



# **Vigor2950 Series Security VPN Router Quick Start Guide**

**Version: 1.1**

**Date: 2006/11/20**

## 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 by 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.
- 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 to restore 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 County, HsinChu Industrial Park, Hsin-Chu, Taiwan 303  
Product: Vigor2950 Series Router

DrayTek Corp. declares that Vigor2950 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 89/336/EEC by complying with the requirements set forth in EN55022/Class A and EN55024/Class A.

The product conforms to the requirements of Low Voltage (LVD) Directive 73/23/EEC by complying with the requirements set forth in EN60950.

## Regulatory Information

### Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class A 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 use 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.

### Taiwanese BSMI (Bureau of Standards, Metrology and Inspection) A Warning:

Warning: This device might cause interference of radio frequency under the environment of dwelling. In such condition, the users might be asked to adopt some proper strategies.

Please visit [www.draytek.com/about\\_us/Regulatory.php](http://www.draytek.com/about_us/Regulatory.php).



This product is designed for the 2.4 GHz WLAN network throughout the EC region and Switzerland with restrictions in France.



This is a class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

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# 1. Introduction

Vigor2950 is a broadband router with dual-WAN interface. It provides policy-based load-balance, fail-over and BoD (Bandwidth on Demand), also it integrates IP layer QoS, NAT session/bandwidth management to help users control works well with large bandwidth.

By adopting hardware-based VPN platform, 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 200 VPN tunnels.

The object-originated 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. By the way, DoS/DDoS prevention and URL/Web content filter strengthen the security outside and control inside.

With the high performance of SuperG™ in wireless, the router allows the connection rate up to 108Mbps. Except the encryption methods of WEP/WPA/WPA2 and MAC address control, it also offers wireless LAN isolation, Wireless VLAN and 802.1x authentication. WDS (Wireless Distribution System) can help users to expand wireless coverage easily. Moreover, the wireless rate control can manage the connection rate of wireless station. In addition, ISDN function provides users a flexible network backup and remote control ability in a secure way.

## Features for Vigor2950

- Dual WAN: Support policy-based load-balance, bandwidth on demand and internet connection failover
- Gigabit Ethernet LAN: 1000Mbps fast LAN traffic switching
- Object-originated Firewall: Provide SPI, DoS/DDoS prevention, CSM(Content Security Management)
- Content Filter: URL and Web (powered by SurfControl Content filtering)
- VPN: Hardware-based VPN support up to 200 VPN Tunnels
- Bandwidth Management: IP layer QoS and NAT session/bandwidth management
- Wireless: 108Mbps SuperG™ supports WEP/WPA/WPA2 and MAC address control, wireless LAN isolation, Wireless VLAN and 802.1x authentication
- ISDN: Internet access backup and remote dial-in

# 1.1 Panel Explanation

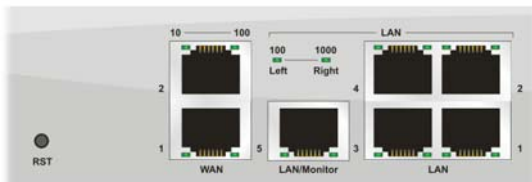
## 1.1.1 For Vigor2950





LED	Status	Explanation
ACT (Activity)	Blinking	The router is powered on and running normally.
	Off	The router is powered off.
DMZ	On	DMZ Host is specified in certain site.
Monitor	On	LAN traffic monitor is active.
VPN	On	The VPN tunnel is launched.
	Off	The VPN tunnel is closed.
QoS	On	The QoS function is active.

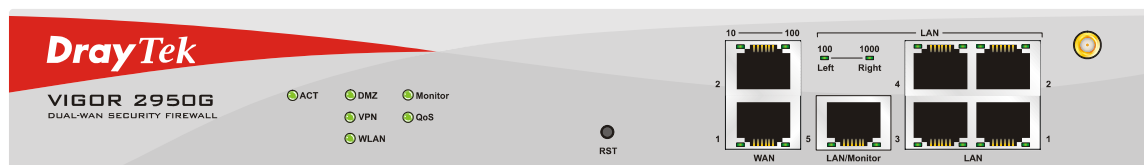
### LED on Connector

WAN	10 (left LED)	On	The port is connected with 10Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	100 (right LED)	On	The port is connected with 100Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
LAN/Monitor LAN	100 (left LED)	On	The port is connected with 100Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	1000 (right LED)	On	The port is connected with 1000Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.



Interface	Description
RST (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.
WAN(1/2)	Connector for remote networked devices.
LAN/Monitor	Connector for local networked devices.
LAN (1-4)	Connector for local networked devices.
	Connector for a power cord with 100-240VAC (inlet).
	Power Switch. "1" is ON; "0" is OFF.

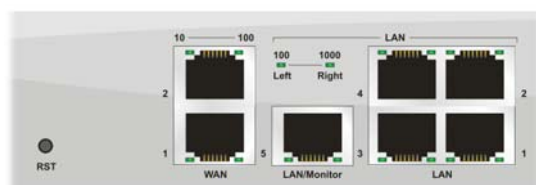
## 1.1.2 For Vigor2950G





LED	Status	Explanation
ACT (Activity)	Blinking	The router is powered on and running normally.
	Off	The router is powered off.
DMZ	On	DMZ Host is specified in certain site.
Monitor	On	LAN traffic monitor is active.
VPN	On	The VPN tunnel is launched.
	Off	The VPN tunnel is closed.
QoS	On	The QoS function is active.
	Off	The QoS function is inactive.
WLAN	On	Wireless access point is ready.
	Blinking	Ethernet packets are transmitting over wireless LAN.
	Off	The WLAN function is inactive.

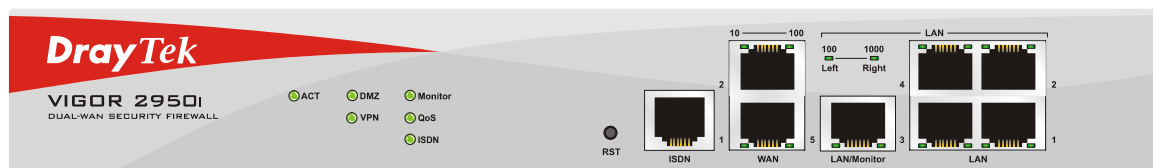
### LED on Connector

WAN	10 (left LED)	On	The port is connected with 10Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	100 (right LED)	On	The port is connected with 100Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
LAN/Monitor LAN	100 (left LED)	On	The port is connected with 100Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	1000 (right LED)	On	The port is connected with 1000Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.



Interface	Description
RST (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.
WAN(1/2)	Connector for remote networked devices.
LAN/Monitor	Connector for local networked devices.
LAN (1-4)	Connector for local networked devices.
	Connector for a power cord with 100-240VAC (inlet).
	Power Switch. "1" is ON; "0" is OFF.

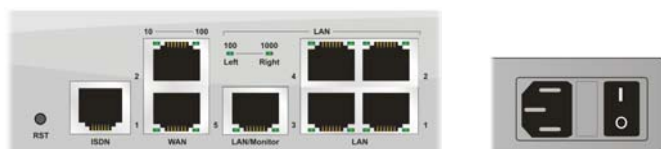
### 1.1.3 For Vigor2950i





LED	Status	Explanation
ACT (Activity)	Blinking	The router is powered on and running normally.
	Off	The router is powered off.
DMZ	On	DMZ Host is specified in certain site.
Monitor	On	LAN traffic monitor is active.
VPN	On	The VPN tunnel is launched.
	Off	The VPN tunnel is closed.
QoS	On	The QoS function is active.
ISDN	On	The ISDN service function is active.
	Blinking	A successful connection on the ISDN BRI B1/B2 channel.

#### LED on Connector

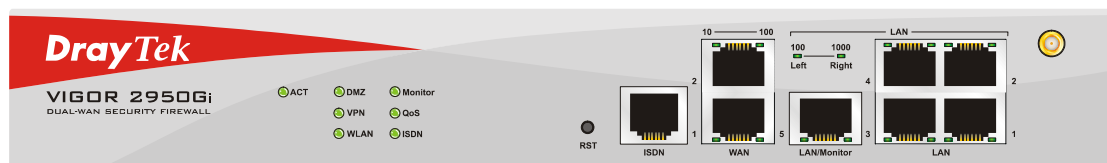
WAN	10 (left LED)	On	The port is connected with 10Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	100 (right LED)	On	The port is connected with 100Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
LAN/Monitor LAN	100 (left LED)	On	The port is connected with 100Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	1000 (right LED)	On	The port is connected with 1000Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.



Interface	Description
RST (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	Connect for NT1 (or NT1+) box provided by ISDN service provider.
WAN(1/2)	Connector for remote networked devices.
LAN/Monitor	Connector for local networked devices.
LAN (1- 4)	Connector for local networked devices.
	Connector for a power cord with 100-240VAC (inlet).
	Power Switch. "1" is ON; "0" is OFF.



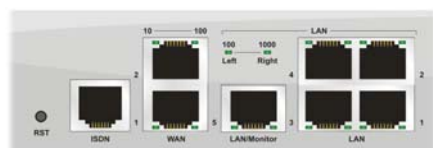
## 1.1.4 For Vigor2950Gi





LED	Status	Explanation
ACT (Activity)	Blinking	The router is powered on and running normally.
	Off	The router is powered off.
DMZ	On	DMZ Host is specified in certain site.
Monitor	On	LAN traffic monitor is active.
VPN	On	The VPN tunnel is launched.
	Off	The VPN tunnel is closed.
QoS	On	The QoS function is active.
WLAN	On	Wireless access point is ready.
	Blinking	Ethernet packets are transmitting over wireless LAN.
	Off	The WLAN function is inactive.
ISDN	On	The ISDN service function is active.
	Blinking	A successful connection on the ISDN BRI B1/B2 channel.

### LED on Connector

WAN	10 (left LED)	On	The port is connected with 10Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	100 (right LED)	On	The port is connected with 100Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
LAN/Monitor LAN	100 (left LED)	On	The port is connected with 100Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	1000 (right LED)	On	The port is connected with 1000Mbps.
		Off	The port is disconnected.
		Blinking	The data is transmitting.

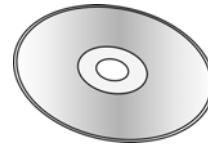


Interface	Description
RST (Factory Reset)	Restore the default settings. Usage: Turn on the router (ACT LED is blinking). Press the hole and keep for more than 5 seconds. When you see the ACT LED begins to blink rapidly than usual, release the button. Then the router will restart with the factory default configuration.
ISDN	Connect for NT1 (or NT1+) box provided by ISDN service provider.
WAN(1/2)	Connector for remote networked devices.
LAN/Monitor	Connector for local networked devices.
LAN (1- 4)	Connector for local networked devices.
	Connector for a power cord with 100-240VAC (inlet).
	Power Switch. "1" is ON; "0" is OFF.

## 1.2 Package Content



**1** Quick Start Guide



**2** CD



**3** Antenna for G models



**4** RJ-45 Cable (Ethernet)



**5** RJ-45 to RJ-45 Cable for *i* models

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



**UK-type power cord**



**EU-type power cord**



**USA/Taiwan-type power cord**



**AU/NZ-type power cord**

\* The maximum power consumption is *17 Watt*.

## 2. Installing Your Router

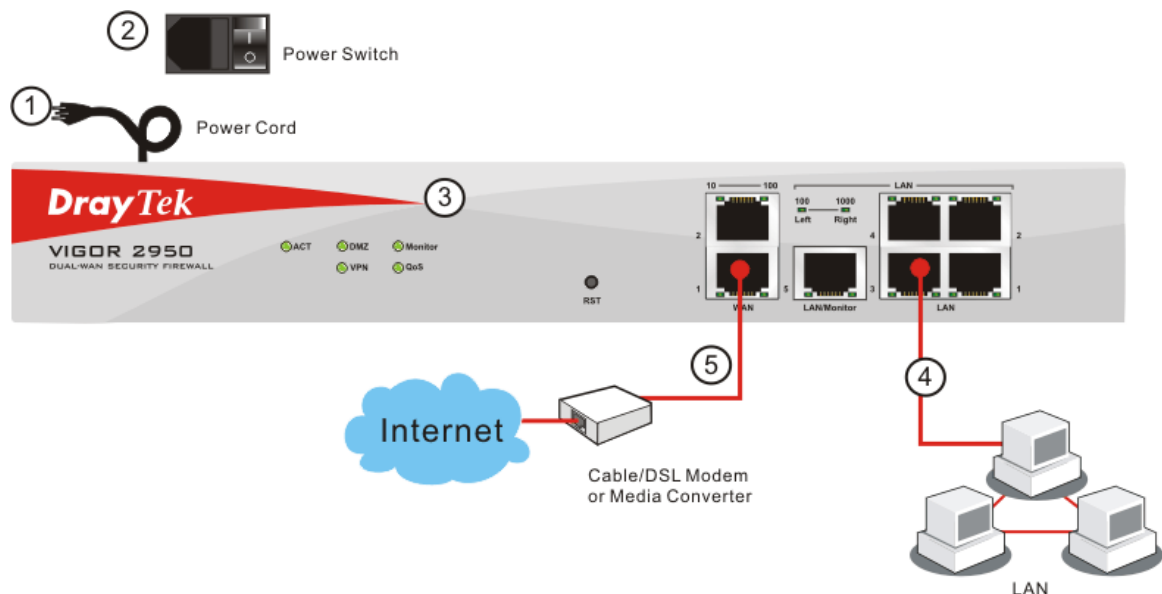
This section will guide you to install the router through hardware connection and configure the router's settings through web browser.

### 2.1 Hardware Installation

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

1. Connect the power cord to the router's power port on the rear panel, and the other side into a wall outlet.
2. Power on the device by pressing down the power switch on the rear panel.
3. The system starts to initiate. After completing the system test, the **ACT** LED will light up and start blinking.
4. 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 (that device also can connect to other computers to form a small area network). The **LAN** LED (Left or Right) will light up according to the network card feature (1000 or 100) of the device that it connected.
5. Connect a cable Modem/DSL Modem/Media Converter (depends on your requirement) to any WAN port of router with Ethernet cable (RJ-45). The **WAN1/WAN2** LED (Left or Right) will light up according to the network card feature (100 or 10) of the device that it connected.

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



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## 3. Configuring Web Pages

### 3.1 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. 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**. A pop-up window will open to ask for username and password. Do not type any word on the window and click **OK** for next screen.



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

3. Now, the **Main Screen** will pop up. Click **Quick Start Wizard**.

LAN	
MAC Address	: 00-50-7F-22-33-44
1st IP Address	: 192.168.1.1
1st Subnet Mask	: 255.255.255.0
DHCP Server	: Yes
DNS	: 194.109.6.66

WAN 1	
Link Status	: Disconnected
MAC Address	: 00-50-7F-22-33-45
Connection	: ---
IP Address	: ---
Default Gateway	: ---

Wireless LAN	
MAC Address	: 00-9F-AA-F8-23-46
Frequency Domain	: Europe
Firmware Version	: v2.01.10.10.5.4

4. Enter the login password on the field of **New Password** and retype it on the field of **Retype New Password**. Then click **Next** to continue.

**Quick Start Wizard**

---

**Enter login password**

Please enter an alpha-numeric string as your **Password** (Max 23 characters).

New Password

Confirm Password

< Back   Next >   Finish   Cancel

5. On the next page as shown below, please select the WAN interface that you use. Choose **Auto negotiation** as the physical type for your router. Then click **Next** for next step.

**Quick Start Wizard**

---

**Select WAN Interface**

Select WAN Interface:

Display Name:

Physical Mode: Ethernet

Physical Type:

- Auto negotiation
- 10M half duplex
- 10M full duplex
- 100M half duplex
- 100M full duplex

< Back   Next >   Finish   Cancel

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. Then click **Next** for next step.

**Quick Start Wizard**

---

**Connect to Internet**

**WAN 1**

Select one of the following Internet Access type provided by your ISP. If you are not sure which one you should choose, please contact your ISP to get these information in detail.

- PPPoE
- PPTP
- Static IP
- DHCP

< Back   Next >   Finish   Cancel

**PPPoE:** if you click PPPoE or PPPoA as the protocol, please manually enter the Username/Password provided by your ISP. Then click **Next**.

**Quick Start Wizard**

---

**PPPoE Client Mode**

**WAN 1**  
Enter the user name and password provided by your ISP.

User Name	<input type="text" value="84005755@hinet.net"/>
Password	<input type="password" value="•••••"/>
Retype Password	<input type="password" value="•••••"/>

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

**Quick Start Wizard**

---

**PPTP Client Mode**

**WAN 1**  
Enter the user name, password, WAN IP configurations and PPTP server IP provided by your ISP.

User Name	<input type="text"/>
Password	<input type="password"/>
Retype Password	<input type="password"/>
WAN IP Configurations	
<input type="radio"/> Obtain an IP address automatically	
<input checked="" type="radio"/> Specify an IP address	
IP Address	<input type="text" value="172.16.3.229"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
PPTP Server IP	<input type="text"/>

**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.

**Quick Start Wizard**

---

**Static IP Client Mode**

**WAN 1**  
Enter the Static IP configuration provided by your ISP.

WAN IP	<input type="text" value="172.16.3.229"/>
Subnet Mask	<input type="text" value="255.255.255.0"/>
Gateway	<input type="text" value="172.16.3.1"/>
Primary DNS	<input type="text" value="168.95.1.1"/>
Secondary DNS	<input type="text"/> (optional)

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

**Quick Start Wizard**

---

**DHCP Client Mode**

**WAN 1**  
If your ISP require you to enter a specific host name or specific MAC address, please enter it in.

Host Name  (optional)

MAC       (optional)

7. 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. Afterward, you will enjoy surfing on the Internet.

**Quick Start Wizard**

---

**Please confirm your settings:**

WAN Interface:	WAN1
Physical Mode:	Ethernet
Physical Type:	Auto negotiation
Internet Access:	DHCP

Click **Back** to modify changes if necessary. Otherwise, click **Finish** to save the current settings and restart the Vigor router.



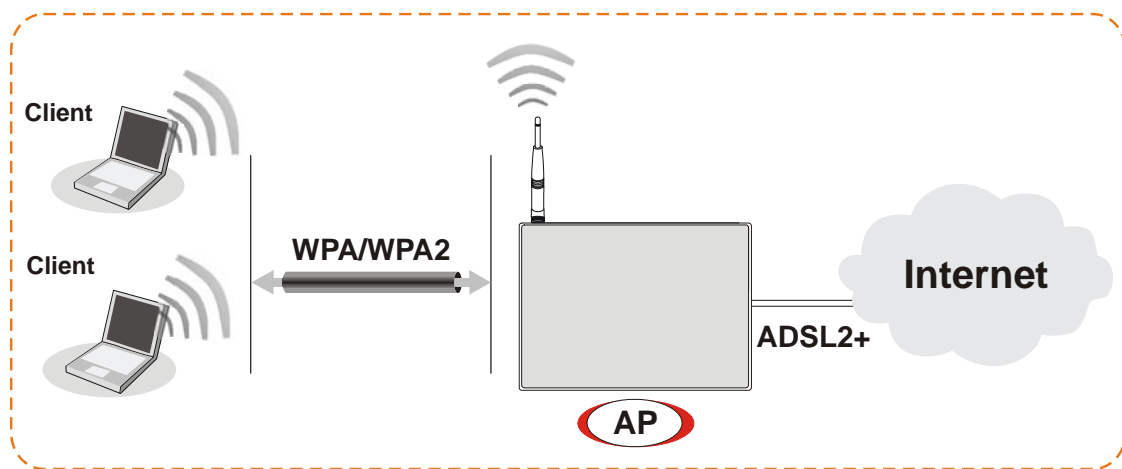
## 3.2 Wireless LAN Settings (for G Series Model Only)

For operating G Series 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.)

### 3.2.1 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 will share the same Internet connection with other wired hosts via Vigor wireless router.



### 3.2.2 General Settings

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

Wireless LAN >> General Setup

#### General Setting (IEEE 802.11)

<input checked="" type="checkbox"/>	Enable Wireless LAN
Mode :	Mixed(11b+11g)
Index(1-15) in <b>Schedule</b> Setup:	<input type="text"/> , <input type="text"/> , <input type="text"/> , <input type="text"/>
SSID :	default
Channel :	Channel 6, 2437MHz
<b>Note:</b> If SuperG mode is enabled, channel is fixed at 6.	
<input type="checkbox"/>	Hide SSID
<input type="checkbox"/>	Long Preamble
<b>Hide SSID</b> : prevent SSID from being scanned.	
<b>Long Preamble</b> : necessary for some older 802.11b devices only (lowers performance).	

OK

Cancel

2. Check the box **Enable Wireless LAN** to enable the wireless function.
3. Select an appropriate wireless mode.

Mode :

Mixed(11b+11g)	▼
Mixed(11b+11g+SuperG)	
Mixed(11b+11g)	
SuperG Only	
11g Only	
11b Only	

**Mixed (11b+11g+SuperG)** The router can connect to IEEE802.11b, IEEE802.11g and SuperG stations simultaneously. Please choose this mode if your WLAN clients have such features.

**Mixed (11b+11g)** The router can connect to IEEE802.11b and IEEE802.11g stations simultaneously. This is default settings. Choose this mode if you have no idea to change the mode.

**SuperG only** The router can connect to SuperG stations only.

**11g-only** The router can connect to IEEE802.11g stations only.

**11b-only** The router can connect to IEEE802.11b stations only.

4. Type in the name of the **SSID** and **Channel**. The default name for SSID is **default**. We suggest you change it to a particular name for your necessity.

**SSID (service set identifier)** It is used to name the wireless LAN for this router, and it must have the same content in client PC/notebook wireless card(s). SSID can be any text numbers or various special characters.

**Channel** It is a wireless channel for the router. The default channel is 6. You can change it to an appropriate one if the selected channel is under serious interference.

### 3.2.3 Security Settings

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

Wireless LAN >> Security Settings

**Security Settings**

Mode : WEP Only

Set up **RADIUS Server** if 802.1x is enabled.

**WPA:**  
 Type:  Mixed(WPA+WPA2)  WPA2 Only

Pre-Shared Key(PSK)

Type 8~63 ASCII character or 64 Hexadecimal digits leading by "0x", for example "cfigs01a2..." or "0x655abcd....".

**WEP:**  
 Encryption Mode: 64-Bit

Use WEP Key

Key 1 :

Key 2 :

Key 3 :

Key 4 :

**For 64 bit WEP key**  
 Type 5 ASCII character or 10 Hexadecimal digits leading by "0x", for example "AB312" or "0x4142333132".

**For 128 bit WEP key**  
 Type 13 ASCII character or 26 Hexadecimal digits leading by "0x", for example "0123456789abc" or "0x30313233343536373839414243".

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

Mode :

WEP Only

---

Disable

WEP Only

WEP/802.1x Only

WEP or WPA/PSK

WEP/802.1x or WPA/802.1x

WPA/PSK Only

WPA/802.1x Only

- |                        |   |
|------------------------|---|
| <b>Disable</b>         | Turn off the encryption mechanism. For the security of your network, please select any one of the encryption mode here.   |
| <b>WEP Only</b>        | Accepts only WEP clients and the encryption key should be entered in WEP Key.   |
| <b>WEP/802.1x Only</b> | Accept WEP clients with 802.1x authentication. Since the key will be auto-negotiated during authentication, the field of key setting below will be not available for input. |
| <b>WEP or WPA/PSK</b>  | Accepts WEP and WPA clients with legal key accordingly. Remember to select WPA type to define either Mixed or WPA2 only in the field below.                                 |

**WEP/802.1x or  
WPA/802.1x**

Accept WEP or WPA clients with 802.1x authentication. Remember to select WPA type to define either Mixed or WPA2 only in the field below. Since the key will be auto-negotiated during authentication, the field of key setting below will be not available for input.

**WPA/PSK Only**

Accepts WPA clients and the encryption key should be entered in PSK. Remember to select WPA type to define either Mixed or WPA2 only in the field below.

**WPA/802.1x Only**

Accept WPA clients with 802.1x authentication. Remember to select WPA type to define either Mixed or WPA2 only in the field below. Since the key will be auto-negotiated during authentication, the field of key setting below will be not available for input.

3. For **WPA** encryption, type in 8~63 ASCII characters or 64 Hexadecimal digits leading by 0x, for example "0123456789ABCD...." or "0x321253abcde....." on the field of **Pre-Shared Key (PSK)**. WPA encrypts each frame transmitted from the radio using the Pre-Shared Key (PSK) which entered from this panel.
4. As to **WEP** encryption, select 64-bit or 128-bit as the encryption mode. For 64bits WEP key, type in 5 ASCII characters or 10 hexadecimal digitals leading by 0x, for example, ABCDE or 0x4142434445. And for 128bits WEP key, type in 13 ASCII characters or 26 hexadecimal digits leading by 0x, for example, ABCDEFGHIJKLM or 0x4142434445464748494A4B4C4D. Only one WEP key can be selected and allows user to type in the characters.
5. 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 WLAN/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 still failed, please do the steps listed below to make sure the network connection settings is OK.

## For Windows

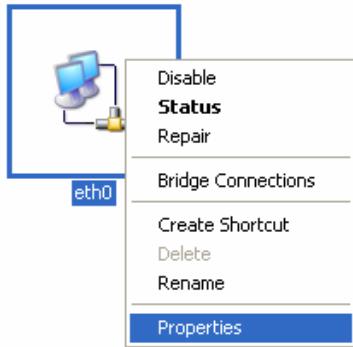


The example is based on Windows XP. As to the examples for other operation systems, please refer to the similar steps or find support notes in [www.draytek.com](http://www.draytek.com).

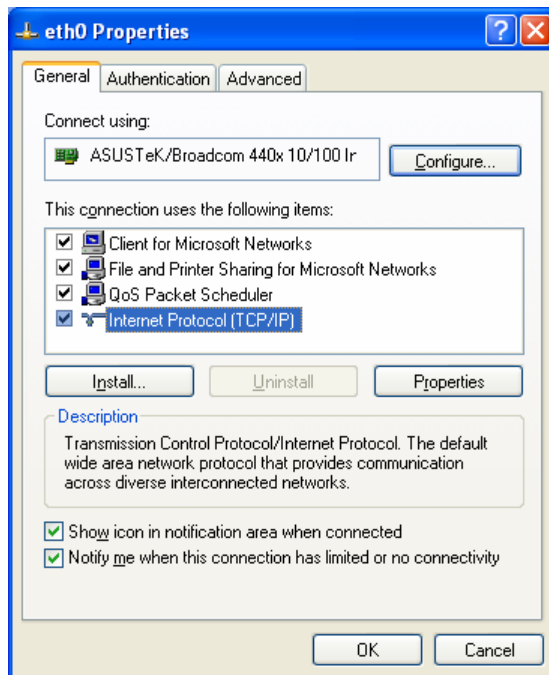
1. Go to **Control Panel** and then double-click on **Network Connections**.



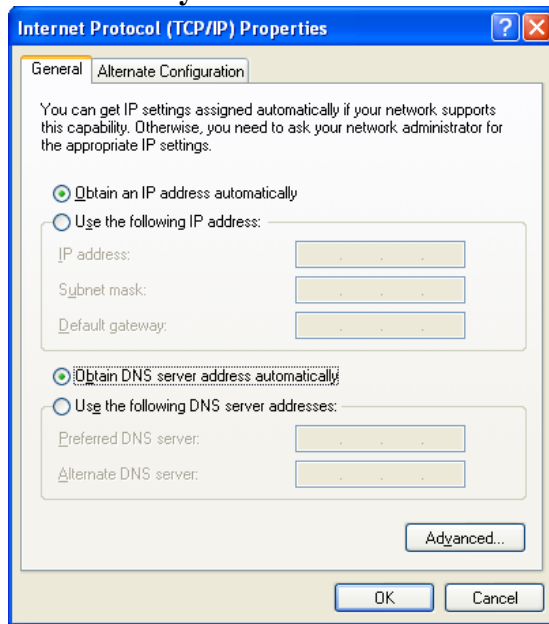
2. Right-click on **Local Area Connection** and click on **Properties**.



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

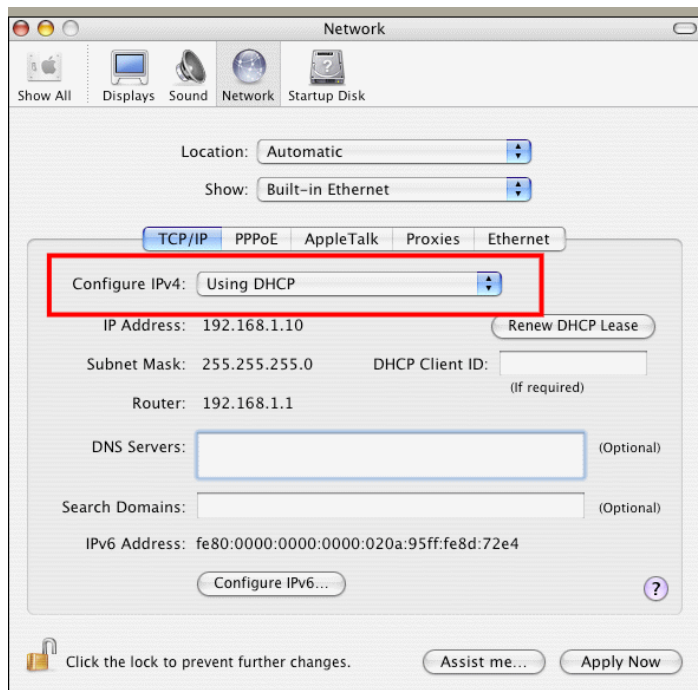


4. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**.



## For MacOs

1. Double click on the current used MacOs 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.



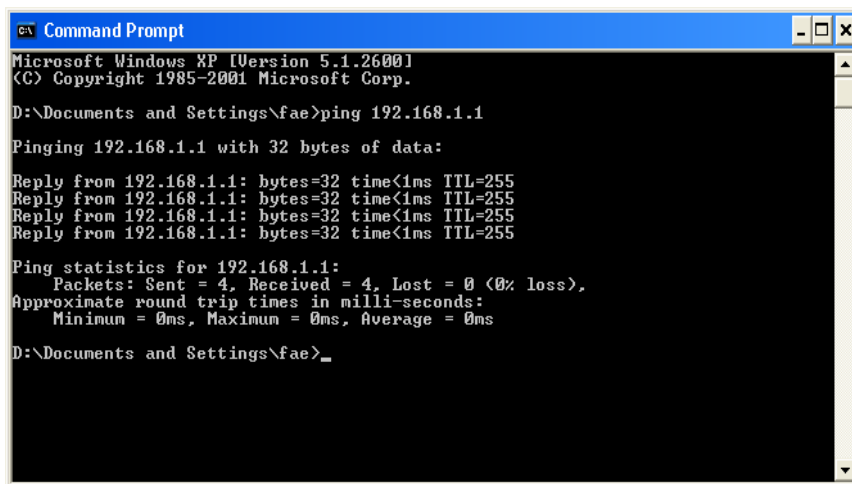
## 4.3 Pinging the Router from Your Computer

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). The DOS command dialog will appear.



```
Microsoft Windows XP [Version 5.1.2600]
(C) Copyright 1985-2001 Microsoft Corp.

D:\Documents and Settings\fae>ping 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255

Ping statistics for 192.168.1.1:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms

D:\Documents and Settings\fae>_
```

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 MacOs (Terminal)

1. Double click on the current used MacOs 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.



```

Terminal — bash — 80x24
Last login: Sat Jan 3 02:24:18 on ttty1
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
^C
--- 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. Click **Details Page** of WAN1/WAN2 to review the settings that you configured previously.

**WAN >> Internet Access**

**Internet Access**

Index	Display Name	Physical Mode	Access Mode	
WAN1		Ethernet	Static or Dynamic IP	<a href="#">Details Page</a>
WAN2		Ethernet	None	<a href="#">Details Page</a>

*Note: The dropdown menu for WAN1 is expanded, showing options: None, PPPoE, Static or Dynamic IP (selected), and PPTP.*

### For PPPoE Users

1. Check if the **Enable** option is selected.
2. Check if **Username** and **Password** are entered with correct values that you **got from your ISP**.

**WAN >> Internet Access**

**WAN 1**

<p><b>PPPoE Client Mode</b></p> <p><input checked="" type="radio"/> Enable <input type="radio"/> Disable</p> <hr/> <p><b>ISP Access Setup</b></p> <p>Username: <input type="text" value="84005755@hinet.net"/></p> <p>Password: <input type="password" value="*****"/></p> <p>Index(1-15) in <b>Schedule</b> Setup: =&gt; <input type="text"/> , <input type="text"/> , <input type="text"/> , <input type="text"/></p>	<p><b>PPP/MP Setup</b></p> <p>PPP Authentication: <input type="text" value="PAP or CHAP"/></p> <p>Idle Timeout: <input type="text" value="-1"/> second(s)</p> <p><b>IP Address Assignment Method (IPCP)</b></p> <p><input type="button" value="WAN IP Alias"/></p> <p>Fixed IP: <input type="radio"/> Yes <input checked="" type="radio"/> No (Dynamic IP)</p> <p>Fixed IP Address: <input type="text"/></p> <hr/> <p><input checked="" type="radio"/> Default MAC Address  <input type="radio"/> Specify a MAC Address</p> <p>MAC Address:  <input type="text" value="00"/> <input type="text" value=".50"/> <input type="text" value=".7F"/> <input type="text" value=".22"/> <input type="text" value=".33"/> <input type="text" value=".45"/></p>
---	---

## For Static Users

1. Check if the **Enable** option for Broadband Access is selected.

WAN >> Internet Access

**WAN 1**

<b>Static or Dynamic IP (DHCP Client)</b> <input checked="" type="radio"/> Enable <input type="radio"/> Disable	<b>WAN IP Network Settings</b> <input type="radio"/> Obtain an IP address automatically Router Name <input type="text"/> * Domain Name <input type="text"/> * * : Required for some ISPs <input checked="" type="radio"/> Specify an IP address <input type="button" value="WAN IP Alias"/> IP Address <input type="text" value="172.16.3.229"/> Subnet Mask <input type="text" value="255.255.255.0"/> Gateway IP Address <input type="text" value="172.16.3.1"/>
<b>ISDN Dial Backup Setup</b> Dial Backup Mode <input type="text" value="None"/>	<input checked="" type="radio"/> Default MAC Address <input type="radio"/> Specify a MAC Address MAC Address: <input type="text" value="00"/> <input type="text" value=".50"/> <input type="text" value=".7F"/> <input type="text" value":00"=""/> <input type="text" value=".00"/> <input type="text" value=".01"/>
<b>Keep WAN Connection</b> <input type="checkbox"/> Enable PING to keep alive PING to the IP <input type="text"/> PING Interval <input type="text" value="0"/> minute(s)	<b>DNS Server IP Address</b> Primary IP Address <input type="text"/> Secondary IP Address <input type="text"/>
<b>RIP Protocol</b> <input type="checkbox"/> Enable RIP	

OK Cancel

2. Check if **WAN IP Network Settings** is set appropriately.
3. Check if **IP Address, Subnet Mask** and **Gateway** are set correctly (must identify with the values from your ISP) if you choose **Specify an IP address**.

## For PPTP Users

1. Check if the **Enable** option for **PPTP Link** is selected.

WAN >> Internet Access

**WAN 1**

<b>PPTP Client Mode</b> <input checked="" type="radio"/> Enable <input type="radio"/> Disable PPTP Server <input type="text" value="10.0.0.138"/>	<b>PPP Setup</b> PPP Authentication <input type="text" value="PAP or CHAP"/> Idle Timeout <input type="text" value="180"/> second(s)
<b>ISP Access Setup</b> Username <input type="text"/> Password <input type="text"/> Index(1-15) in <b>Schedule Setup</b> : => <input type="text"/> , <input type="text"/> , <input type="text"/> , <input type="text"/>	<b>IP Address Assignment Method (IPCP)</b> <input type="button" value="WAN IP Alias"/> Fixed IP: <input type="radio"/> Yes <input checked="" type="radio"/> No (Dynamic IP) Fixed IP Address <input type="text"/>
	<b>WAN IP Network Settings</b> <input type="radio"/> Obtain an IP address automatically <input checked="" type="radio"/> Specify an IP address IP Address <input type="text" value="10.0.0.150"/> Subnet Mask <input type="text" value="255.0.0.0"/>

OK Cancel

2. Check if **PPTP Server, Username, Password** and **WAN IP address** are set correctly (must identify with the values from your ISP).

## 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 lose 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.

System Maintenance >> Reboot System

#### Reboot System

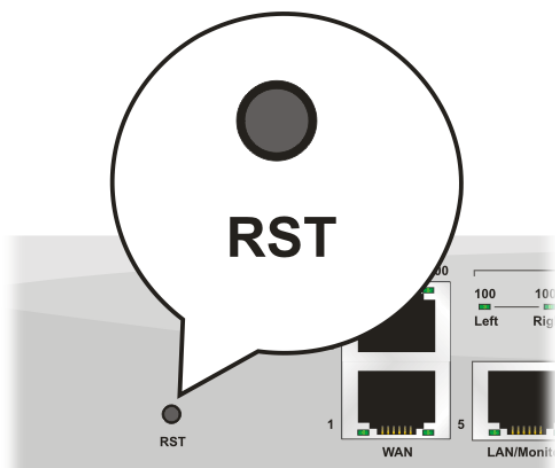
Do You want to reboot your router ?

- Using current configuration
- Using factory default configuration

OK

### 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](mailto:support@draytek.com).