DrayTek

Vigor 3300 Series
Broadband VoIP/Security/Load Balance Router

Quick Start Guide

Version: 2.1

Date: 2006/8/1

Copyright Information

Copyright Declarations

Trademarks

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Safety Instructions and Approval

Operation Environment

- Make sure the AC power source is within the range of **AC 90-240V**. 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.

Installation

- Read the quick start guide and installation manual 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.

Maintenance

- Users can replace the fuse by removing the module when necessary. The fuse should conform to the following rating, **AC: 250VAC, 1A.** Other parts of the device are complicated and should be repaired by authorized and qualified personnel. Do not try to open or repair the device by yourself.

Warranty

- The warranty of defects in materials is **three years** starting from the purchase date. Please keep your purchase receipt as proof of purchase.
- During the warranty, when the product has 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 re-store the product to its 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.
- This 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. The scope of delivery and other details are subject to change without prior notice.

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

Please consult the DrayTek web site for more information on the newest firmware, tools and documents.

http://www.draytek.com

# *Table of Contents*

1. Introduction

To ensure secure and reliable Internet access over enterprise networks, Vigor3300 Series will be a good solution for you. Vigor3300 Series is a comprehensive NAT and optional security suite that combines firewall, VPN, URL content filtering facilities, with bandwidth management and VoIP capabilities. The application scenario is shown as follows.
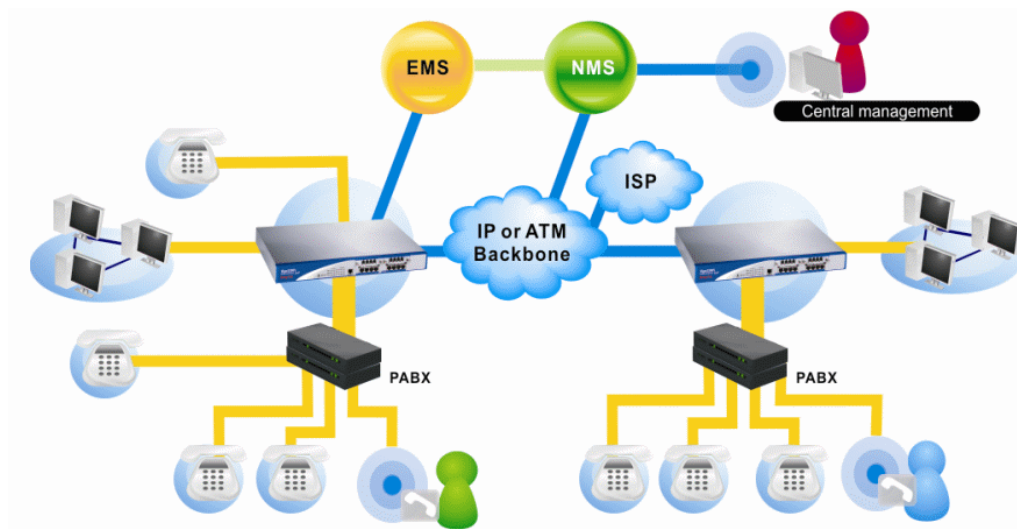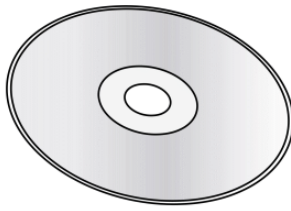

This guide provides basic indications and configurations for Vigor3300 Series:

➢ Panel Explanation

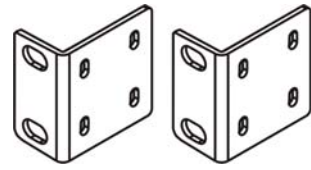➢ Hardware Installation

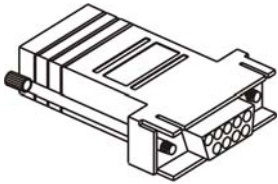➢ Primary Web Configuration

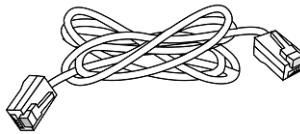# 1.1 Package Content
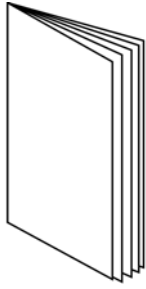
❶ **Quick Start Guide**　❷ **CD**　❸ **Rack mount kit (brackets)**

❹ **Console Connector**　❺ **RJ-45 Cable (Ethernet)x 2**　❻ **RJ-45 to RJ-45 Cable**

❼ **RJ-11 to RJ-11 Cable**

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

UK-type power cord

EU-type power cord

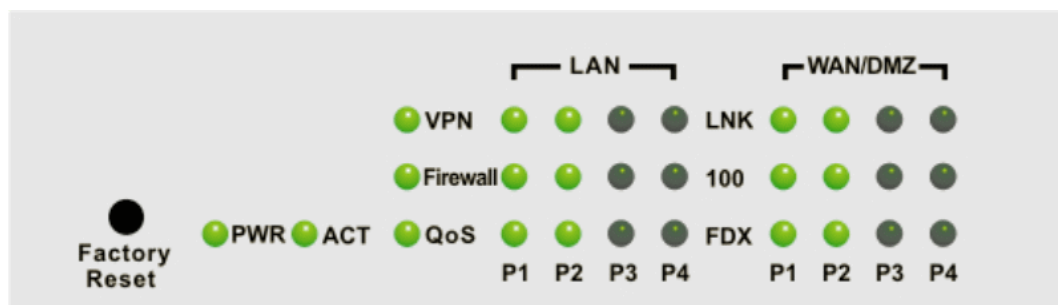**USA/Taiwan-type power cord**

AU/NZ-type power cord

China-type power cord

2. Panel Explanation

The displays of LED indicators for the routers are different slightly.

## 2.1 LED Indicators and Connectors for Vigor3300V

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.
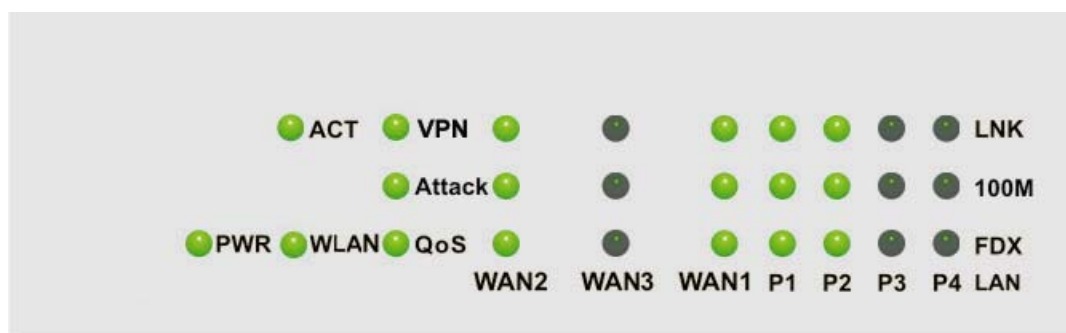
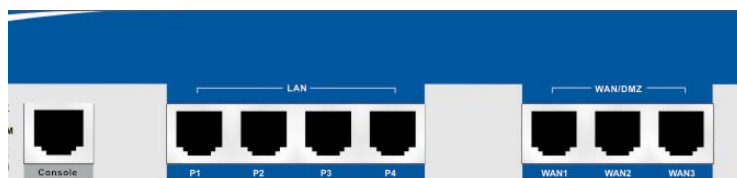| LED		Status	Explanation
PWR		On	The router is powered on.
		Off	The router is powered off.
ACT		On/Blinking	The system is active.
		Off	The system is hanged.
VPN		On	The VPN tunnel is launched.
		Off	The VPN tunnel is closed.
Firewall		On	The Firewall function is active.
		Off	The Firewall function is inactive.
QoS		On	The QoS function is active.
		Off	The QoS function is inactive.
LAN (1, 2, 3, 4)	LNK	On	The Ethernet link is established on corresponding port.
		Off	No Ethernet link is established.
	100	On	It means that a normal 100 Mbps connection is through its corresponding port.
		Off	It means that a normal 10 Mbps connection is through its corresponding port.
	FDX	On	It means a full duplex connection on corresponding port.
		Off	It means a half duplex connection on corresponding port.
WAN/DMZ (1, 2, 3, 4)	LNK	On	The Ethernet link is established.
		Blinking	The data transmission is done through the corresponding port.
		Off	No Ethernet link is established.
	100	On	It means that a normal 100Mbps connection is through its corresponding port.

LED		Status	Explanation
		Off	It means that a normal 10Mbps connection is through its corresponding port.
	FDX	On	It means a full duplex connection on corresponding port.
		Off	It means a half duplex connection on corresponding port.

FXS   FXO
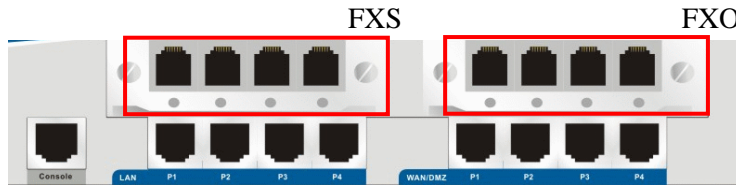
Interface	Description
Console	Provided for technician use.
LAN (P1 ~ P4)	Connecter for local networked devices.
WAN/DMZ (P1 ~ P4)	Connecter for remote networked devices.
FXS	Connecter for telephone set.
FXO	Connecter for FXS interface of PABX.

2.2 LED Indicators and Connectors for Vigor3300

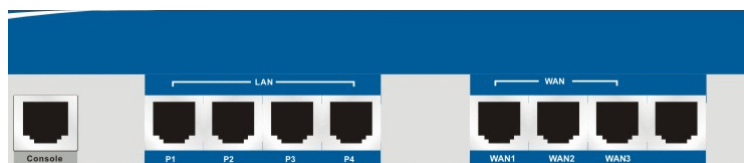| LED		Status	Explanation
PWR		On	The router is powered on.
		Off	The router is powered off.
ACT		On/Blinking	The system is active.
		Off	The system is hanged.
WLAN		No	Reserved for future use.
VPN		On	The VPN tunnel is launched.
		Off	The VPN tunnel is closed.
Attack		On	The Attack function is active.
		Off	The Attack function is inactive.
QoS		On	The QoS function is active.
		Off	The QoS function is inactive.
WAN (2, 3, 1)	LNK	On	The Ethernet link is established on corresponding port.
		Off	No Ethernet link is established.
	100M	On	It means that a normal 100 Mbps connection is through its corresponding port.
		Off	It means that a normal 10 Mbps connection is through its corresponding port.
	FDX	On	It means a full duplex connection on corresponding port.
		Off	It means a half duplex connection on corresponding port.
LAN (1, 2, 3, 4)	LNK	On	The Ethernet link is established.
		Blinking	The data transmission is done through the corresponding port.
		Off	No Ethernet link is established.
	100M	On	It means that a normal 100Mbps connection is through its corresponding port.
		Off	It means that a normal 10Mbps connection is through its corresponding port.
	FDX	On	It means a full duplex connection on corresponding port.
		Off	It means a half duplex connection on corresponding port.

Interface	Description
Console	Provided for technician use.
LAN (P1 ~ P4)	Connecter for local networked devices.
WAN/DMZ (WAN1 ~ WAN3)	Connecter for remote networked devices.

2.3 LED Indicators and Connectors for Vigor3300B+

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.
Attack		On	The Attack function is active.
		Off	The Attack function is inactive.
QoS		On	The QoS function is active.
		Off	The QoS function is inactive.
WAN (2, 3, 1)	LNK	On	The Ethernet link is established on corresponding port.
		Off	No Ethernet link is established.
	100M	On	It means that a normal 100 Mbps connection is through its corresponding port.
		Off	It means that a normal 10 Mbps connection is through its corresponding port.
	FDX	On	It means a full duplex connection on corresponding port.
		Off	It means a half duplex connection on corresponding port.
LAN (1, 2, 3, 4)	LNK	On	The Ethernet link is established.
		Blinking	The data transmission is done through the corresponding port.
		Off	No Ethernet link is established.
	100M	On	It means that a normal 100Mbps connection is through its corresponding port.
		Off	It means that a normal 10Mbps connection is through its corresponding port.
	FDX	On	It means a full duplex connection on corresponding port.
		Off	It means a half duplex connection on corresponding port.

Interface	Description
Console	Provided for technician use.
LAN (P1 ~ P4)	Connecter for local networked devices.
WAN1 ~ WAN3	Connecter for remote networked devices.

3. Install Your Vigor3300 Series Router

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

3.1 Hardware Installation

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

1. Connect the power cord to 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. The **PWR** LED should be **ON**.

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 Vigor3300 Series.

5. 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.

6. Connect a server/modem/router (depends on your requirement) to any available WAN port of the device with Ethernet cable (RJ-45). The **WAN** LED will light up.

7. Connect telephone sets to the **FXS** ports of Vigor3300V with telephone lines (RJ-11 to RJ-11). For the users of Vigor3300 and Vigor3300B+, please skip this step.

8. Connect the **FXO** ports to PABX with telephone lines (RJ-11 to RJ-11). For the users of Vigor3300 and Vigor3300B+, please skip this step.

Below shows an outline of the hardware installation for your reference (take Vigor3300V as an example).
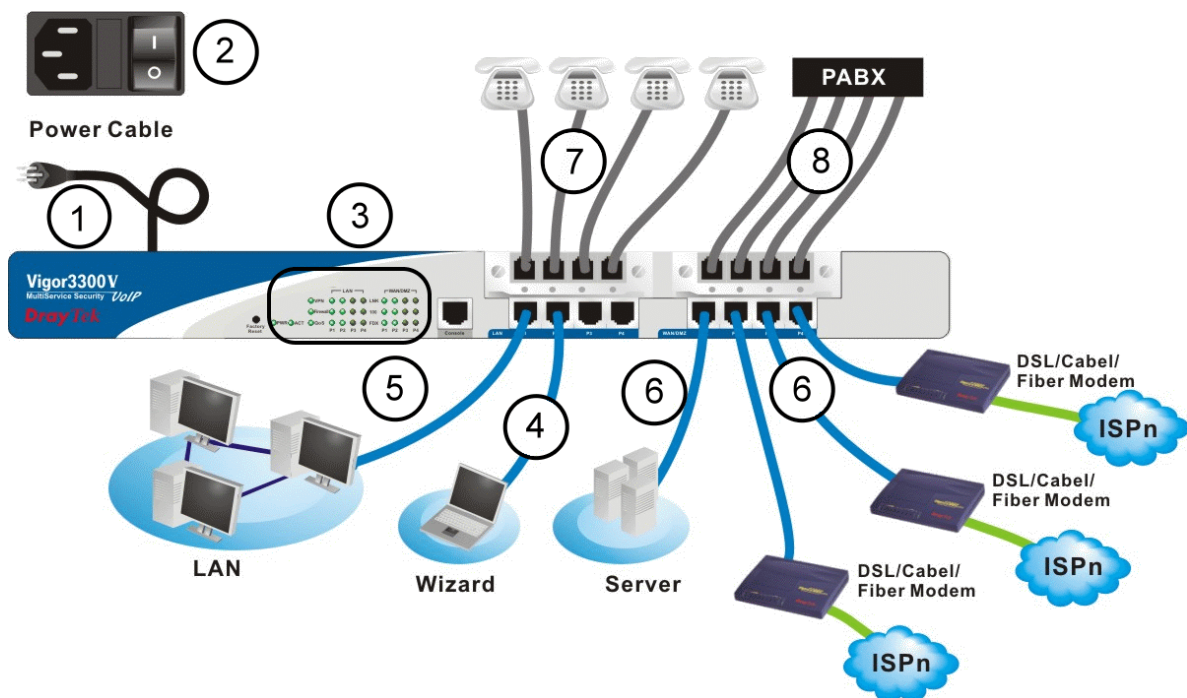
3.2 Primary Web Configuration

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

3.2.1 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 (e.g. IE or Netscape) on your PC and type **http://192.168.1.1.** A pop-up window will open to ask for username and password. Please type default values on the window for the first time accessing. The default value for user name is **draytek** and the password is **1234**. Next, click **OK**.

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

3.2.2 Changing User Password

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

1. Go to **System** page and choose **Change 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.

3.2.3 Adjusting WAN Connection Mode

On the next page as shown below, please select the appropriate Internet access type according to the information from your ISP.

1. Go to **Network** page and choose **WAN**.

2. You have to select an appropriate WAN connection type for connecting to the Internet through this router. For example, choose **WAN1** and click **Edit** icon.

3. There are five IP modes available for you to choose - Static IP, DHCP, PPPoE, PPTP and DMZ.

Static IP: If **Static IP** is selected, the following screen will appear. Please type in values for **IP address, Subnet Mask, Default Gateway and Primary DNS** specified by your ISP, and then click **Apply.**

DHCP: If you choose **DHCP** mode, the DHCP server of your ISP will assign a dynamic IP address for Vigor3300 Series automatically. It is not necessary for you to assign any setting. Click **Apply**.

PPPoE: If your ISP provides you the **PPPoE** (Point-to-Point Protocol over Ethernet) connection, please select **PPPoE** to get the following page. Enter the **username** and **password** provided by your ISP on the web page. And click **Apply**.

PPTP: If your ISP uses **PPTP** (Point-to-Point Tunneling Protocol), please select **PPTP**. Next, enter the **PPTP Local Address (e.g., 10.0.0.2), PPTP Subnet Mask (e.g., 255.255.255.0)** and **PPTP Server Address (e.g., 10.0.0.1)** provided by your ISP on the web page. And click **Apply**.

3.2.4 Adjusting LAN Connection

The LAN connection setup comes with parameters of IP address and Subnet Mask.

1. Go to **Network** page and choose **LAN**.

2. The default values for the router's local IP address and Subnet Mask are **192.168.1.1** and **255.255.255.0**. Keep the default values.

3. Click the **Enable** radio button to enable the router serving as a DHCP server for your network. A DHCP server automatically assigns an IP address and related parameters to each computer on your network. You can specify the IP pool for the router to start/end with when issuing IP address.

4. The default value for the Start IP is **192.168.1.10** and the value for the End IP is **192.168.1.254**. Type Primary DNS that specified by your ISP. For others, keep the default values.

3.2.5 Setting NAT Port Redirection Table

The **NAT Port Redirection** means port forwarding. Port forwarding sets up public services on your network such as web servers, FTP servers and other special Internet applications. When other users send this type of request to your network through the Internet, the router will direct these requests to an appropriate host inside. For example, port number with 1024 can be transferred into IP address of 172.168.1.100 of LAN. Whenever the incoming packet from the WAN side with the port number within 1000~2000, the packet will be directly forwarded to LAN IP address.

1. Go to **Advanced** page and choose **NAT** and then **Port Redirection**.

2. Click radio button of #1 and click **Edit**.

3. Select TCP/UDP as the protocol.

4. Type in public port range from 1000 to 2000.

5. Type in private IP with 172.168.1.100.

6. Type in private port range from 2000 to 3000.

3.2.6 Setting NAT Address Mapping Table

NAT (Network Address Translation) converts IP addresses on a private network (designated as "LAN") into public IP addresses, so the packets can be forwarded to another registered network (designated as "WAN"). It enables multiple PCs inside the LAN to access the Internet by means of one public IP address. **NAT** is enabled by default. By setting **NAT Table,** the public IP is provided by your ISP.

1. Go to **Advanced** page and choose **NAT** and then **Address Mapping**.

2. Click radio button of #1 and click **Edit**.

3. Select **TCP** as the protocol.

4. Set the Private IP with **192.168.1.100** and select **/24** as the Subnet Mask.

> If you want to choose any on of the Public IP settings, you must specify some IP addresses in the IP Alias List of the Static/DHCP Configuration page first. If you did not type in any IP address in the IP Alias List, the Public IP setting will be empty in this field. And when you click **Apply**, a message will appear to inform you.

3.2.7 Setting ICMP Access Control

The **Access Control** can prevent viruses from using ICMP packets to attack the device. You can disable the ping from the LAN/WAN side when there are worm-type viruses detected on your network. The mechanism can avoid virus spread, but in most cases it should not be enabled because its activation may make the device block normal query packets. You can allow or reject the management from WAN interface in this function by your selection.

1. Go to **System** page and choose **Access Control**.

2. Select **Disable** for Allow Management from the WAN.

3.2.8 Observing the Status

To monitor the router's operating status, click the **Status** tab for the information. The screen pops up displaying the current settings of Vigor3300 Series, including three windows – **Basic**, **LAN**, and **WAN**.
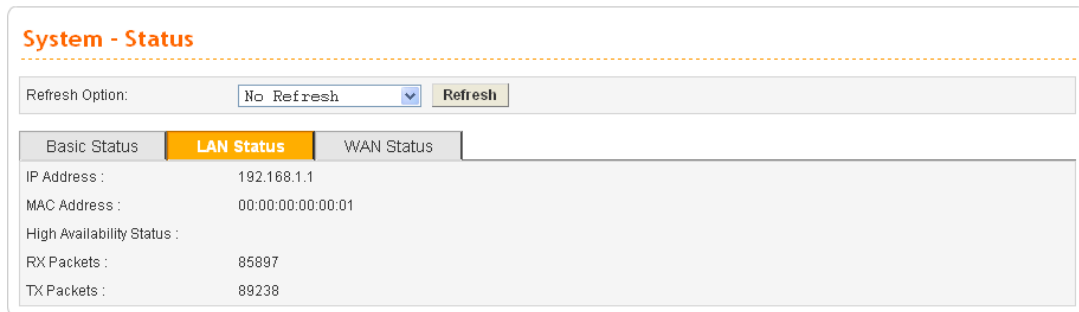
1. Go to **System** page and choose **Status**. The **Basic Status** will appear and display the main information of this device. The related items are Model, Hardware Version, Firmware Version, Build Date&Time, System Uptime, CPU Usage, and Memory Usage and Current System Time.

2. Click the tab of **LAN Status**.

It displays the information about the LAN interface, including the **IP address**, **MAC Address**, **High Availability Status**, **RX Packets**, and **TX Packets**.

3. Click the tab of **WAN Status**.

It displays the information for all the WAN interfaces at the same time, including IP address, MAC Address, Primary DNS, Secondary DNS, Gateway, RX Packets, TX Packets, Connection Status and Up Time.

3.2.9 Rebooting the System

Reboot screen can appear after you finish the changing of the password, WAN and LAN settings. You have to reboot the router to invoke the configured settings that you made before. Besides, you can select **Use default configuration** to reboot the device and retrieve the default settings.

1. Go to **System** page and choose **Reboot**.

2. Check **Use default configuration** to retrieve the factory settings or uncheck this box to invoke the newly configured settings.

3. Click **Apply**.

This page is left blank.

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.
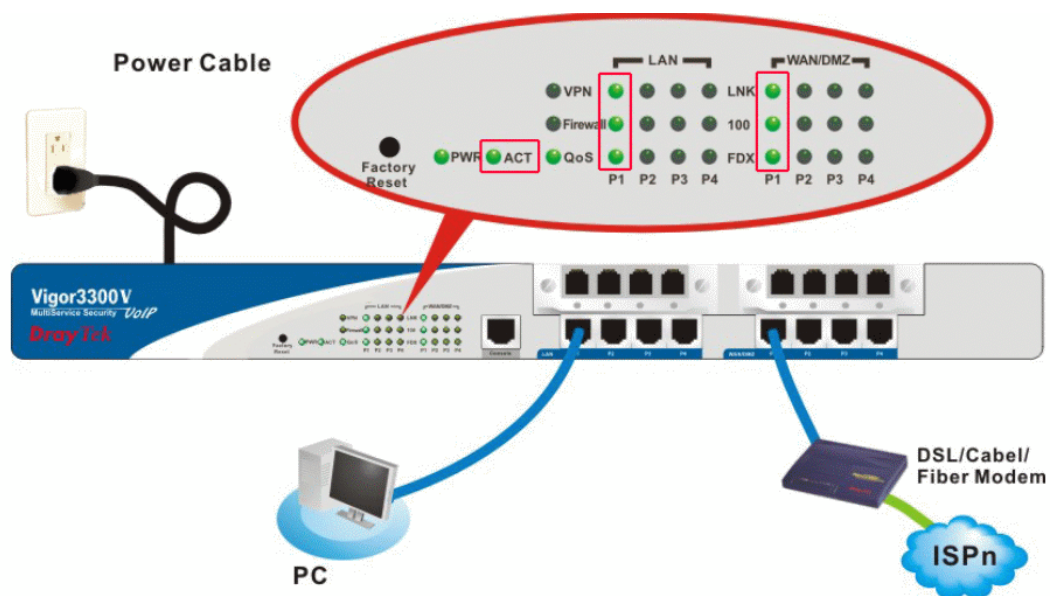
➢ Checking if the hardware status is OK or not.

➢ 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 "**2.1 Hardware Installation**" 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 **"2.1 Hardware Installation"** 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.
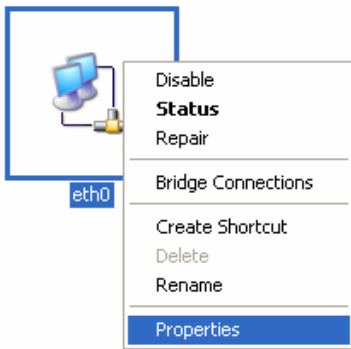
For Windows

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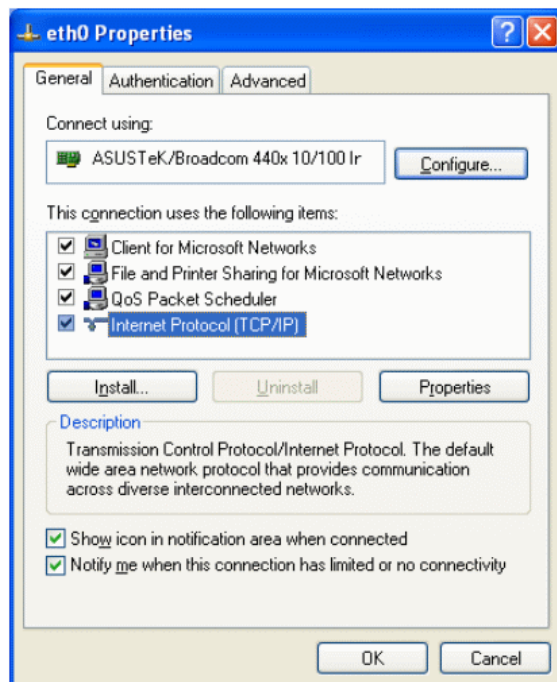
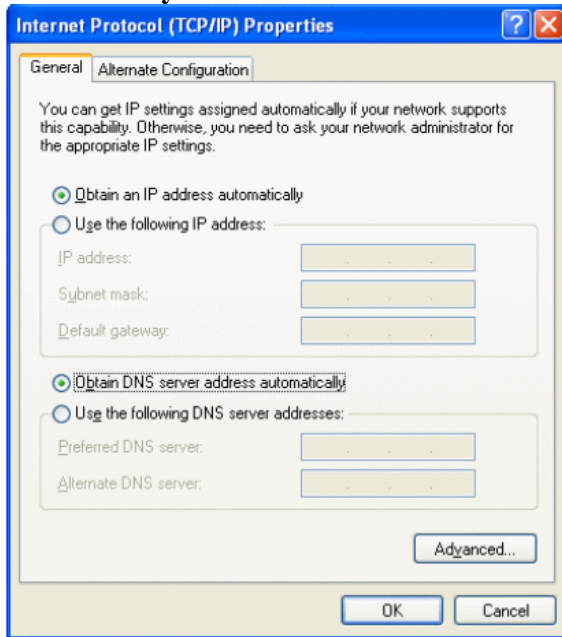1. Go to **Control Panel** and then double-click on **Network Connections.**

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

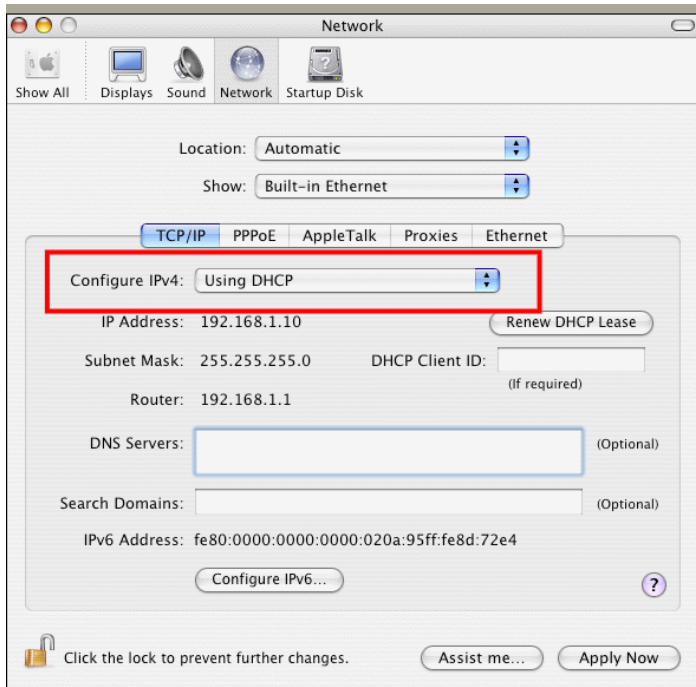3. Select **Internet Protocol (TCP/IP)** and then click **Properties**.

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

For 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.
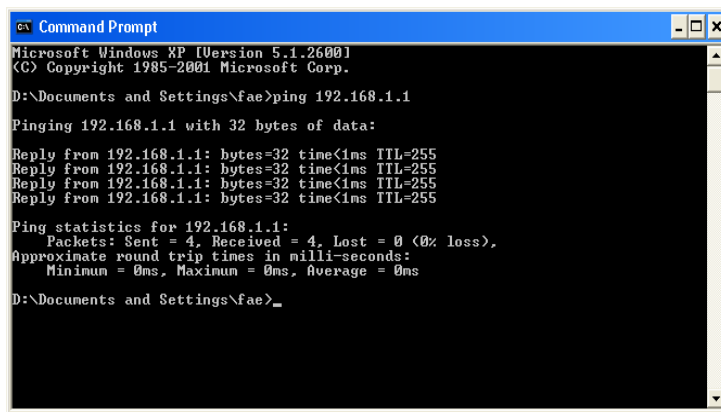
4.3 Pinging the Router from Your Computer

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 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 3.2)

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.

```
Command Prompt                                    _ □ ×
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>_
```
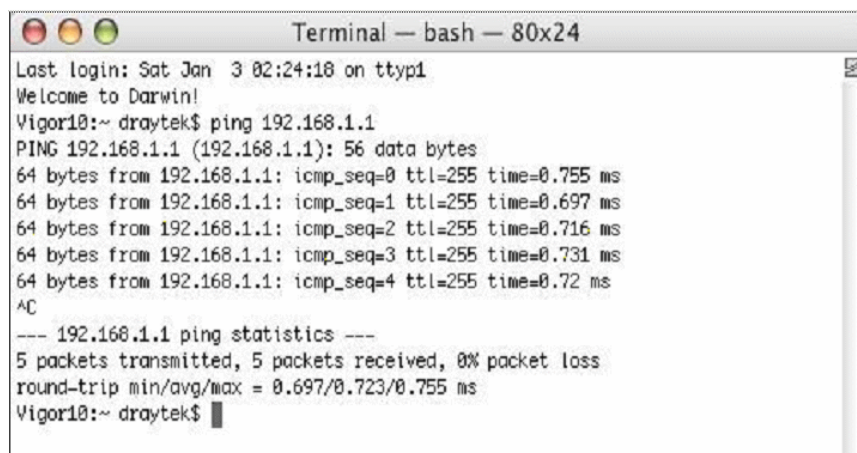
3. Type **ping 192.168.1.1** and press [Enter]. It the link is OK, the line of **Reply from 192.168.1.1:bytes=32 time<1ms TTL=255** will appear.

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.

```
        ○ ○ ○           Terminal — bash — 80x24
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
^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

1. Go to the web configuration GUI **(http://192.168.1.1),** click **Network >> WAN** to check your ISP settings for IP modes.

2. Make sure the **Active** check box has been selected.

For PPPoE Mode

1. Check if **Username** and **Password** are entered with correct values that you **got from** your **ISP**.

2. Check if the setting of **Authentication** is correct or not. You may need to try both **PAP** and **CHAP.**

3. Check if **Service Name** (optional) is correct or not. It is required by some ISPs.

4. After finishing the settings, go to **System - Status** page and click **WAN Status**. You will get a correct web page of WAN settings.

For Static Mode

1. Check if the values of **IP Address**, **Subnet Mask**, **Gateway IP Address** and **Primary DNS** that you got from ISP are set properly or not. If you forget, please contact with ISP for getting new ones.

2. If anything wrong, please retype correct values and try the network connection again.

3. After finishing the settings, go to **System - Status** page and click **WAN Status**. You will get a correct web page of WAN settings.

For DHCP Mode

1. Check if **Host Name** (optional) and **Domain Name** (optional) are correct or not. Both them are required for some ISPs.

2. If anything wrong, please check and retype correct values. Then try the network connection again.

3. After finishing the settings, go to **System - Status** page and click **WAN Status**. You will get a correct web page of WAN settings.

For PPTP Mode

1. Check if the settings of **Username** and **Password** are correct or not.

2. Check if the setting of **Authentication** is correct or not. You may need to try both **PAP** and **CHAP.**

3. Check if the value of **PPTP Local Address**, **PPTP Subnet Mask**, and **PPTP Server Address** are correct or not.

After finishing the settings, go to **System - Status** page and click **WAN Status**. You will get a correct web page of WAN settings.

Basic Status	LAN Status	**WAN Status**

WAN1 :

IP Address :	61.230.208.202
MAC Address :	00:50:7f:28:80:e7
Primary DNS :	194.109.6.66
Secondary DNS :	194.98.0.1
Gateway :	61.230.208.245
RX Packets :	341
TX Packets :	86
Connection Status :	connected
Up Time :	0 days 0 hours 4 minutes 39 seconds

Disconnect

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 >> Reboot** on the web page. The following screen will appear. Choose **Reset to factory default** and click **Apply**. After few seconds, the router will return all the settings to the factory settings.
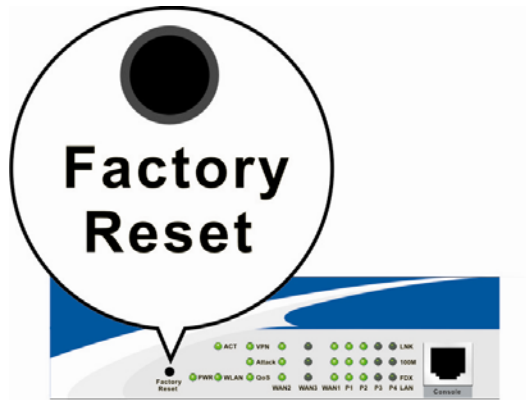
System - Reboot

System rebooting will take 70 seconds

☑ Reset to factory default

Apply

Hardware Reset (for 3300V only)

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.**