# **Dray** Tek

# Vigor3900

Multi-WAN Security Appliance

Providing Productivity and Security for Small, Medium and Large Businesses

Quick Start Guide V1.5



# Vigor3900 Multi-WAN Security Appliance Quick Start Guide

Version: 1.5

Firmware Version: V1.0.5

(For future update, contact DrayTek)

Date:17/08/2012

#### **Copyright Information**

# Copyright Declarations

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#### Safety Instructions and Approval

#### Operation Environment

- Make sure the AC power source is within the range of AC 100-240V. The router should be used in a sheltered area, within the temperature range from 0 to +50 °C and relative humidity within the range from 10% to 90%
- Do not expose the router to direct sunlight or other heat sources. The housing and electronic components may be damaged accordingly.

#### Safety Instructions

- Read the quick start guide before powering on the device.
- Locate the emergency power-off switch near the device before the router powers on.
- It is highly recommended to fix the device to the chassis to maintain air circulation and stable condition.
- Do not work alone if the operation environment is inappropriate.
- Check and avoid the potential hazard under moist environments, and grounding issues of power cabling.
- Please turn off the device when you replace the fuse, install or remove the chassis.
- Do not put the device in a damp or humid place, e.g. a bathroom-like environment.
- Avoid cable connection if lightning arises.
- When you want to dispose of the router, please follow the local regulations on environmental protection.

#### 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

Please consult the DrayTek web site for more information on newest firmware,

tools and documents. http://www.draytek.com

## **European Community Declarations**

Manufacturer: DrayTek Corp.

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

Taiwan 303

Product: Vigor3900

DrayTek Corp. declares that Vigor3900 of routers are in compliance with the following essential requirements and other relevant provisions of EC, Directive 2004/108/EC.

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

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

#### **Regulatory Information**

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class 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 user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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

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

Please visit http://www.draytek.com/user/SupportDLRTTECE.php#





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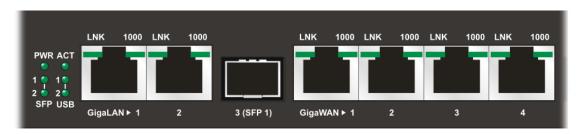


# 1. Introduction

Vigor3900 series router is a Multi-WAN Security Appliance which allows the connection to multiple ISPs and provides multiple VPN tunnels for connecting different devices.

With gigaLAN and gigaWAN feature, the router increases the performance of data transmission with highest speed which is more than 500Mbps.

## 1.1 Panel Explanation

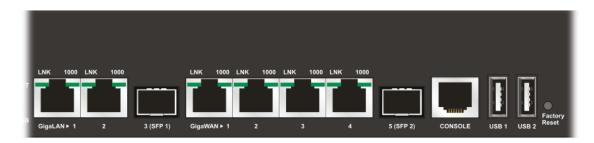


#### **LED Explanation**

LED		Status	Explanation
PWR		On	The router is powered on.
		Off	The router is powered off.
ACT		On/Blinking	The system is active.
		Off	The system is hanged.
SFP		On	The fiber connection is established.
		Blinking	The data is transmitting.
		Off	No fiber connection is established or the system is hanged.
USB		On	The USB device is installed and ready.
		Off	No USB device is installed.
GigaLAN1	LNK	On	The Ethernet link is established on corresponding port.
/LAN 2)		Blinking	The data is transmitting.
		Off	No Ethernet link is established.
	1000	On	It means that a normal 1000 Mbps connection is through its corresponding port.
		Off	It means that a normal 10/100 Mbps connection is through its corresponding port.
Giga	LNK	On	The Ethernet link is established.
WAN1/2/3/4		Blinking	The data transmission is done through the corresponding port.
		Off	No Ethernet link is established.
	1000	On	It means that a normal 1000Mbps connection is through its corresponding port.
		Off	It means that a normal 10/100Mbps connection is through its corresponding port.

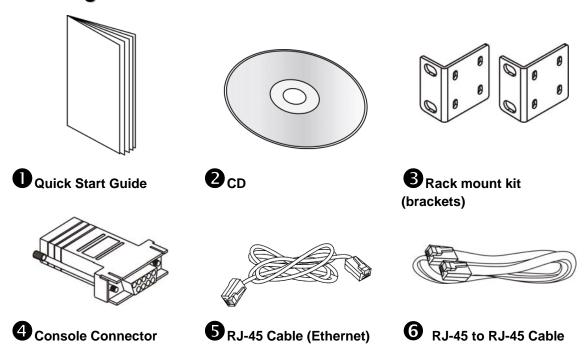


#### **Connectors**

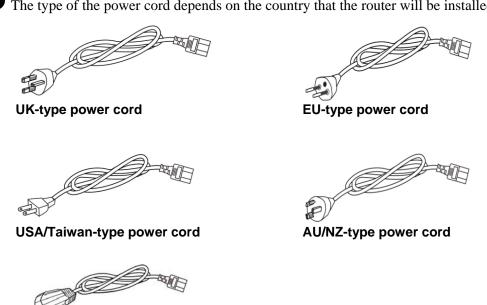


Interface	Description	
Console	Provided for technician use.	
GigaLAN1 / 2	Connecter for local network devices.	
3(SFP)	Connecter for SFP module.	
GigaWAN1/2/3/4	Connecter for remote network devices.	
5(SFP)	Connecter for SFP module.	
Console	Provided for technician use.	
USB1 / USB2	Connecter for the USB device.	
Factory Reset	Used to restore the default settings. 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.	
-	Connecter for a power cord. ON/OFF - Power switch.	

# 1.2 Package Content



**7** The type of the power cord depends on the country that the router will be installed:



China-type power cord

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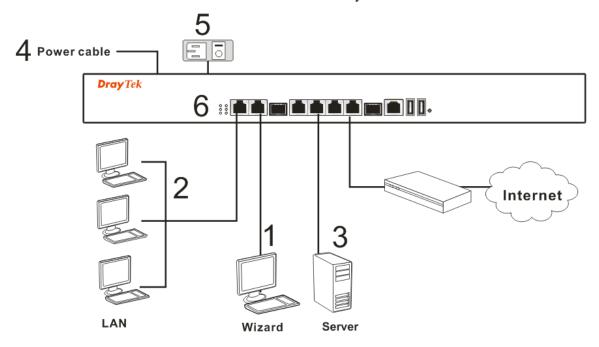
# 2. Installing Your Router

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

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

- 1. Connect one end of an Ethernet cable (RJ-45) to one of the **LAN** ports of Vigor3900s.
- 2. Connect the other end of the cable (RJ-45) to the Ethernet port on your computer (that device also can connect to other computers to form a small area network). The **LAN** LED for that port on the front panel will light up.
- 3. Connect a server/modem/router (depends on your requirement) to any WAN port of Vigor3900 with Ethernet cable (RJ-45). The **WAN1** (to **WAN4**) LED will light up.
- 4. Connect the power cord to Vigor3900'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. The **PWR** LED should be **ON**.
- 6. The system starts to initiate. After completing the system test, the **ACT** LED will light up and start blinking.

Below shows an outline of the hardware installation for your reference.



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# 3. Initialing Configuration

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

#### 3.1 Accessing Web Browser

1. Make sure your computer 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 this guide.

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



- 3. Please type "admin/admin" on Username/Password and choose the language from the drop down list to display the web configurator of Vigor3900.
- 4. Click Login.

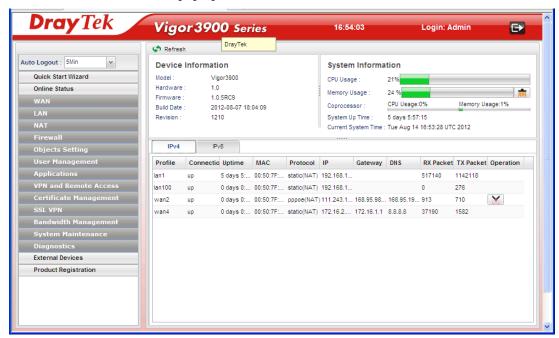


**Notice:** If you fail to access to the web configuration, please go to "Trouble Shooting" for detecting and solving your problem.

5. The web page can be logged out according to the chosen condition. The default setting is **5Min**, which means the web configuration system will logout after five minutes without any operation. Change the setting for your necessity.



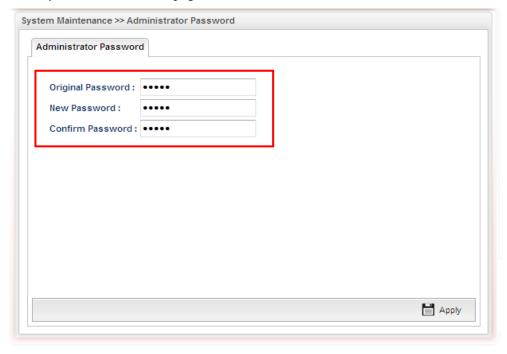
6. Now, the **Main Screen** will pop up.



#### 3.2 Changing the Password

The first job that you have to do is changing the user password. Follow the steps below to modify:

1. Go to **System Maintenance** page and choose **Administrator Password**.



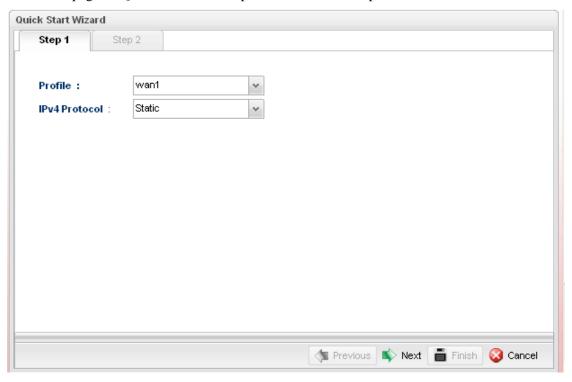
- 2. Enter the login password on the field of Old Password. Type a new one in the field of New Password and retype it on the field of Confirm Password. Then click **Apply** to continue.
- 3. Now, the password has been changed. Next time, use the new password to access the Web Configurator for this router.

#### 3.3 Quick Start Wizard

**Quick Setup** is a wizard which is designed for configuring your router accessing Internet with simply steps. In the **Quick Setup** group, you can configure the router to access the Internet with different modes such as Static, DHCP, PPPoE, or PPTP modes.

#### Step 1

In the first page of Quick Start Wizard, please create a WAN profile.



Available settings are explained as follows:

Item	Description		
Profile	Use the drop down list to choose one WAN profile.		
IPv4 Protocol Type	Use the drop down WAN profile.	Use the drop down list to choose a connection mode for such WAN profile.	
	IPv4 Protocol:	Static	~
		Static	
		DHCP	
		PPPoE	
		PPTP	
	Static - If Static is selected, you can manually assign a static IP address to the WAN interface and complete the configuration by applying the settings and rebooting your router. Please type in values for IP address, Subnet Mask, Gateway IP Address and DNS Server IP Address specified by your ISP, and then click Next.		
	from a DI mode, the	HCP server on the In DHCP server of you	P address automatically ternet. If you choose <b>DHCP</b> ur ISP will assign a dynamic omatically. It is not necessary

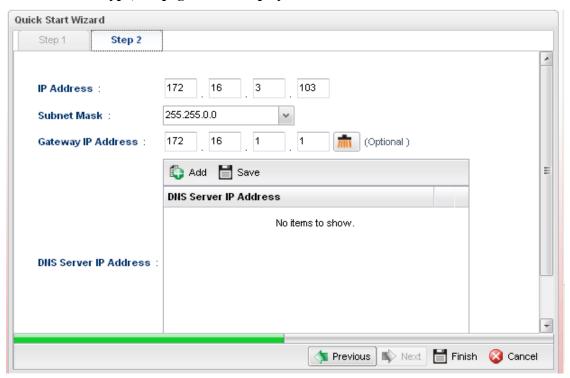
Item	Description
	for you to assign any setting. (Host Name and Domain Name are required for some ISPs).
	PPTP - This mode lets user get the IP group information by a DSL modem with PPTP service from ISP. Your service provider will give you user name, password, and authentication mode for a PPTP setting. Click PPTP as the protocol. Type in all the information that your ISP provides for this protocol.
	If your ISP offers you <b>PPTP</b> (Point-to-Point Tunneling Protocol) mode, please select <b>PPTP</b> for this router. Next, enter the required information provided by your ISP on the web page.
	PPPoE - PPPoE stands for Point-to-Point Protocol over Ethernet. It relies on two widely accepted standards: PPP and Ethernet. It connects users through an Ethernet to the Internet with a common broadband medium, such as a single DSL line, wireless device or cable modem. All the users over the Ethernet can share a common connection. PPPoE is used for most of DSL modem users. All local users can share one PPPoE connection for accessing the Internet. Your service provider will provide you information about user name, password, and authentication mode.
	If your ISP provides you the <b>PPPoE</b> (Point-to-Point Protocol over Ethernet) connection, please select <b>PPPoE</b> for this router to get the following page. Enter the <b>username</b> and <b>password</b> provided by your ISP on the web page.

When you finish the above settings, please click Next to go to next page.

#### Step 2

After clicking **Next**, you can see the following page which will vary according to the IPv4 protocol type selected in Step 1.

• For Static type, the page will be displayed as follows:



Available settings are explained as follows:

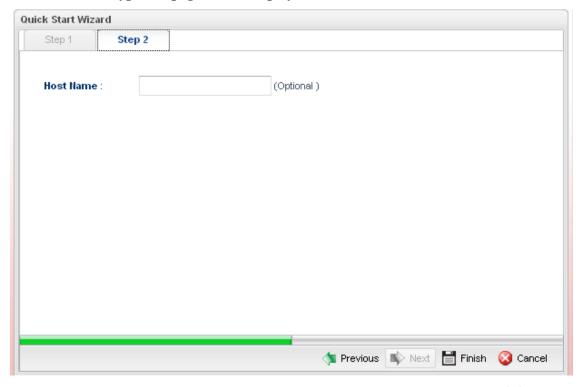
Item	Description	
IP Address	Type the IP address of the router for the WAN profile.	
Subnet Mask	Type the network mask of the router for the WAN profile.	
Gateway IP Address	Use the default setting (0.0.0.0).	
DNS Server IP Address	Type a public IP address as the primary DNS (Domain Name Server). To add a new IP address, simply <b>Add</b> . Four boxes will appear for you to type the IP address. When you finish the settings, click <b>Save</b> .	
	🗘 Add 🛗 Save	
	DNS Server IP Address	
	168 . 95 . 1 . 1	



Item	Description
	<b>Add</b> – Click this button to have a field for adding a new IP address.
	Save – Click this button to save the configuration.
	— click the icon to remove the selected entry.
Previous	Click it to return to previous setting page.
Finish	Click it to save the configuration and exit the dialog.
Cancel	Click it to discard the settings configured in this page.

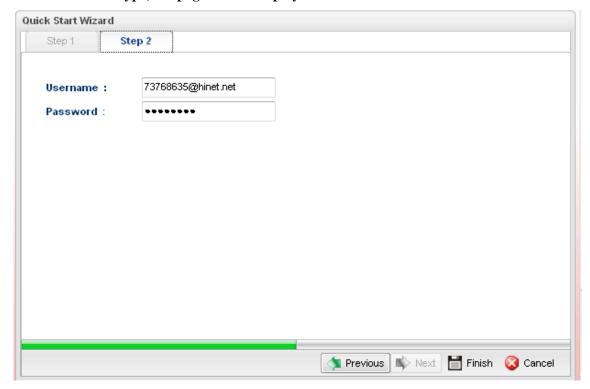
After finishing the above configuration, click Finish.

#### • For DHCP type, the page will be displayed as follows:



Type a name as the host name for identification (optional) for identification. Click **Finish**.

#### • For PPPoE type, the page will be displayed as follows:

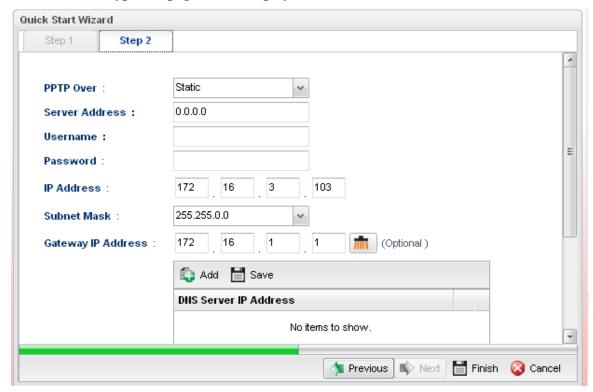


Available settings are explained as follows:

Item	Description
Username	Type in the username provided by ISP in this field
Password	Type in the password provided by ISP in this field.
Previous	Click it to return to previous setting page.
Finish	Click it to save the configuration and exit the dialog.
Cancel	Click it to discard the settings configured in this page.

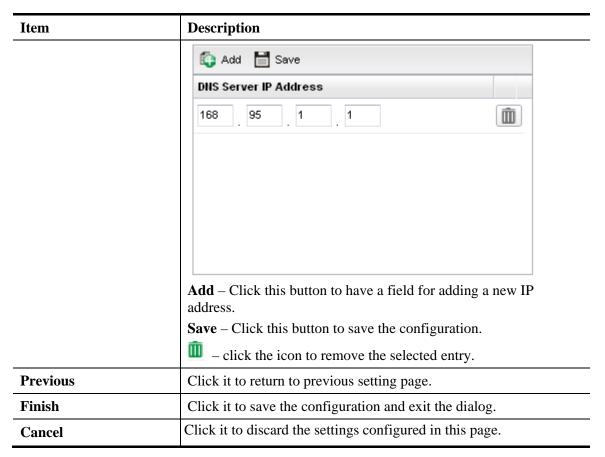
After finishing the above configuration, click Finish.

#### • For PPTP type, the page will be displayed as follows:

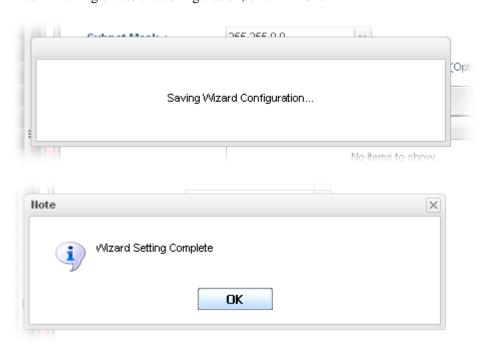


Available settings are explained as follows:

Item	Description		
PPTP Over	Usually ISP dynamically assigns IP address to you each time you connect to it and request. In some case, your ISP provides service to always assign you the same IP address whenever you request. In this case, you can fill in this IP address in the Fixed IP field.  Please contact your ISP before you want to use this function.		
	PPTP Over :	Static	
	Server Address :	Static DHCP	
	Static – Specify the IP address.		
	<b>DHCP</b> - Obtain the IP address automatically.		
Server Address	Type a remote IP address of PPTP server.		
Username	Type in the username provided by ISP in this field.		
Password	Type in the password provided by ISP in this field.		
Gateway IP Address	Use the default setting (0.0.0.0).		
DNS Server IP Address	Type a public IP address as the primary DNS (Domain Name Server). To add a new IP address, simply <b>Add</b> . Four boxes will appear for you to type the IP address. When you finish the settings, click <b>Save</b> .		



After finishing the above configuration, click Finish.

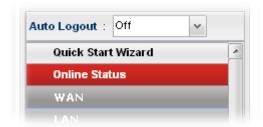


Later, you can surf the Internet at any time.

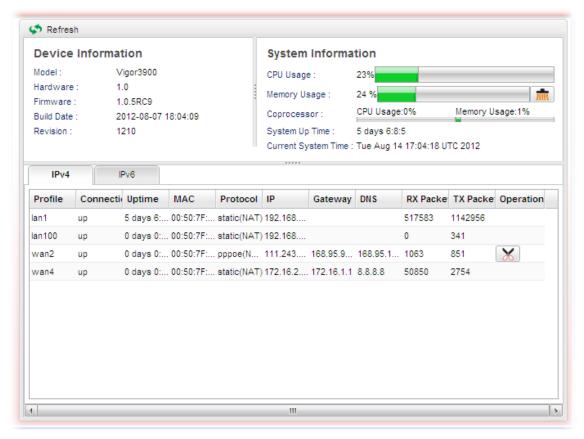


#### 3.4 Check the Connection Status

After finishing the WAN connection, please check the connection status to ensure the network connection has been made successfully.



Please open **Online Status** to display the information for all the WAN interfaces at the same time, including Device Information, System Information and IPv4/IPv6 configurations.



From the above figure, wan 1 connection for Internet has been built successfully for the word – up has been displayed on the field of **Connection**.

# 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 below sections to check your basic installation stage by stage.

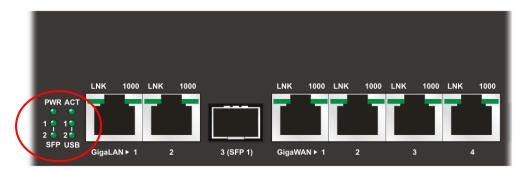
- Checking if the hardware status is OK or not.
- ➤ Checking if the Network Connection Settings on your computer is OK or not.
- Pinging the Router from your computer.
- Checking if the ISP Settings are OK or not.
- ➤ Backing to factory default setting if necessary.

If all above stages are done and the router still cannot run normally, it is the time for you to contact with 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 if the power line and WLAN/LAN cable connections is OK. If not, refer to Chapter 2 for reconnection.
- 2. Turn on the router. Make sure the **ACT LED** blinks once per second and the correspondent **WAN/LAN LED** is bright.



3. If not, there must be something wrong with the hardware connection. Simply back to Chapter 2 to execute the hardware installation. 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**.

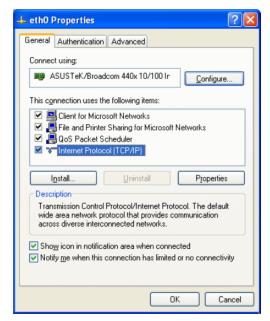
1. Go to **Control Panel** and then double-click on **Network Connections**.



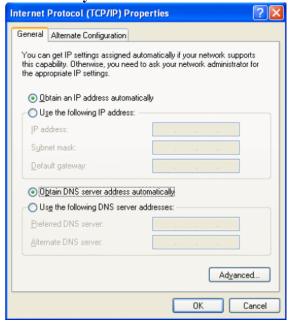
2. Right-click on **Local Area Connection** and click on **Properties**.



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

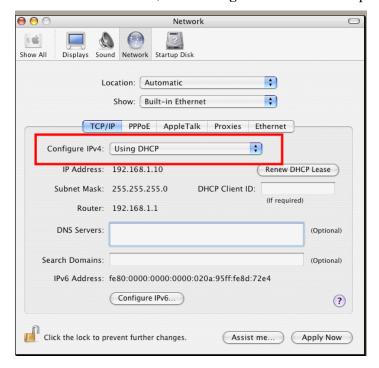


4. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**.



#### For Mac OS

- 1. Double click on the current used 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.



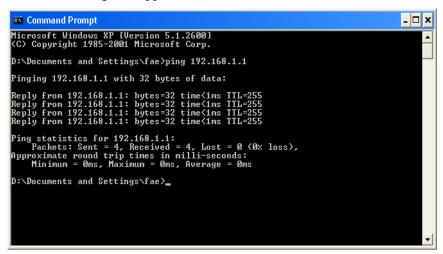
#### 4.3 Pinging the Router from Your Computer

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 for this command is that the computer will receive a reply from 192.168.1.1 for correct link. 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.



- 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.

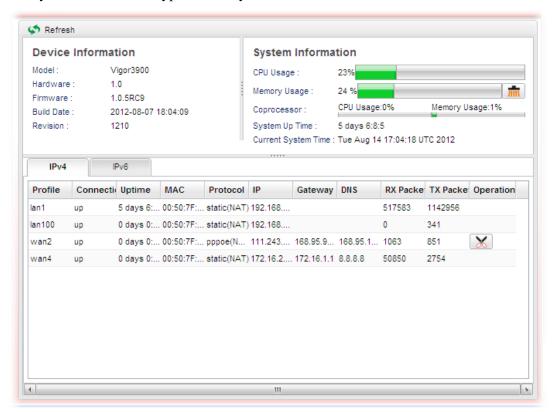
#### For Mac OS (Terminal)

- 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.

```
000
                          Terminal - bash - 80x24
                                                                               S
Last login: Sat Jan 3 02:24:18 on ttyp1
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
AC
--- 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 Correct or Not

Open Online Status to check current network status. Be careful to check if the settings coming from your ISP have been typed correctly or not.



If there is something wrong with the configuration, please go to **WAN** page and choose **General Setup** again to do the adjustment.



#### 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.

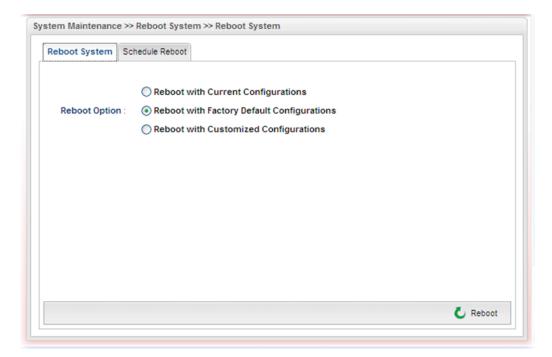


**Warning:** After pressing **factory default setting**, you will loose all settings you did before. Make sure you have recorded all useful settings before you pressing. The password of the factory default is null.

#### **Software Reset**

You can reset 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 **Reboot with Factory Default Configuration** and click **Reboot**. After few seconds, the router will return all the settings to the factory settings.



#### **Hardware Reset**

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



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

# 4.6 Contacting Your Dealer

If the router settings are correct at all, and the router still does not connect to internet, please contact your ISP technical support representative to help you for configuration.

Also, if the router still cannot work correctly, please contact your dealer for help. For any further questions, please send e-mail to **support@draytek.com**.