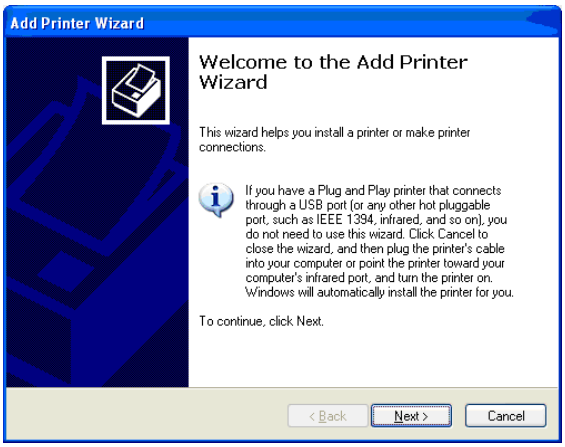
Before using it, please follow the steps below to configure settings for connected computers (or wireless clients).

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

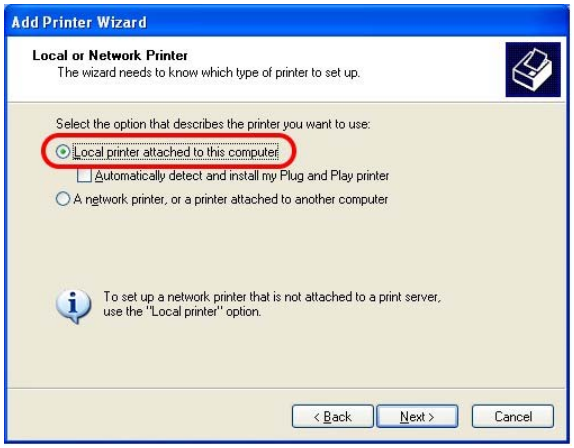


3. Open **File->Add a New Computer**. A welcome dialog will appear. Please click **Next**.

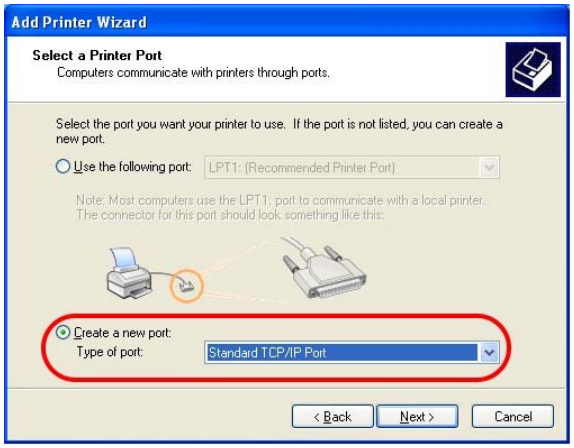




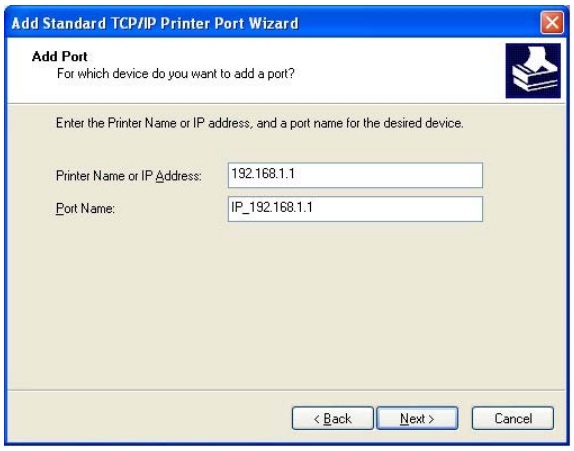
4. Click Local printer attached to this computer and click Next.



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**.



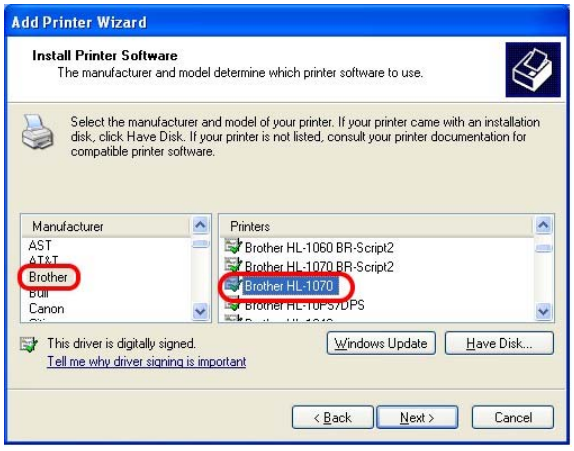
6. In the following dialog, type **192.168.1.1** (router's LAN IP) in the field of **Printer Name or IP Address** and type **IP_192.168.1.1** as the port name. Then, click **Next**.



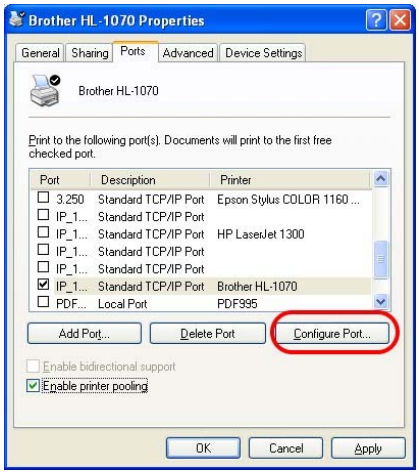
7. Click Standard and choose Generic Network Card.

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

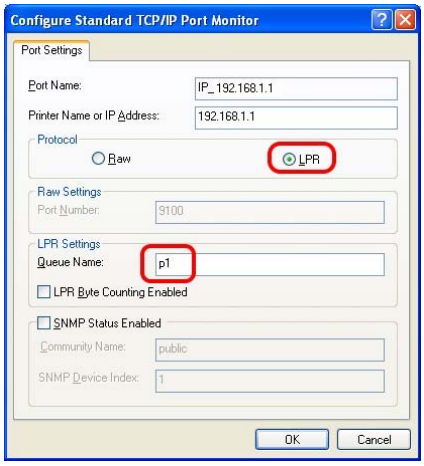
9. Now, your system will ask you to choose right name of the printer that you installed onto the router. Such step can make correct driver loaded onto your PC. When you finish the selection, click **Next**.



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.

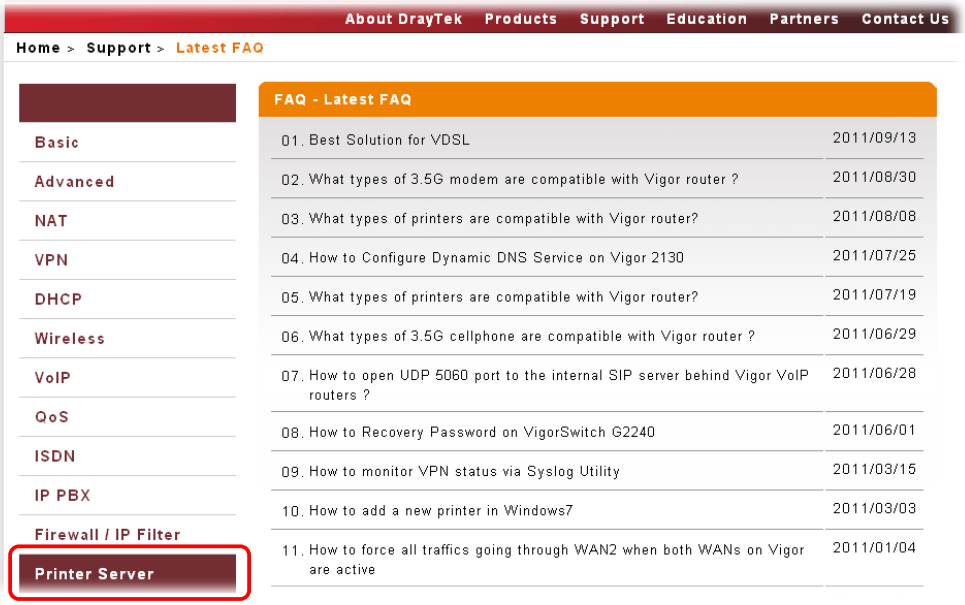


11. Select "**LPR**" on Protocol, type **p1** (number 1) as Queue Name. Then click **OK**. Next please refer to the red rectangle for choosing the correct protocol and LPR name.

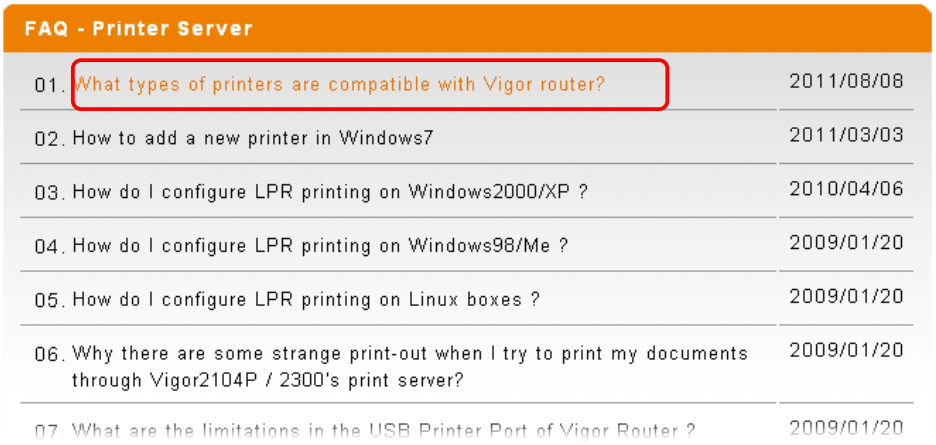


The printer can be used for printing now. Most of the printers with different manufacturers are compatible with vigor router.

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.

3. Configuring Web Pages

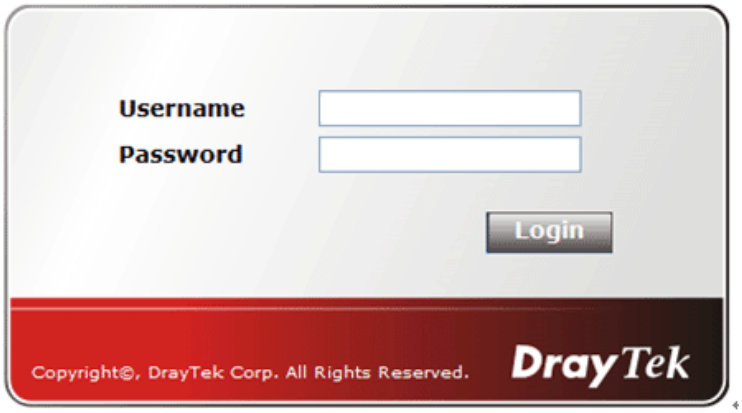
To access Internet, please finish basic configuration after completing the hardware installation.

3.1 Accessing Web Page

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

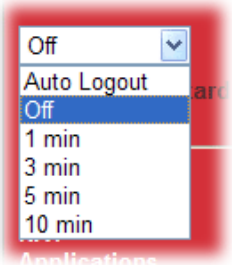
Notice: You may either simply set up your computer to get IP dynamically from the router or set up the IP address of the computer to be the same subnet as **the default IP address of Vigor router 192.168.1.1**. For the detailed information, please refer to the later section - Trouble Shooting of the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

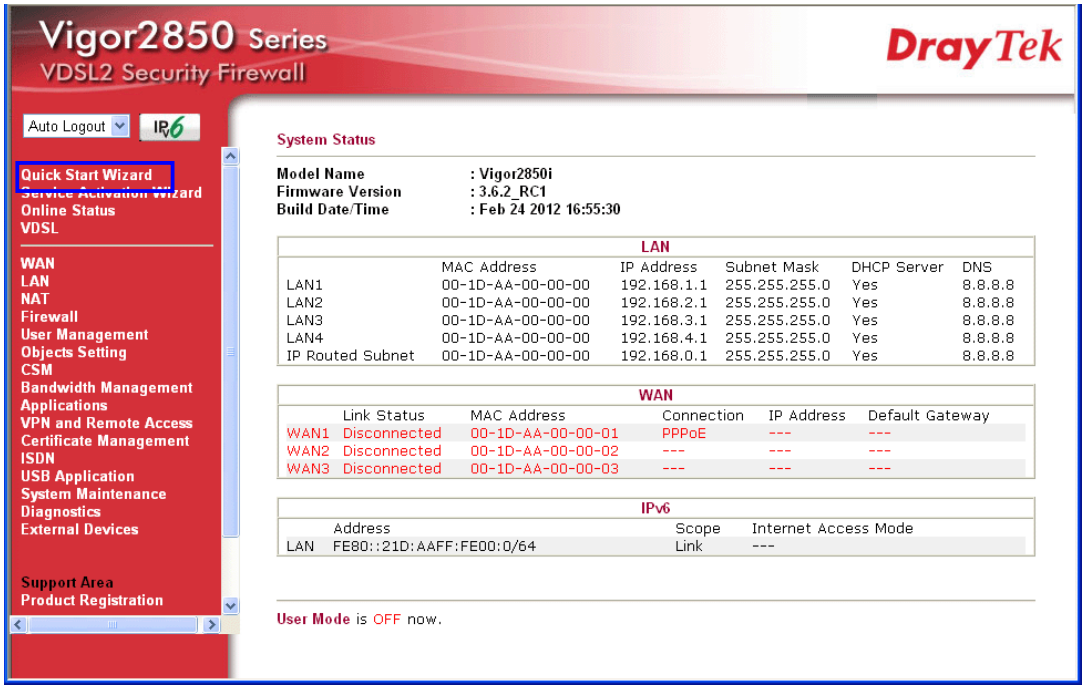
3. The web page can be logged out according to the chosen condition. The default setting is **Auto Logout**, which means the web configuration system will logout after five minutes without any operation. Change the setting for your necessity.



4. Now, the **Main Screen** will pop up.

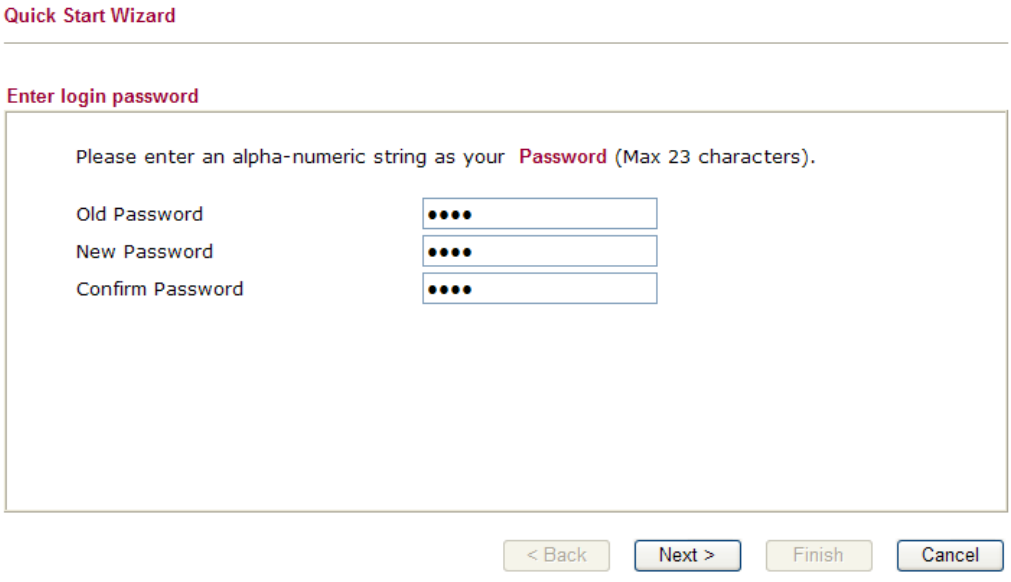
3.2 Basic Configuration

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.

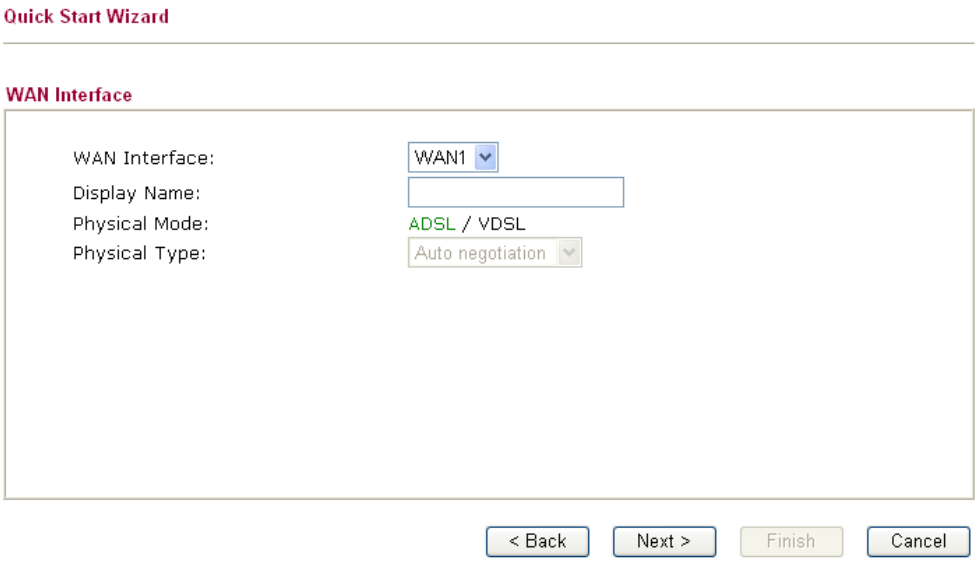


The home page will change slightly in accordance with the router model you have.

If your router can be under an environment with high speed NAT, the configuration provide here can help you to deploy and use the router quickly. The first screen of **Quick Start Wizard** is entering login password. After typing the password, please click **Next**.



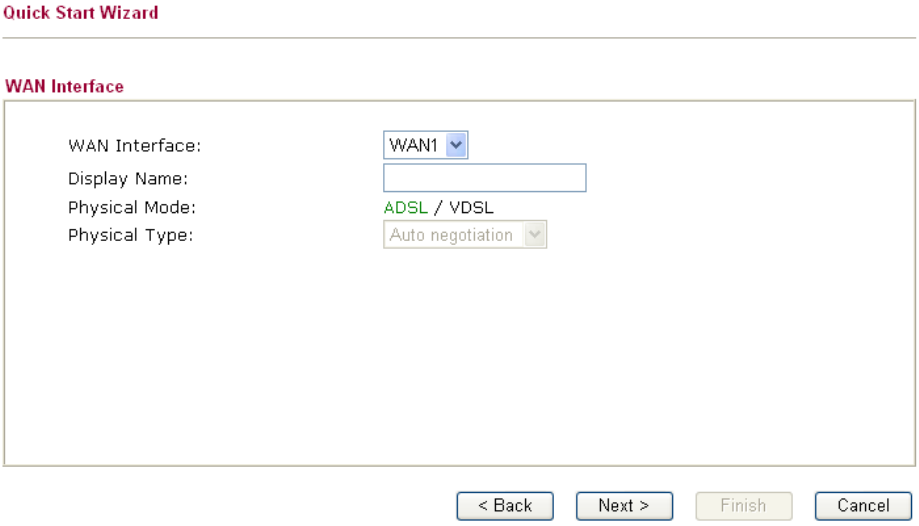
On the next page as shown below, please select the WAN interface that you use. If DSL interface is used, please choose WAN1; if Ethernet interface is used, please choose WAN2; if 3G USB modem is used, please choose WAN3. Then click **Next** for next step.



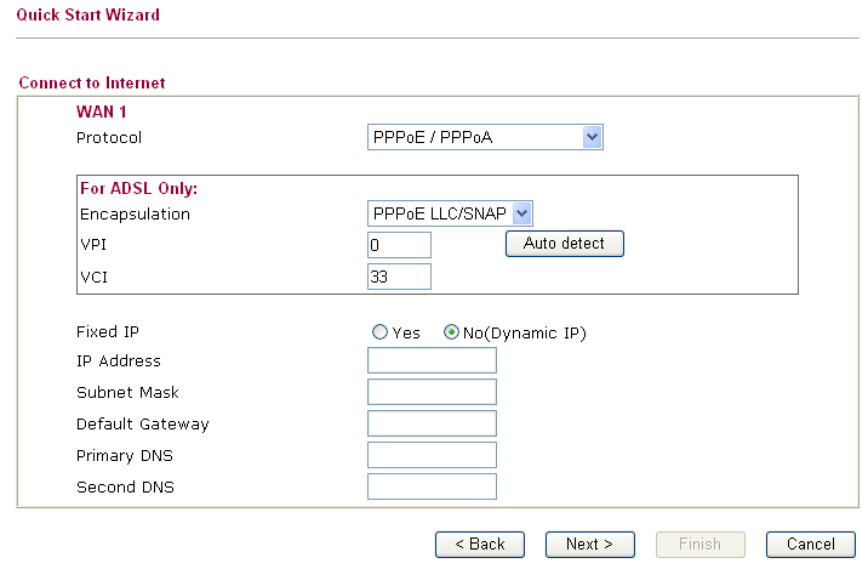
WAN1, WAN2 and WAN3 will bring up different configuration page. Refer to the following for detailed information.

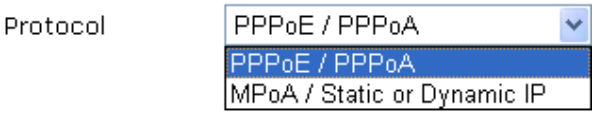
3.2.1 For WAN1 (ADSL/VDSL)

WAN1 is specified for ADSL or VDSL connection.



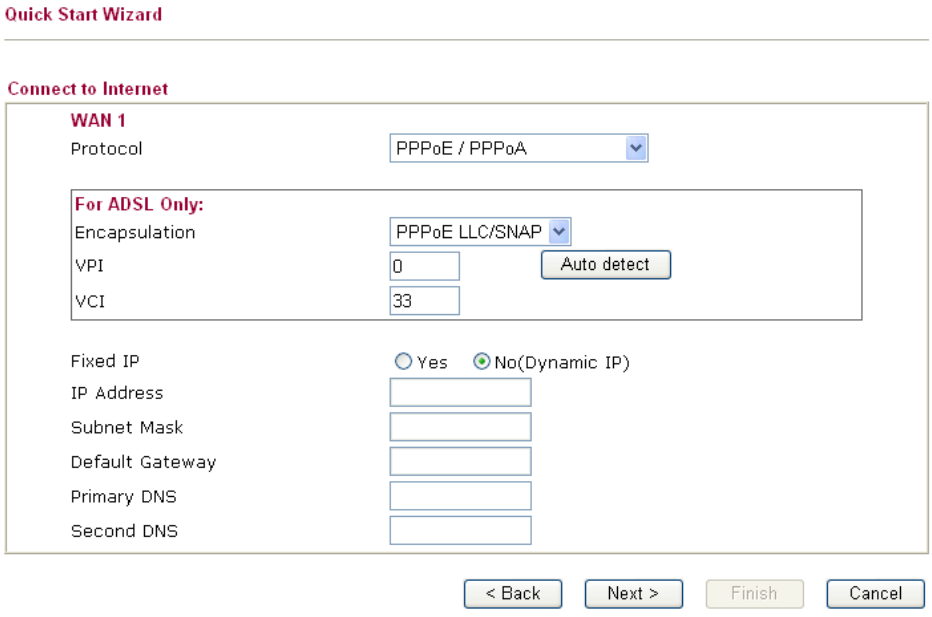
You have to select the appropriate Internet access type **according to the information from your ISP**. For example, you should select PPPoE mode if the ISP provides you PPPoE interface. In addition, the field of **For ADSL Only** will be available only when ADSL is detected. Then click **Next** for next step.



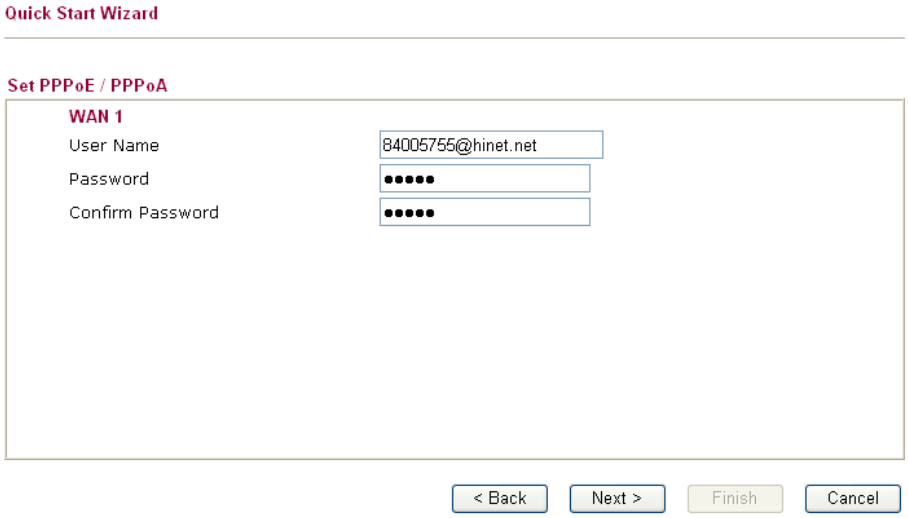


PPPoE/PPPoA

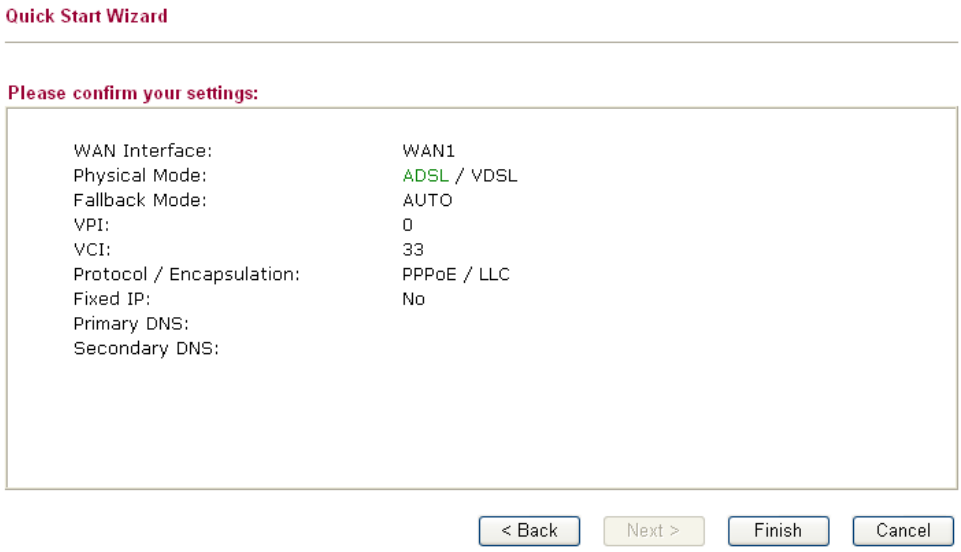
1. Choose **WAN1** as WAN Interface and click the **Next** button; you will get the following page.



2. After finished the above settings, simply click **Next.**



3. Please manually enter the Username/Password provided by your ISP. Then click **Next** for viewing summary of such connection.

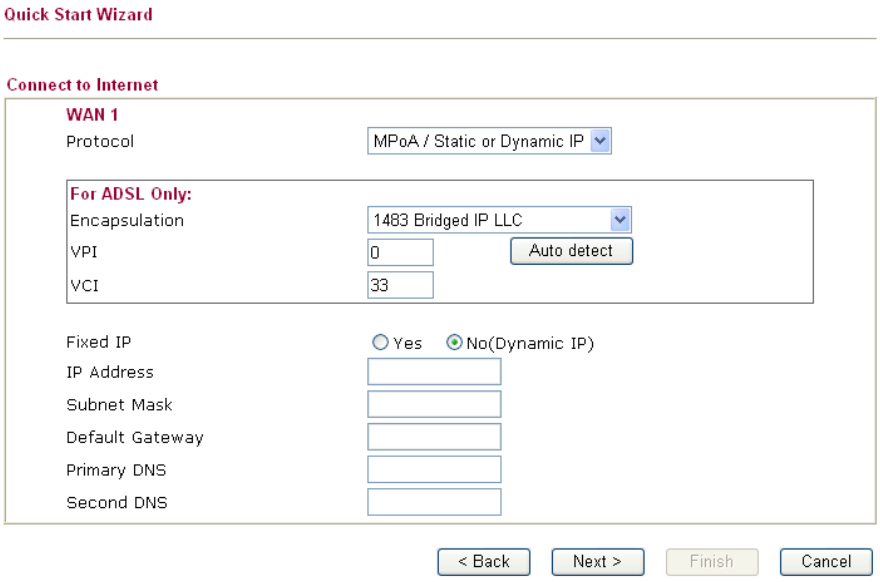


4. Click **Finish.** A page of **Quick Start Wizard Setup OK!!!** will appear. Then, the system status of this protocol will be shown.

5. Now, you can enjoy surfing on the Internet.

MPoA / Static or Dynamic IP

1. Choose **WAN1** as WAN Interface and click the **Next** button; you will get the following page.



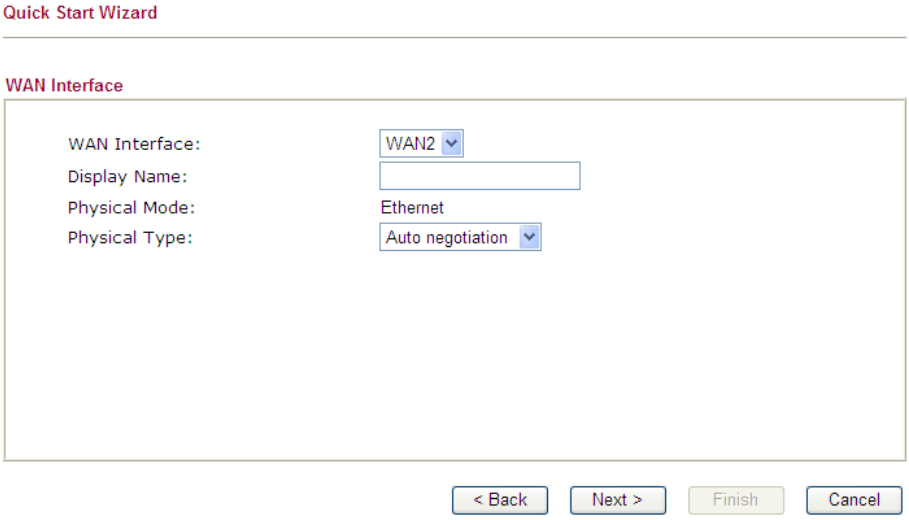
2. Please type in the IP address/mask/gateway information originally provided by your ISP. Then click **Next** for viewing summary of such connection.

3. Click **Finish.** A page of **Quick Start Wizard Setup OK!!!** will appear. Then, the system status of this protocol will be shown.

4. Now, you can enjoy surfing on the Internet.

3.2.2 For WAN2 (Ethernet)

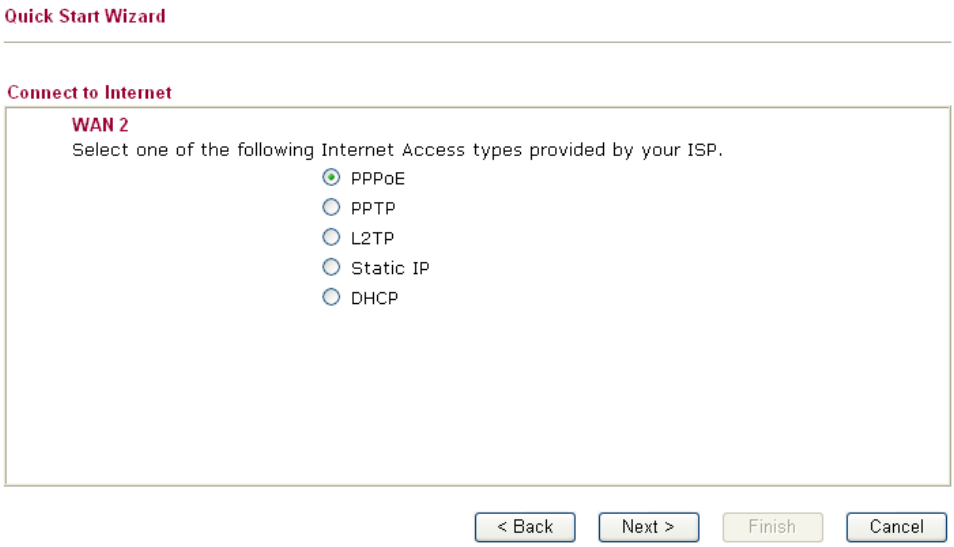
WAN2 is dedicated to physical mode in Ethernet. If you choose WAN2, please specify physical type. Then, click **Next**.



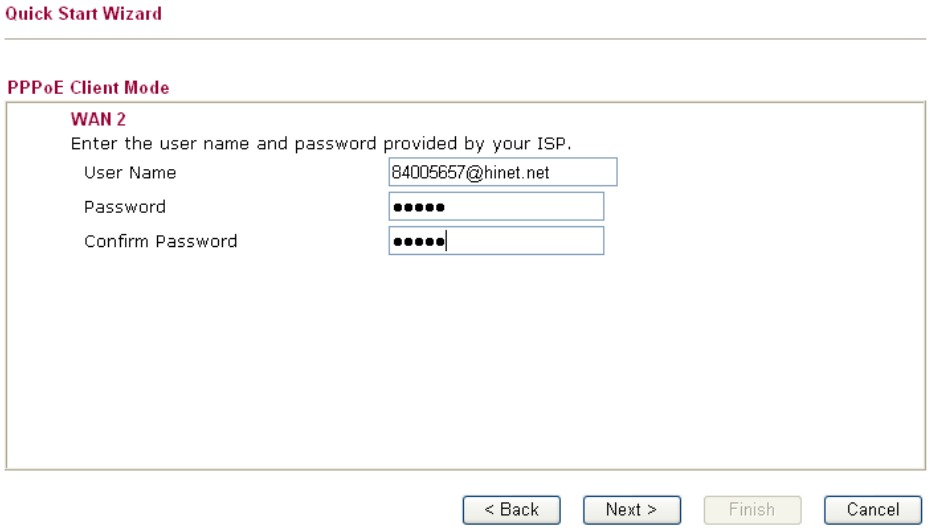
On the next page as shown below, please select the appropriate Internet access type according to the information from your ISP. For example, you should select PPPoE mode if the ISP provides you PPPoE interface. Then click **Next** for next step.

PPPoE

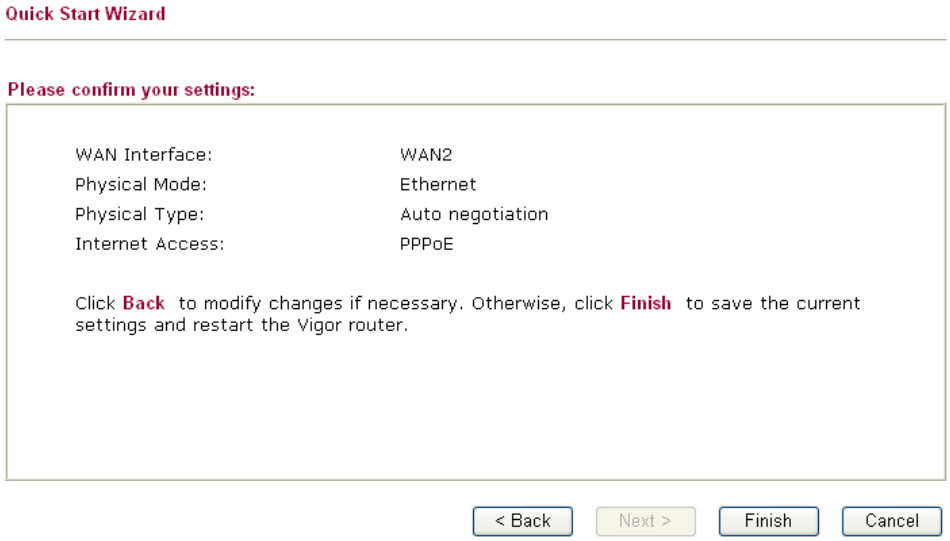
1. Choose **WAN2** as the WAN Interface and click the **Next** button. The following page will be open for you to specify Internet Access Type.



2. Click **PPPoE** as the Internet Access Type. Then click **Next** to continue.



3. Please manually enter the Username/Password provided by your ISP. Click **Next** for viewing summary of such connection.

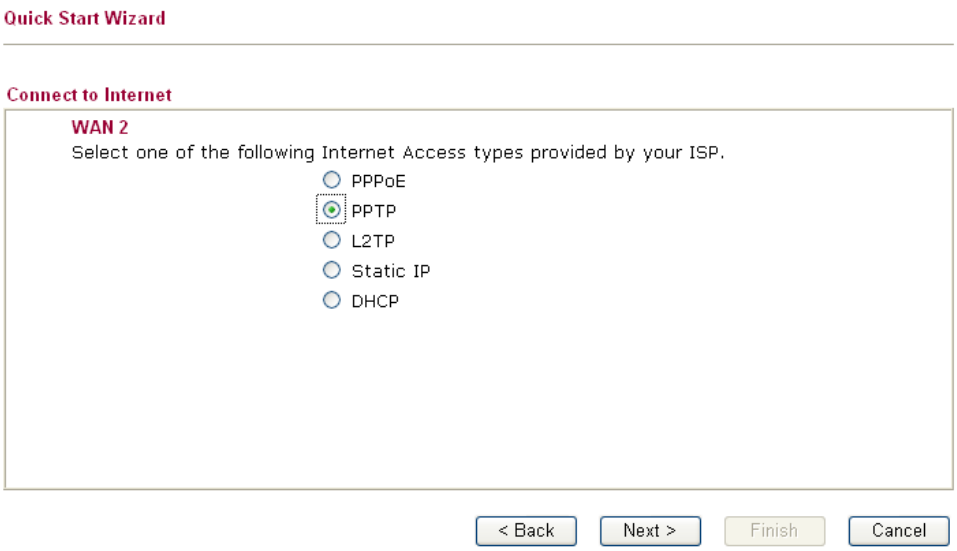


4. Click **Finish.** A page of **Quick Start Wizard Setup OK!!!** will appear. Then, the system status of this protocol will be shown.

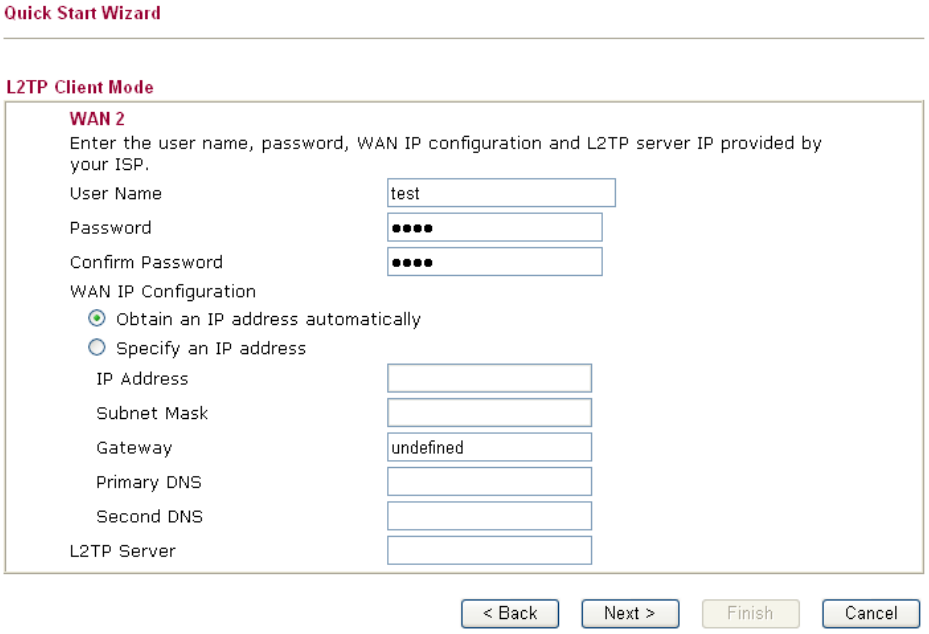
5. Now, you can enjoy surfing on the Internet.

PPTP/L2TP

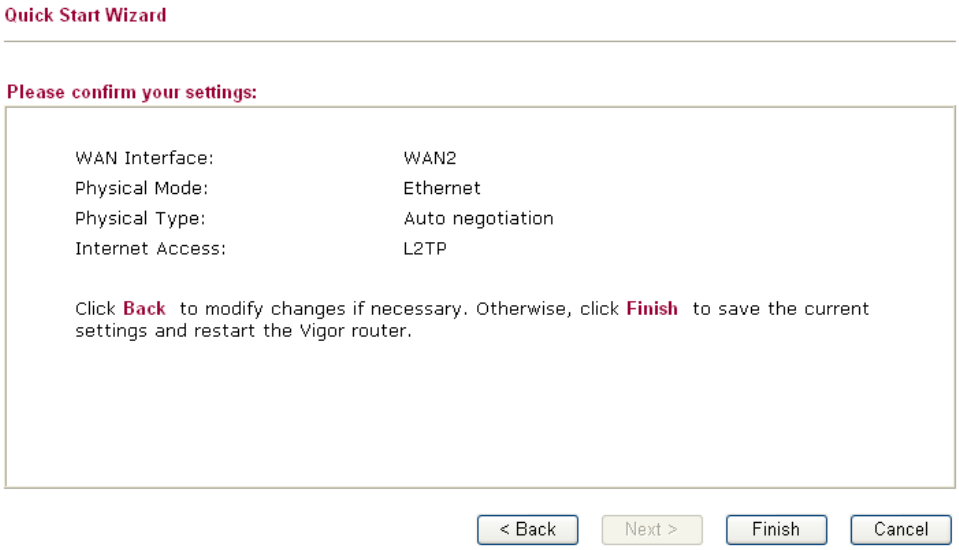
1. Choose **WAN2** as the WAN Interface and click the **Next** button. The following page will be open for you to specify Internet Access Type.



2. Click **PPTP/L2TP** as the Internet Access Type. Then click **Next** to continue.



3. Please type in the IP address/mask/gateway information originally provided by your ISP. Then click **Next** for viewing summary of such connection.

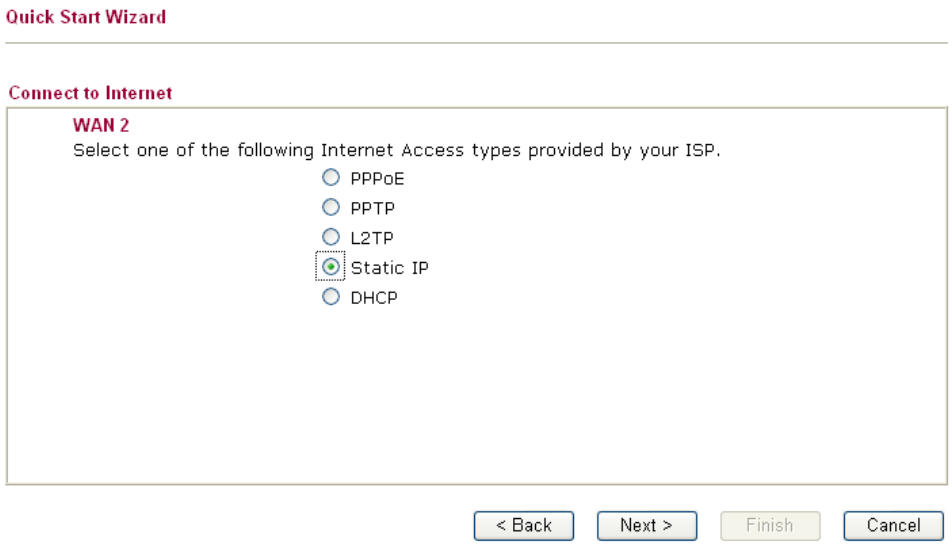


4. Click **Finish.** A page of **Quick Start Wizard Setup OK!!!** will appear. Then, the system status of this protocol will be shown.

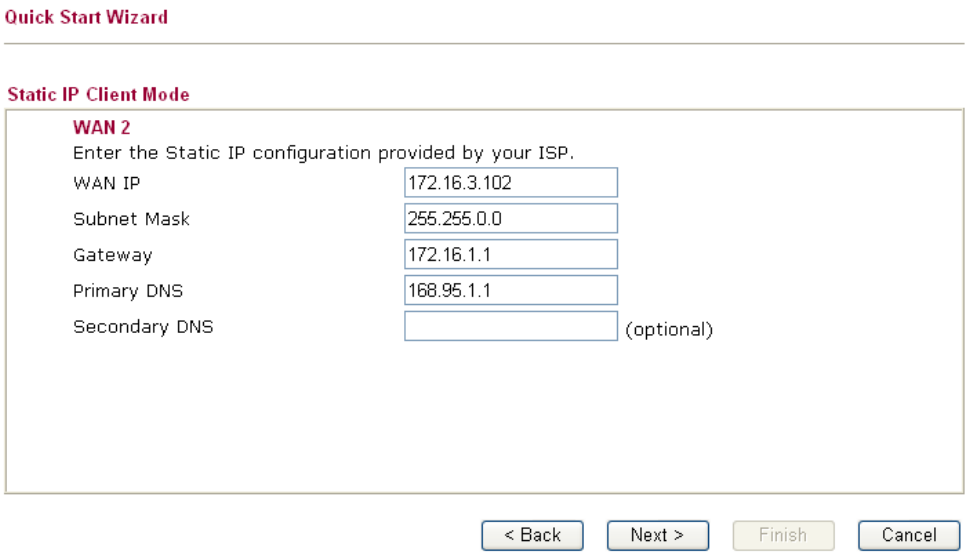
5. Now, you can enjoy surfing on the Internet.

Static IP

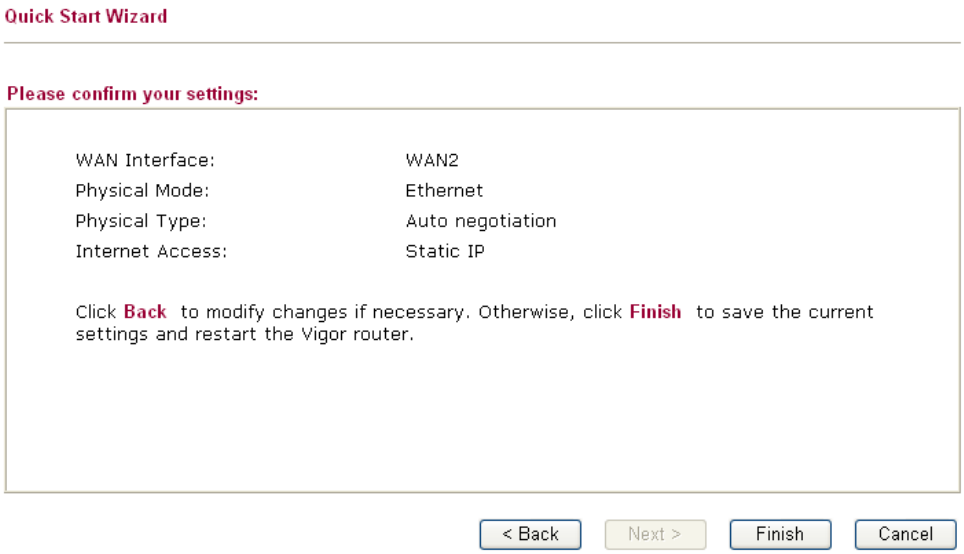
1. Choose **WAN2** as the WAN Interface and click the **Next** button. The following page will be open for you to specify Internet Access Type.



2. Click **Static IP** as the Internet Access type. Simply click **Next** to continue.



3. Please type in the IP address information originally provided by your ISP. Then click **Next** for next step.

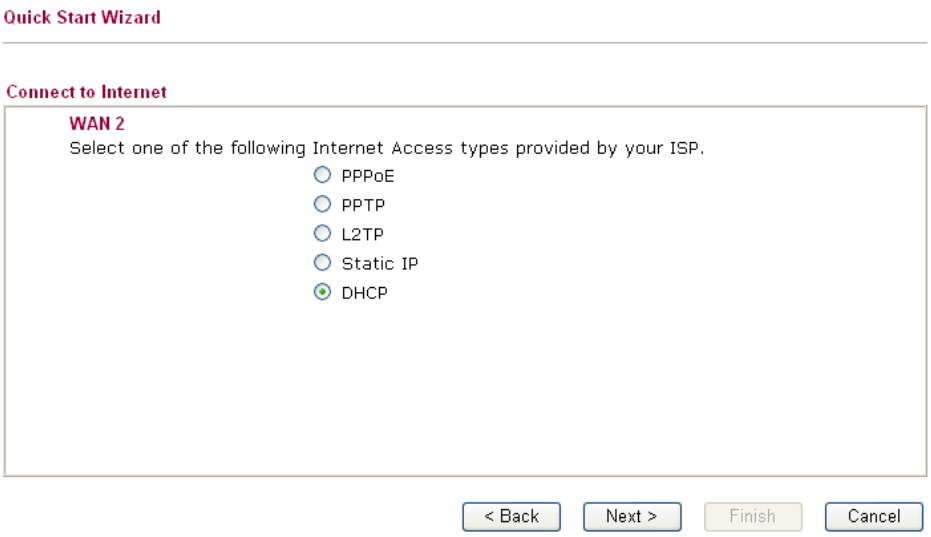


4. Click **Finish.** A page of **Quick Start Wizard Setup OK!!!** will appear. Then, the system status of this protocol will be shown.

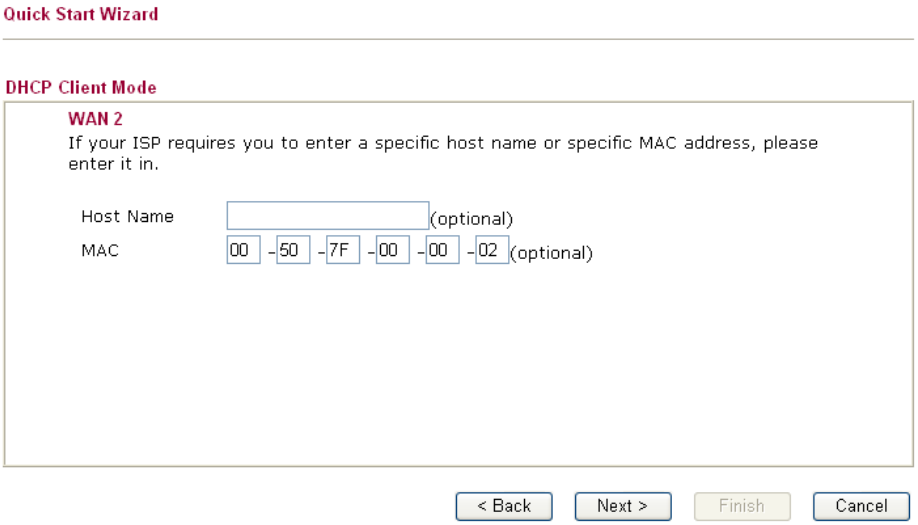
5. Now, you can enjoy surfing on the Internet.

DHCP

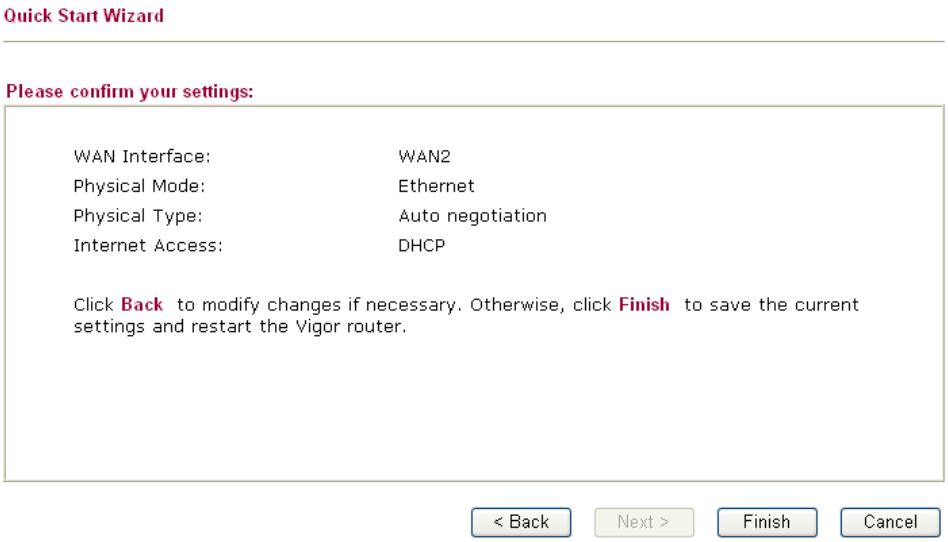
1. Choose **WAN2** as WAN Interface and click the **Next** button. The following page will be open for you to specify Internet Access Type.



2. Click **DHCP** as the Internet Access type. Simply click **Next** to continue.



3. After finished the settings above, click **Next** for viewing summary of such connection.

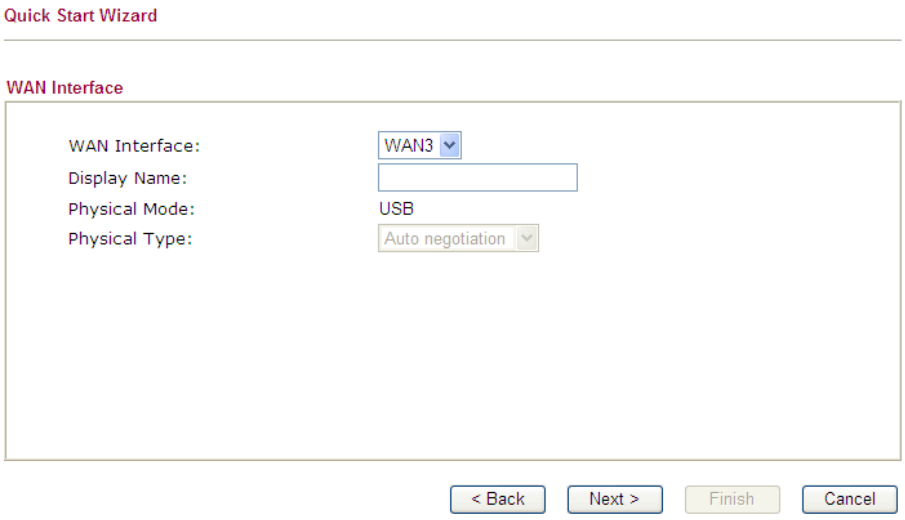


4. Click **Finish.** A page of **Quick Start Wizard Setup OK!!!** will appear. Then, the system status of this protocol will be shown.

5. Now, you can enjoy surfing on the Internet.

3.2.3 For WAN3 (USB)

1. Choose **WAN3** as WAN Interface.



2. Then, click **Next** for viewing summary of such connection.

3. Click **Finish.** A page of **Quick Start Wizard Setup OK!!!** will appear. Then, the system status of this protocol will be shown.

4. Now, you can enjoy surfing on the Internet.

3.3 Wireless Configuration

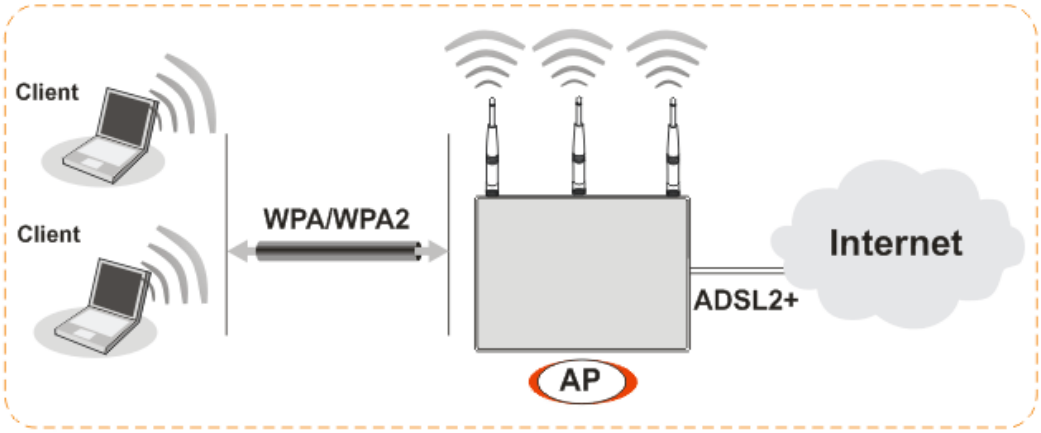
For the user of Vigor2850/Vigor2850i, please skip this section.

For operating Vigor2850n/Vigor2850Vn well, it is necessary for you to set the wireless LAN settings for using wireless function. Please read the following section carefully for configuring the settings for this router.

(The default value of Frequency Domain was set by factory depends on the reselling region.)

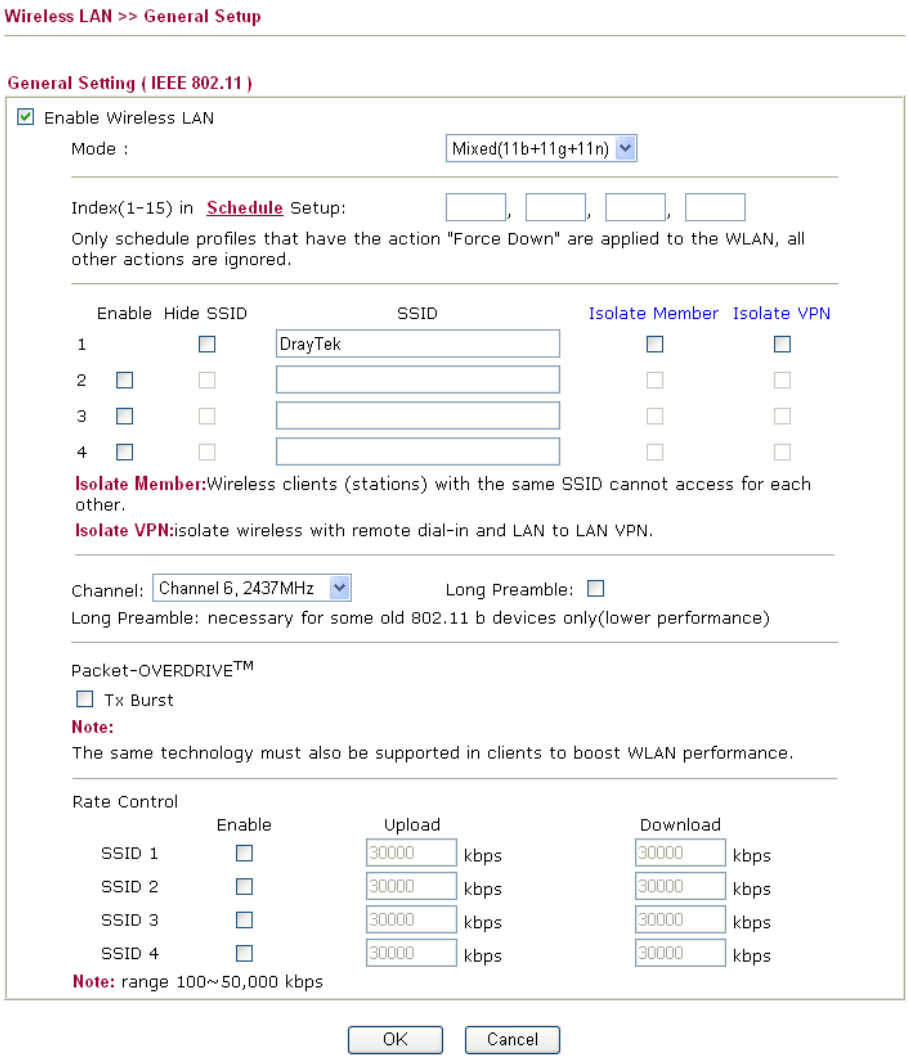
3.3.1 Basic Wireless LAN Concept

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.



3.3.2 General Setup

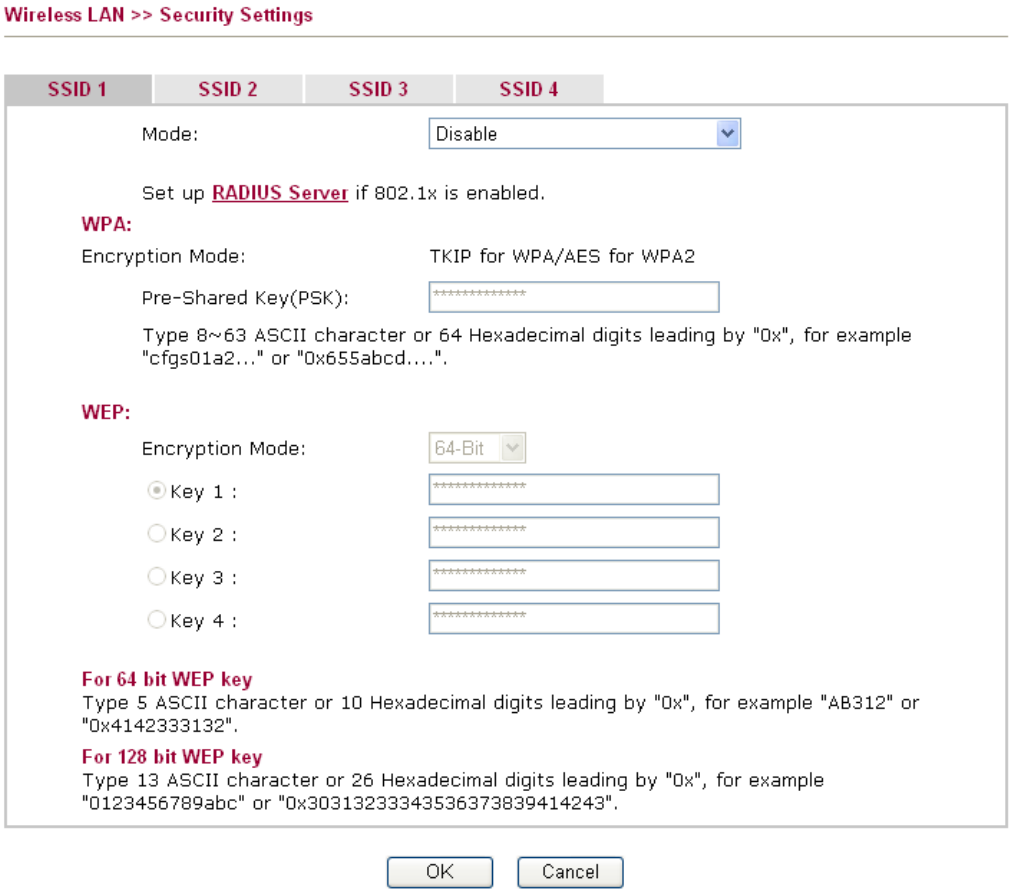
1. On the **Wireless LAN** group, select **General Setup**. The following page will be shown.



2. Check **Enable Wireless LAN** to enable the wireless function.
3. At present, the router can connect to 11n Only, 11g Only, Mixed (11b+11g), Mixed (11a+11n), Mixed (11g+11n), and Mixed (11b+11g+11n) stations simultaneously. Simply choose **Mixed (11b+11g+11n)** mode.
4. Type in the name of the **SSID**. The default name for SSID is **DrayTek**. We suggest you to change it with a particular name.
5. Click **OK** to save the configuration.

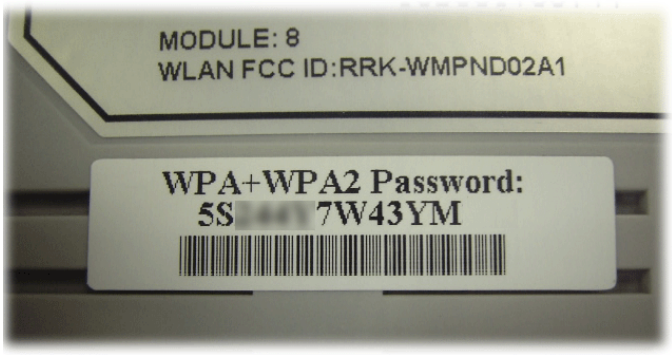
3.3.3 Security Settings

1. On the **Wireless LAN** group, select **Security.**



2. The default security mode is **Mixed (WPA+WPA2)/PSK.** For the wireless client who wants to access into Internet through such router, please **input the default PSK** value for connection.

   Default Pre-Shared Key (PSK) with 13 ASCII characters is provided and stated on the label pasted on the bottom of the router.



3. Click **OK** to save settings.

Be aware that for the communication, all wireless devices must support the same encryption bit length and share the same key. If WEP mode is selected, only one of four preset keys can be selected at one time.

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.

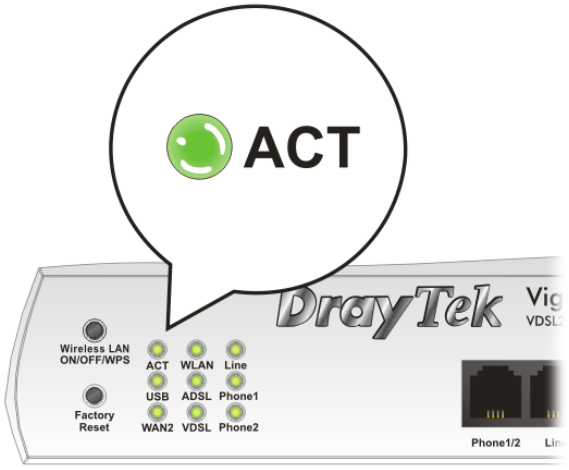
- Checking if the hardware status is OK or not.
- Checking if the network connection settings on your computer are OK or not.
- Pinging the router from your computer.
- Checking if the ISP settings are OK or not.
- Backing to factory default setting if necessary.

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

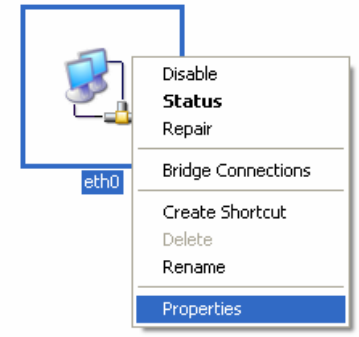
Sometimes the link failure occurs due to the wrong network connection settings. After trying the above section, if the link is stilled failed, please do the steps listed below to make sure the network connection settings is OK.

For Windows

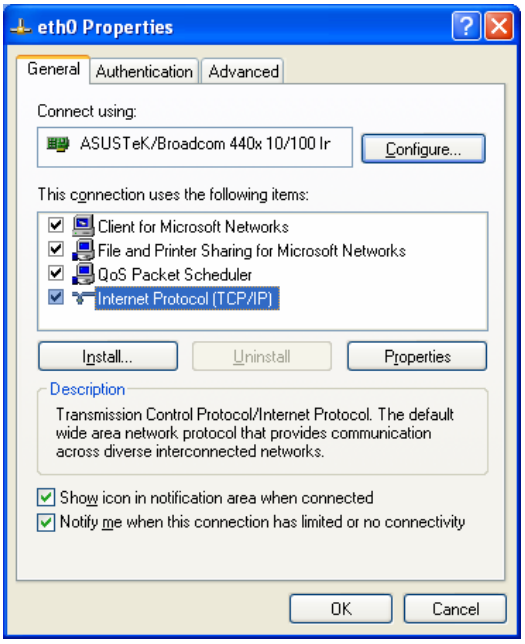
> The example is based on Windows XP. As to the examples for other operation systems, please refer to the similar steps or find support notes in **www.draytek.com**.

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

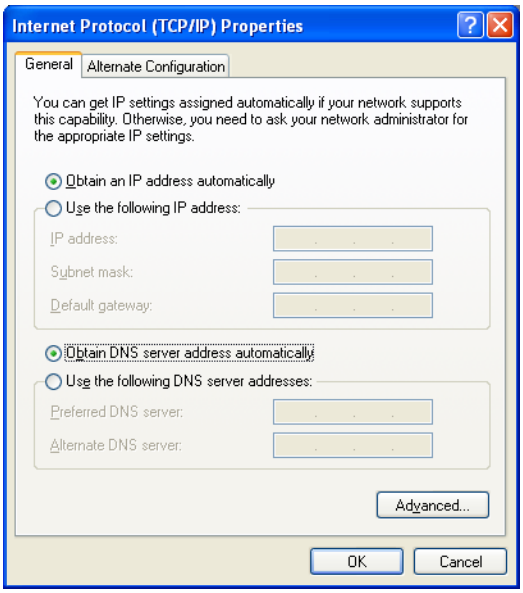
2. Right-click on **Local Area Connection** and click on **Properties**.



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

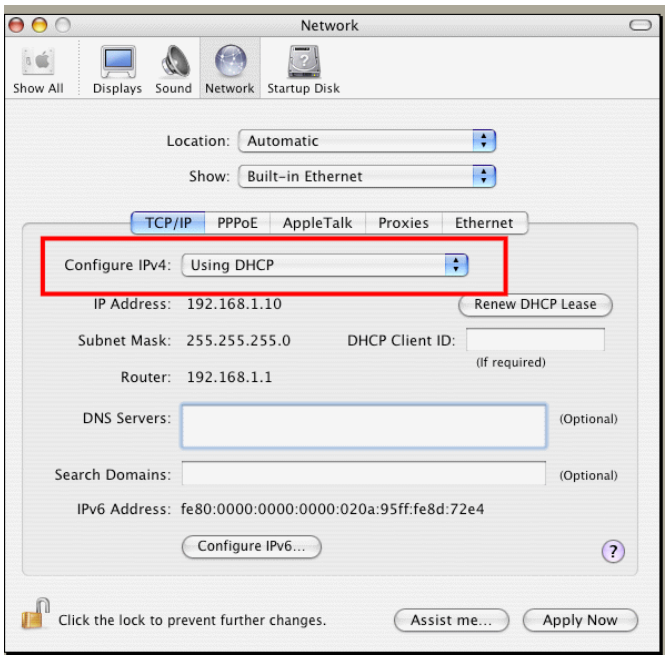


4. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**.



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.



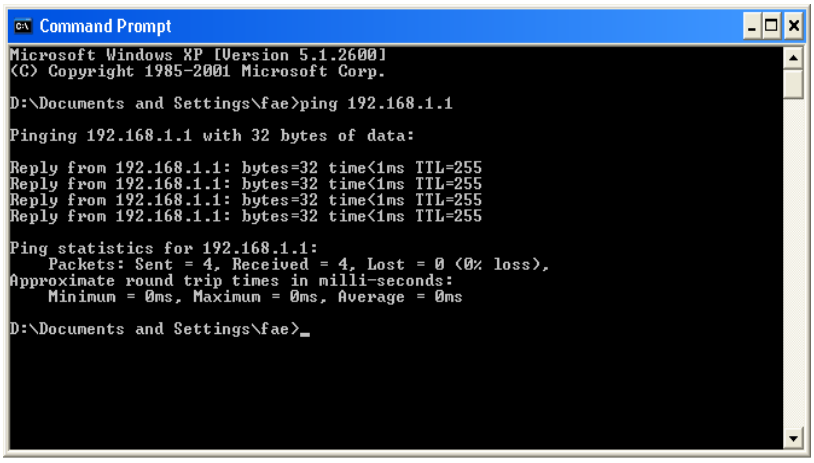
4.3 Pinging the Router from Your Computer

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

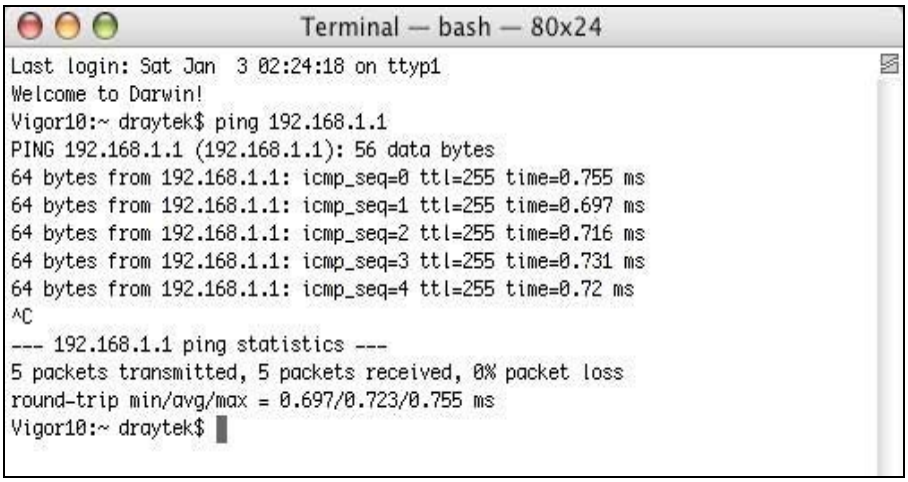
1. Open the **Command** Prompt window (from **Start menu> Run**).
2. Type **command** (for Windows 95/98/ME) or **cmd** (for Windows NT/ 2000/XP/Vista/7). The DOS command dialog will appear.



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.

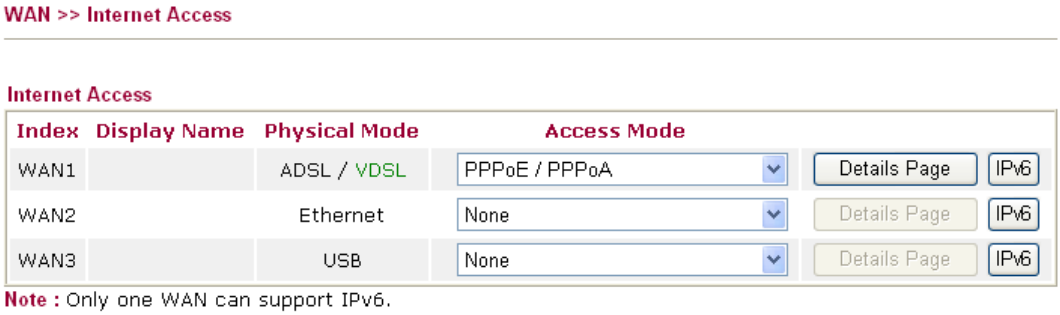
For Mac OS (Terminal)

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.



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. Click **Details Page** of WAN1/WAN2/WAN3 to review the settings that you configured previously.



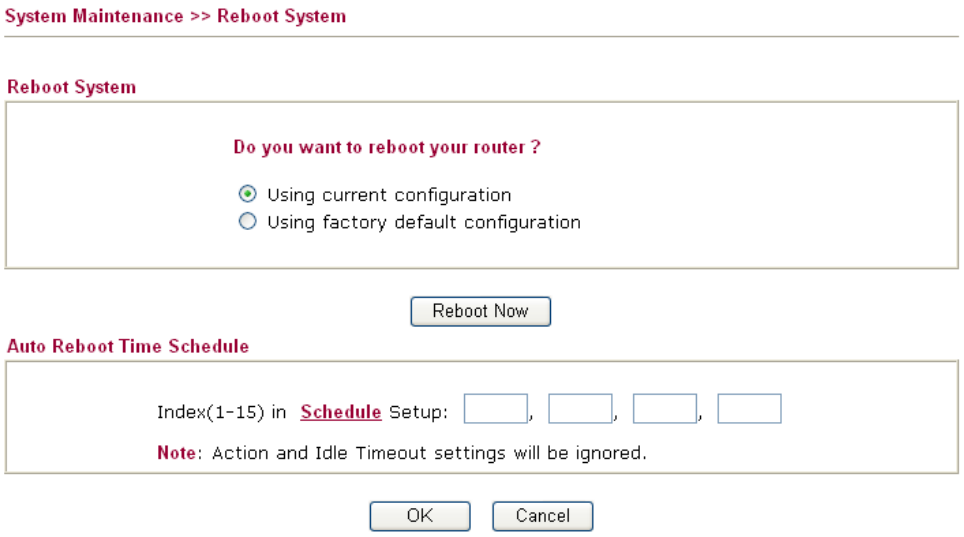
4.5 Backing to Factory Default Setting If Necessary

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. The password of factory default is null.

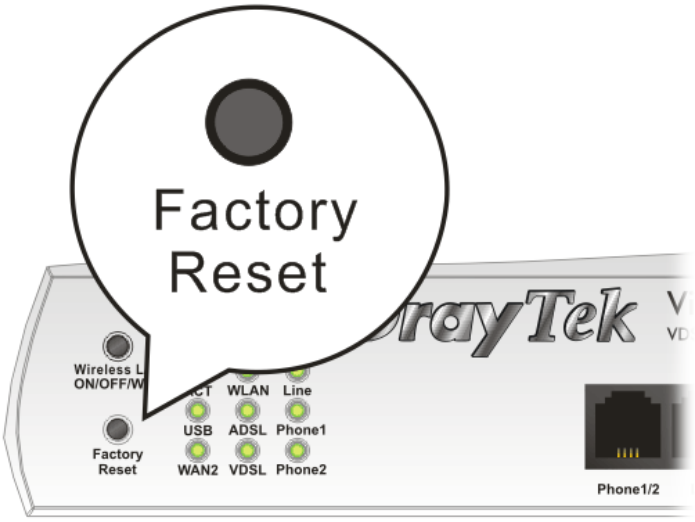
Software Reset

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 **RST** 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.