

# Vigor 2100 Series Router Quick Start Guide

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# **Safety Instructions and Approval**

#### Safety Instructions

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

#### Warranty

We warrant to the original end user (purchaser) that the router will be free from any defects in workmanship or materials for a period of three (3) 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. Alternatively, fill in the registration card and mail it to the address found on the reverse side of the card.

# 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: Vigor2100 series Routers

DrayTek Corp. declares that Vigor2100 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 B and EN55024/Class B.

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

The *Vigor2100V/2100VG/2100G* is designed for the WLAN 2.4GHz network throughput EC region, Switzerland, and the restrictions of France.

# **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 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 form 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.

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# 1. Introduction

Equipped with VoIP phone ports, Vigor2100 broadband series router is an Internet access solution for your LAN. It provides you shared web surfing and countless value-added features, such as Firewall, Security, VoIP, and 802.11g Wireless LAN (up to 54Mbps for Vigor2100VG and Vigor2100G only). These are all in a reliable one-box solution.

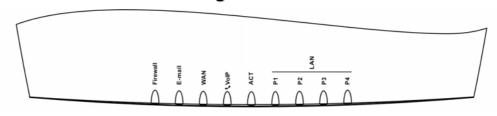
Vigor2100V and Vigor2100VG have a "Line" port on the rear panel for connecting to a PSTN (regular analogue) line. The Loop Through option can be used to set an alternate telephone number for your contact on the PSTN, which the Vigor2100V and Vigor2100VG will dial instead of the SIP account if you lose ADSL access or power to the Vigor2100V and Vigor2100VG. Hence, the PSTN line can act as a lifeline (backup mechanism) for VoIP calls. The lifeline mechanism is activated automatically but can also be manually configured.

#### **Characteristics**

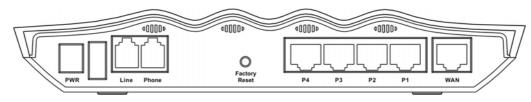
- Easy Internet-sharing of your broadband connection.
- Robust firewall to help protect your network from external attacks.
- Making regular phone calls over your broadband connection by simply plugging in your phone.
- ➤ QoS-assured VoIP facilities to deliver superior quality.
- Automatic failover for your Public Switched Telephone Network (PSTN) during power cuts.
- ➤ 802.11g Compliant Wireless LAN access with security features.

# 1.1 Panel Explanation

# 1.1.1 Front and Rear View for Vigor2100V

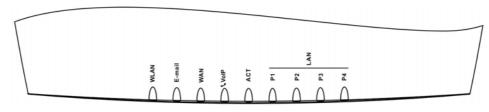


LED	Status	Explanation
Firewall	on	The firewall function is active.
	blinking	When encountering DoS attacks.
E-mail	blinking	When detecting one or more user-defined E-mails existing on mail server.
WAN	orange	A normal 10Mbps connection is through its corresponding port.
	green	A normal 100Mbps connection is through its corresponding port.
	blinking	Ethernet packets are transmitting.
VoIP	green	Solid light when the handset of phone is picked up (off hooked).
		Blinking per 2 seconds when phone is connected through VoIP.
	orange	Solid light when phone call is via PSTN life line.
ACT (Activity)	on	The router is powered on and running properly.
LAN(1,2,3,4)	orange	A normal 10Mbps connection is through its corresponding port.
	green	A normal 100Mbps connection is through its corresponding port.
	blinking	Ethernet packets are transmitting.

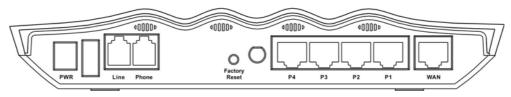


Interface	Description
PWR	Connect the included power adapter to the power outlet.
Line	Connect to the analog phone line for PSTN life line.
Phone	Connect to the analog phone for VoIP communication.
WAN	Connect the Cable/ADSL modem to access the Internet.
P1 - P4	Connect to the local network devices.
Factory Reset	Restore the default settings. Usage: Turn on the router (ACT LED is blinking), press the hole and keep for more than 5 seconds. When the ACT LED begins to blink rapidly, release the button. Then the router will restart with the factory default configuration.

# 1.1.2 Front and Rear View for Vigor2100VG

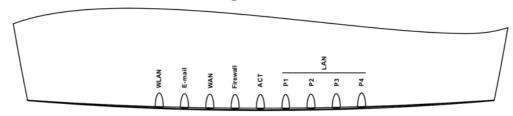


LED	Status	Explanation
WLAN	on	The Wireless LAN function is active.
	blinking	Data packets are transmitted over Wireless LAN.
E-mail	blinking	When detecting one or more user-defined e-mails existing on mail server.
WAN	orange	A normal 10Mbps connection is through its corresponding port.
	green	A normal 100Mbps connection is through its corresponding port.
	blinking	Ethernet packets are transmitting.
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	green	A normal 100Mbps connection is through its corresponding port.
	blinking	Ethernet packets are transmitting.

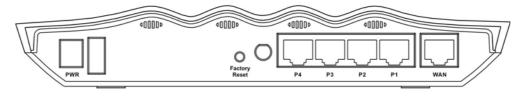


Interface	Description
PWR	Connect the included power adapter to the power outlet.
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P1 - P4	Connect to the local network devices.
Factory Reset	Restore the default settings. Usage: Turn on the router (ACT LED is
	blinking), press the hole and keep for more than 5 seconds. When
	the ACT LED begins to blink rapidly, release the button. Then the
	router will restart with the factory default configuration.

# 1.1.3 Front and Rear View for Vigor2100G

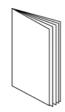


LED	Status	Explanation
WLAN	on	The Wireless LAN function is active.
	blinking	Data packets are transmitted over Wireless LAN.
E-mail	blinking	When detecting one or more user-defined e-mails existing on mail server.
WAN	orange	A normal 10Mbps connection is through its corresponding port.
	green	A normal 100Mbps connection is through its corresponding port.
	blinking	Ethernet packets are transmitting.
T: 11	on	The firewall function is active.
Firewall	blinking	When encountering DoS attacks.
ACT (Activity)	on	The router is powered on and running properly.
LAN(1,2,3,4)	orange	A normal 10Mbps connection is through its corresponding port.
	green	A normal 100Mbps connection is through its corresponding port.
	blinking	Ethernet packets are transmitting.



Interface	Description	
PWR	Connect the included power adapter to the power outlet.	
WAN	Connect the Cable/ADSL modem to access the Internet.	
P1 - P4	Connect to the local network devices.	
Factory Reset	Restore the default settings. Usage: Turn on the router (ACT LED is blinking), press the hole and keep for more than 5 seconds. When the ACT LED begins to blink rapidly, release the button. Then the router will restart with the factory default configuration.	

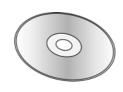
# 1.2 Package Content







**3** Antenna for G models



**2**CD

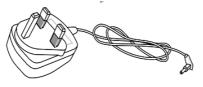


4 RJ-45 Cable (Ethernet)



SRJ-11 Cable (for V / VG)

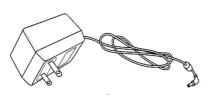
**6** The type of the power adapter depends on the country that the router will be installed:



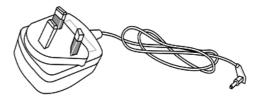
**UK-type power adapter** 



**EU-type power adapter** 



**USA/Taiwan-type** power adapter



AU/NZ-type power adapter

# 2. Installing Your Vigor2100 series 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 this device to a router with an Ethernet cable.
- 2. Connect one port of 4-port switch to your computer with a RJ-45 cable. This device allows you to connect 4 PCs directly.
- 3. Connect one end of the power cord to the power port of this device. Connect the other end to the wall outlet of electricity.
- 4. Connect detachable antennas to the router for Vigor2100 series.
- 5. For Vigor2100VG/V, connect Phone port to a conventional analog telephone, either corded or wireless (DECT), with a RJ-11 cable.
- 6. For Vigor2100VG/V, connect Line port to land line jack with a RJ-11 cable.
- 7. Power on the router.
- 8. Check the **ACT** and **WAN**, **LAN** LEDs to assure network connections.

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

# 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.

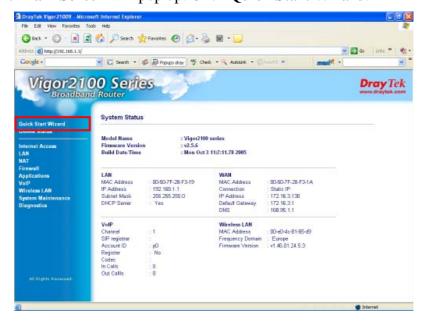


Notice: You may either simply set up your computer to get IP dynamically from the router or set up the IP address of the computer to be the same subnet as **the default IP address of Vigor router 192.168.1.1**. For the detailed information, please refer to the later section - Trouble Shooting of the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



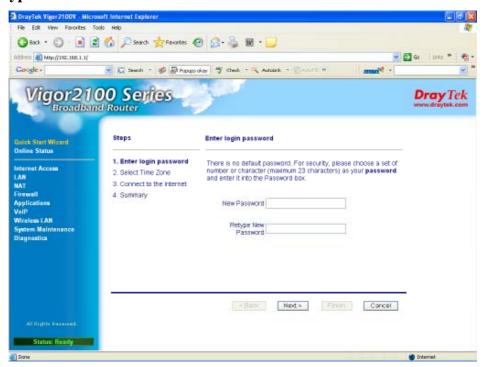
3. Now, the Main Screen will pop up. Click Quick Start Wizard.



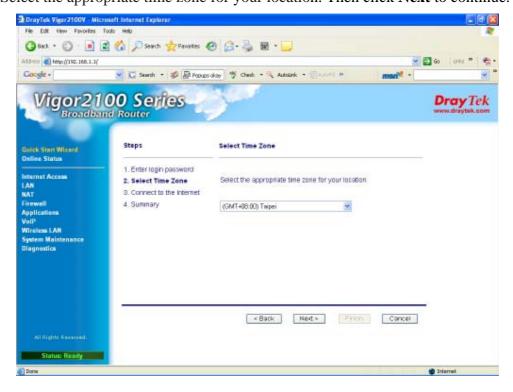


Notice: Some of the settings might not appear as above, because the home page will change slightly according to the features that your router has.

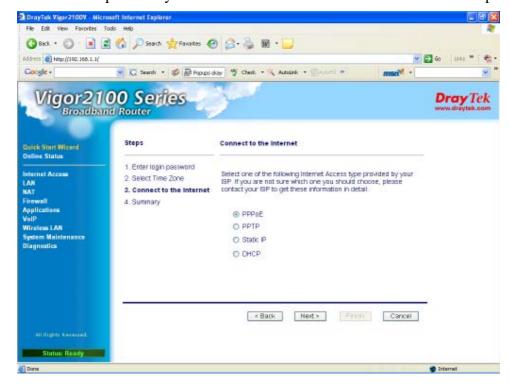
4. Enter the login password on the field of **New Password** and retype it on the field of **Retype New Password**. Then click **Next** to continue.



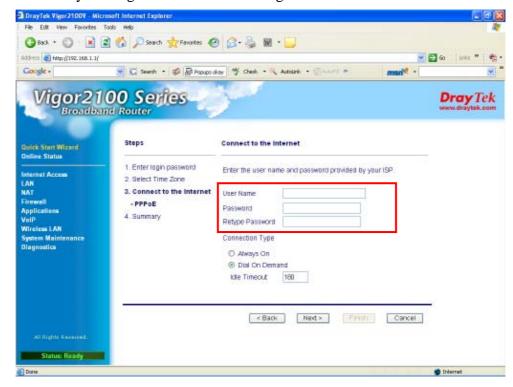
5. Select the appropriate time zone for your location. Then click **Next** to continue.



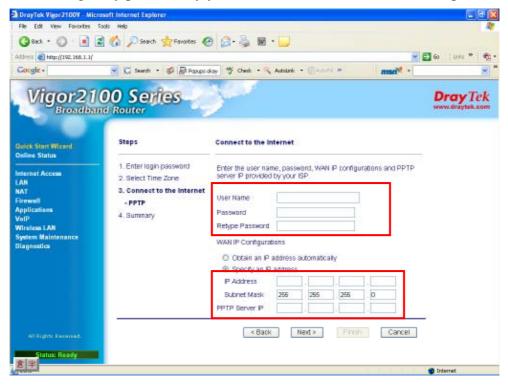
6. On the next page as shown below, please select the appropriate Internet access type according to the information from your ISP. For example, you should select PPPoE mode if the ISP provides you PPPoE interface. Then click **Next** for next step.



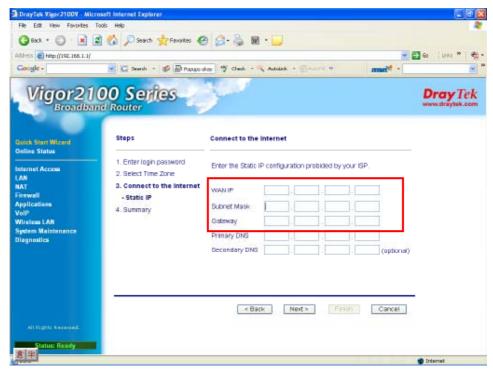
**PPPoE:** if you click PPPoE as the protocol, please manually enter the Username/Password provided by your ISP. Check the **Always On** means Internet access is always on regardless of Internet usage. Then click **Next**.



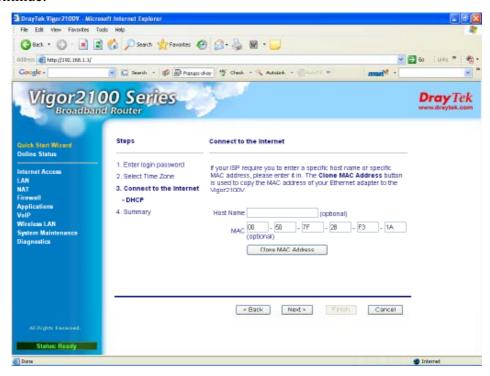
**PPTP:** if you click PPTP, you will get the following page. Please type in all the information originally provided by your ISP. Then click **Next** for next step.



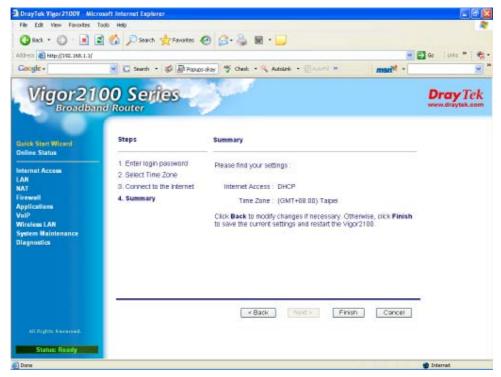
**Static IP:** if you click Static IP, you will get the following page. Please type in the IP address information originally provided by your ISP. Then click **Next** for next step.



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



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.



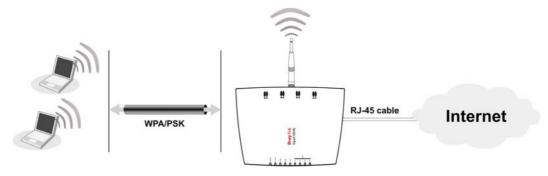
# 3.2 Wireless LAN Settings

For operating Vigor2100 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.)

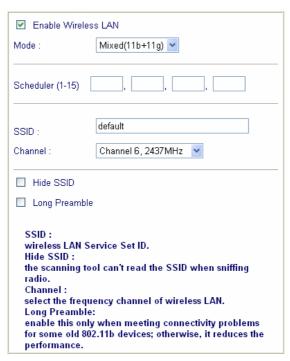
# 3.2.1 Basic Wireless LAN Concept

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. Select **Wireless LAN**. On **Detailed Settings** group, click **General Settings** to open the following page.



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

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.

**11g-only** The router can connect to IEE802.11g stations.

**11b-only** The router can connect to IEE802.11b stations.

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)

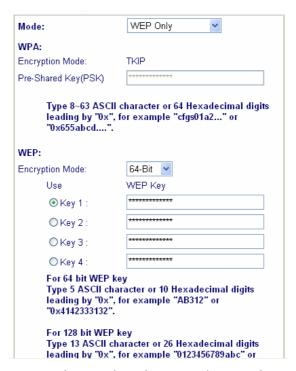
It is used to name the wireless LAN for this router, and it must have the same content in client PC/notebook wireless card(s). SSID can be any text numbers or various special characters.

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. Select **Wireless LAN**. On **Detailed Settings** group, click **Security** to open the following page.



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

**Disable** Turn off the encryption mechanism. For the security of

your router, please select any one of the encryption mode

here.

**WEP Only** Accepts only WEP clients and the encryption key should be

entered in WEP Key.

**WEP/802.1x Only** Accepts only WEP clients and the encryption key is

obtained dynamically through 802.1x.

**WEP or WPA/PSK** Accepts WEP and WPA clients simultaneously and the

encryption key should be entered in WEP Key and PSK

respectively.

WEP/802.1x or Accepts WEP and WPA clients simultaneously and the WPA/802.1x encryption key is obtained dynamically through 802.1x.

**WPA/PSK Only** Accepts only WPA clients and the encryption key should be

entered in PSK.

**WPA/802.1x Only** Accepts only WPA clients, and the encryption key is

obtained dynamically through 802.1x.



Note: You should also set RADIUS Server simultaneously if WEP/802.1x or WPA/802.1x, WEP/802.1x Only or WPA/802.1x Only mode is selected.

- 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 or a key got dynamically through 802.1x.
- 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. There are four sets of WEP Keys that you can type. Select any one of them as the WEP key.



**Note:** 128 bits WEP is most secure, but has more encryption/decryption overhead. Note that all wireless devices must *support the same WEP encryption bit size* and have the *same key*. Four keys can be entered here, but only one key can be selected at a time. The keys can be entered in ASCII or Hexadecimal. Click the circle under **Use** next to the key you wish to use.

5. Click **OK** to save settings.

# 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.

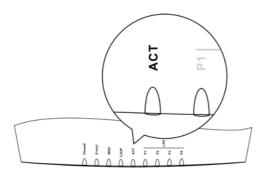
- > Checking if the hardware status is OK or not.
- Checking if the network connection settings on your computer are OK or not.
- Pinging the router from your computer.
- ➤ Checking if the ISP settings are OK or not.
- ➤ Backing to factory default setting if necessary.

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 stilled failed, please do the steps listed below to make sure the network connection settings is OK.

#### For Windows

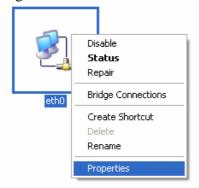


**Note:** The example is based on Windows XP. As to the examples for other operation systems, please refer to the similar steps or find support notes in **www.draytek.com**.

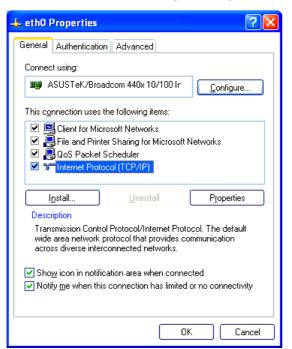
1. Go to **Control Panel** and then double-click on **Network Connections.** 



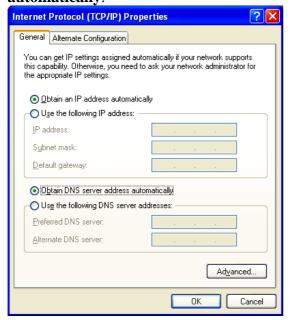
2. Right-click on **Local Area Connection** and click on **Properties**.



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

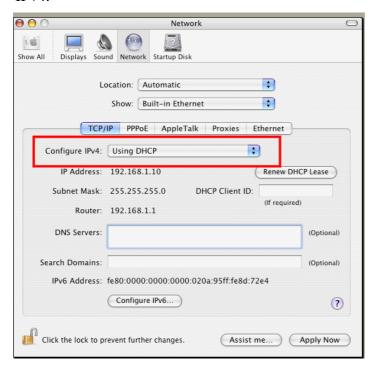


4. Select Obtain an IP address automatically and Obtain DNS server address automatically.



#### For 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.



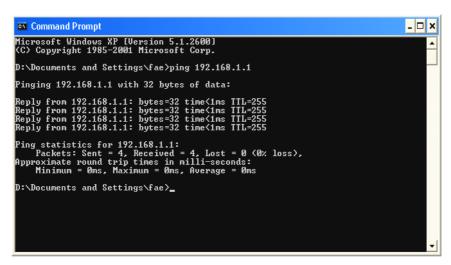
# 4.3 Pinging the Router from Your Computer

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.



- 3. Type **ping 192.168.1.1** and press [Enter]. It 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]. It the link is OK, the line of "64 bytes from 192.168.1.1: icmp\_seq=0 ttl=255 time=xxxx ms" will appear.

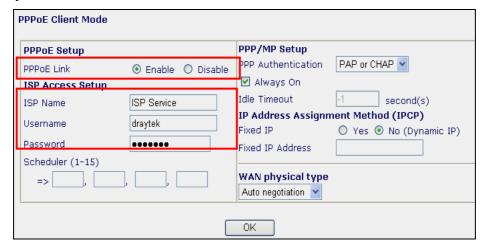
```
\Theta \Theta \Theta
                           Terminal - bash - 80x24
Last login: Sat Jan 3 02:24:18 on ttyp1
                                                                                  8
Welcome to Darwin!
Vigor10:~ draytek$ ping 192.168.1.1
PING 192.168.1.1 (192.168.1.1): 56 data bytes
64 bytes from 192.168.1.1: icmp_seq=0 ttl=255 time=0.755 ms
64 bytes from 192.168.1.1: icmp_seq=1 ttl=255 time=0.697 ms
64 bytes from 192.168.1.1: icmp_seq=2 ttl=255 time=0.716 ms
64 bytes from 192.168.1.1: icmp_seq=3 ttl=255 time=0.731 ms
64 bytes from 192.168.1.1: icmp_seq=4 ttl=255 time=0.72 ms
--- 192.168.1.1 ping statistics ---
5 packets transmitted, 5 packets received, 0% packet loss
round-trip min/avg/max = 0.697/0.723/0.755 ms
Vigor10:~ draytek$
```

# 4.4 Checking If the ISP Settings are OK or Not

Click **Internet Access Setup** group and then check whether the ISP settings are set correctly.

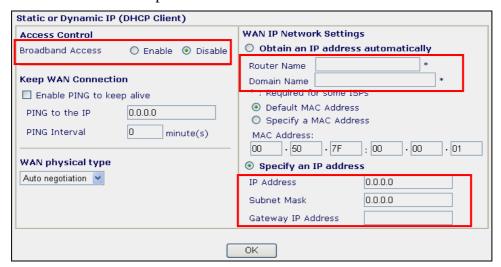
#### For PPPoE Users

- 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**.



# For Static or Dynamic Users

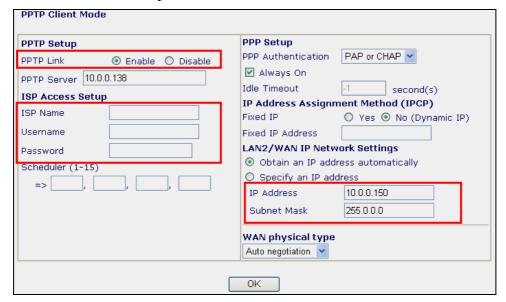
1. Check if the **Enable** option for Broadband Access is selected.



- 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.



- 2. Check if **PPTP Server, Username,** and **Password** are set correctly (must identify with the values from your ISP).
- 3. Check if **LAN2/WAN IP Network Settings** are set properly. If you select Specify an IP address, you have to type in the values of **IP Address** and **Subnet Mask** manually. Be sure the values that you type 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 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**

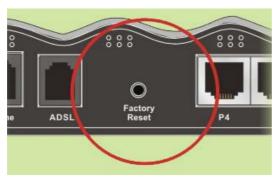
You can reset the router to factory default via Web page.

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



#### **Hardware Reset**

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



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

# 4.6 Contacting Your Dealer

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