### **Dray** Tek

### VigorIPPBX 3510 Series



**Quick Start Guide** 

V.1.0

### Vigor*IPPBX* 3510/3500 Series Quick Start Guide

Version: 1.0

Date: 16/09/2009

### **Copyright Information**

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### **Safety Instructions and Approval**

### Safety Instructions

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

### Warranty

We warrant to the original end user (purchaser) that the router will be free from any defects in workmanship or materials for a period of two (2) years from the date of purchase from the dealer. Please keep your purchase receipt in a safe place as it serves as proof of date of purchase. During the warranty period, and upon proof of purchase, should the product have indications of failure due to faulty workmanship and/or materials, we will, at our discretion, repair or replace the defective products or components, without charge for either parts or labor, to whatever extent we deem necessary tore-store the product to proper operating condition. Any replacement will consist of a new or re-manufactured functionally equivalent product of equal value, and will be offered solely at our discretion. This warranty will not apply if the product is modified, misused, tampered with, damaged by an act of God, or subjected to abnormal working conditions. The warranty does not cover the bundled or licensed software of other vendors. Defects which do not significantly affect the usability of the product will not be covered by the warranty. We reserve the right to revise the manual and online documentation and to make changes from time to time in the contents hereof without obligation to notify any person of such revision or changes.

Be a Registered Owner

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Web registration is preferred. You can register your Vigor router via http://www.draytek.com.

Firmware & Tools Updates

Due to the continuous evolution of DrayTek technology, all routers will be regularly upgraded. Please consult the DrayTek web site for more information on newest firmware, tools and documents.

http://www.draytek.com



### **European Community Declarations**

Manufacturer: DrayTek Corp.

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

Taiwan 303

Product: VigorIPPBX 3510

DrayTek Corp. declares that VigorIPPBX 3510 is in compliance with the following essential requirements and other relevant provisions of R&TTE Directive 1999/5/EEC.

The product conforms to the requirements of Electro-Magnetic Compatibility (EMC) Directive 2004/108/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/AboutRegulatory.php.



This product is designed for POTS network throughout the EC region and Switzerland. Please see the user manual for the applicable networks on your product.



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### 1. Introduction

The VigorIPPBX 3510 is a dual-WAN broadband router with IP PBX function. The 2<sup>nd</sup> WAN interface is shared with the 4<sup>th</sup> LAN port. These two WANs can connect to DSL/Cable modem or fiber media converter for policy-based load-balance, fail-over and BoD (Bandwidth on Demand); it also features advanced bandwidth control mechanism such as IP-layer QoS, NAT Session Limitation, Bandwidth Borrowed, etc., to allow easy, flexible, reliable access control and bandwidth management.

VigorIPPBX 3500 is an IPPBX device which must connect to a router by WAN port for accessing into Internet.

The SPI (Stateful Packet Inspection) firewall on VigorIPPBX 3510 uses object-based design to make settings of firewall policies easy. The CSM (Content Security Management) feature allows more precise and efficient access control for URL/Web Content Filtering, IM (Instant Messenger) and P2P (Peer to Peer) applications.

With hardware-based implementation of the VPN protocols, the VigorIPPBX 3510 supports up to 32 VPN tunnels using advanced protocols such as IPSec/PPTP/L2TP with AES/DES/3DES for encryption and MD5/SHA-1 for authentication.

VigorIPPBX 3510/3500 can provide up to 100 extensions setup to let all IP phones register to LAN or remote sites around the world to have unlimited free calls through Internet. Moreover, VigorIPPBX 3510 is able to establish multiple networking architectures corresponding to your current desire and future needs of growing communication. Its PSTN compatibility lets you move from simple VoIP solution such as IP phone and Softphone to integrate with comprehensive networking infrastructure, such as Analog phone line any time you need.



### 1.1 Panel Explanation

### 1.1.1 For VigorIPPBX 3510



### **Description for LED**



LED		Status	Explanation
PWR (Power)		On	The router is powered on.
		Off	The router is powered off.
ACT (Activity)		Blinking	The router is powered on and running normally.
		Off	The router is not ready or failed.
WAN		On	The WAN connection is ready.
		Blinking	It will blink while transmitting data.
CDR		On	CDR utility has been installed and is recording.
		Off	CDR utility has not been installed and is unable to
			record.
USB		On	A USB device is connected and active.
		Blinking	The data is transmitting.
MSF		Blinking	Storage (NAND flash or USB disk) is full.
VPN		On	The VPN tunnel is active.
CSM		On	The profiles of CSM (Content Security Management) for IM/P2P, URL Content Filter, Web Content Filter application is enabled from <b>Firewall</b> >> <b>General Setup</b> . (These profile can be established under <b>CSM</b> menu).
QoS		On	The QoS function is active.
LED on Conne	ector		
LAN 1/2/3/4*	Left LED	On	The port is connected.
	(Green)	Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED (Green)	On	The port is connected with 100Mbps.
		Off	The port is connected with 10Mbps.
WAN1/2*	Left LED (Green)	On	The port is connected.
		Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED	On	The port is connected with 100Mbps.
	(Green)	Off	The port is connected with 10Mbps.

<sup>\*</sup> LAN 4 and WAN 2 share the same connector.

### **Description for Connectors**





Interface	Description
Factory Reset	Restore the default settings. Usage: Turn on the router (ACT LED is blinking). Press the hole and keep for more than 5 seconds. When you see the ACT LED begins to blink rapidly than usual, release the button. Then the router will restart with the factory default configuration.
FXS	Connecter for telephone set.
FXO	Connecter for FXS interface of PABX or PSTN line.
LAN (1-4)	Connecters for local networked devices.
WAN	Connecter for accessing Internet.
USB	Connecter for a USB device (for 3G USB Modem or printer).
PWR	Connecter for a power cord.
ON/OFF	Power switch.



### 1.1.2 For VigorIPPBX 3500

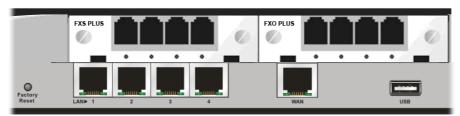


### **Description for LED**



LED		Status	Explanation
PWR (Power)		On	The router is powered on.
		Off	The router is powered off.
ACT (Activity)		Blinking	The router is powered on and running normally.
		Off	The router is powered off.
WAN		On	The WAN connection is ready.
		Blinking	It will blink while transmitting data.
CDR		On	CDR utility has been installed and is recording.
		Off	CDR utility has not been installed and is unable to record.
USB		On	A USB device is connected and active.
			The data is transmitting.
MSF		Blinking	Storage (NAND flash or USB disk) is full.
LED on Conne	ector		
	Left LED	On	The port is connected.
LAN 1/2/3/4	(Green)	Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED	On	The port is connected with 100Mbps.
	(Green)	Off	The port is connected with 10Mbps.
	Left LED	On	The port is connected.
WAN	(Green)	Off	The port is disconnected.
		Blinking	The data is transmitting.
	Right LED	On	The port is connected with 100Mbps.
	(Green)	Off	The port is connected with 10Mbps.

### **Description for Connectors**





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WAN	Connecter for accessing Internet.
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PWR	Connecter for a power cord.
ON/OFF	Power switch.



### 1.2 Package Content



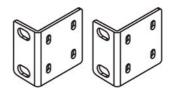
**Q**uick Start Guide



**2** cd



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



4 Rack mount kit (brackets)



**5** FXO (optional)



**6** FXS (optional)

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. Installing Your Router

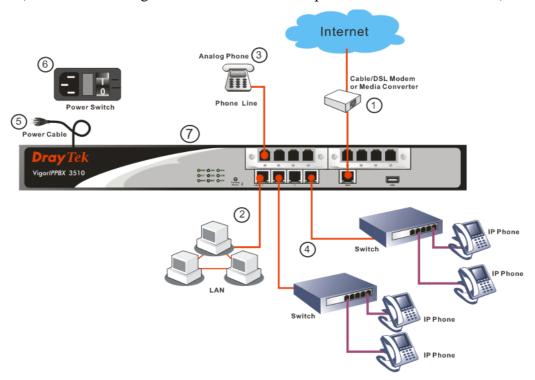
This section will guide you to install the router through hardware connection and configure the router's settings through web browser.

### 2.1 Hardware Installation

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

- 1. Connect the cable Modem/DSL Modem/Media Converter to WAN port of router with Ethernet cable (RJ-45).
- 2. Connect one end of an Ethernet cable (RJ-45) to one of the **LAN** ports of the router and the other end of the cable (RJ-45) into the Ethernet port on your computer.
- 3. Connect the telephone sets with phone lines (for using PBX function). For the model without phone ports, skip this step.
- 4. Connect IP Phone(s) via VigorSwitch to this router.
- 5. Connect one end of the power adapter to the router's power port on the rear panel, and the other side into a wall outlet.
- 6. Power on the device by pressing down the power switch on the rear panel.
- 7. The system starts to initiate. After completing the system test, the **PWR** and **ACT** LEDs will light up and start blinking.

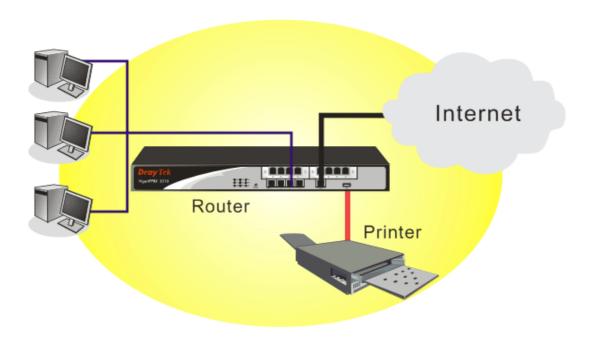
(Below we take VigorIPPBX3510 as an example for hardware installation.)



**Caution**: Each of the Phone ports can be connected to an analog phone only. Do not connect the phone ports to the telephone wall jack. Such connection might damage your router.

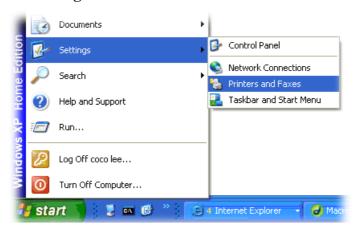
### 2.2 Printer Installation

You can install a printer onto the router for sharing printing. All the PCs connected this router can print documents via the router. The example provided here is made based on Windows XP/2000/Vista. For Windows 98/SE, please visit www.draytek.com.



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

- 1. Connect the printer with the router through USB/parallel port.
- 2. Open Start->Settings-> Printer and Faxes.



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



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

Printers and Faxes

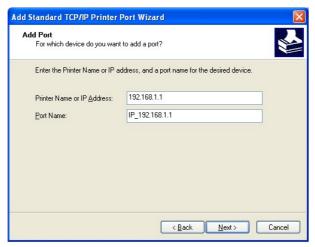
Set Up Faxing



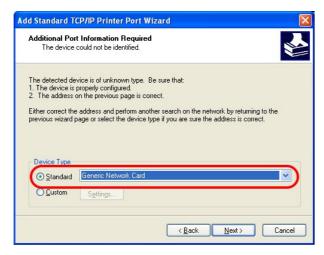
In this dialog, choose Create a new port Type of port and use the drop down list to select Standard TCP/IP Port. Click Next.



6. In the following dialog, type **192.168.1.1** (router's LAN IP) in the field of **Printer Name or IP Address** and type **IP\_192.168.1.1** as the port name. Then, click **Next**.



7. Click Standard and choose Generic Network Card.



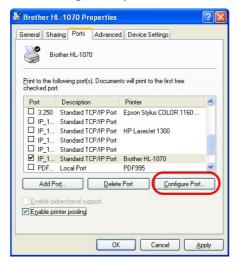
8. Then, in the following dialog, click **Finish**.



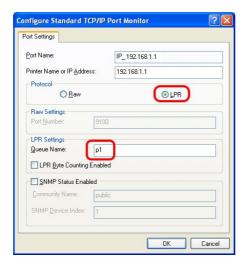
9. Now, your system will ask you to choose right name of the printer that you installed onto the router. Such step can make correct driver loaded onto your PC. When you finish the selection, click **Next**.



10. For the final stage, you need to go back to **Control Panel-> Printers** and edit the property of the new printer you have added.

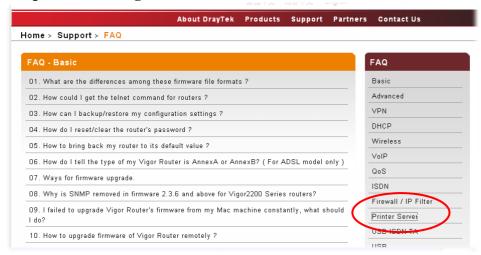


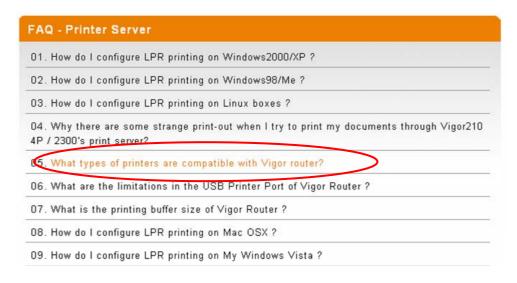
11. Select "LPR" on Protocol, type **p1** (number 1) as Queue Name. Then click **OK**. Next please refer to the red rectangle for choosing the correct protocol and UPR name.



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

Note 1: Some printers with the fax/scanning or other additional functions are not supported. If you do not know whether your printer is supported or not, please visit www.draytek.com to find out the printer list. Open **Support >FAQ**; find out the link of **Printer Server** and click it; then click the **What types of printers are compatible with Vigor router**? link.





**Note 2:** Vigor router supports printing request from computers via LAN ports but not WAN port.

### 3. Configuring Web Pages

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

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. Please type "admin" as the username and leave blank for the password on the window. Next click **OK** for next screen.





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

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





**Note:** The home page will change slightly in accordance with the router you have.

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

# Enter login password Please enter an alpha-numeric string as your Password (Max 23 characters). New Password Confirm Password \*\*\*\* \*\*Back\*\* Next > Finish\*\* Cancel

5. On the next page as shown below, please select the WAN interface (WAN 1 or WAN2) that you use. If DSL interface is used, please choose WAN1; if WAN2 interface is used, please choose WAN2. Choose **Auto negotiation** as the physical type for your router. Then click **Next** for next step.

### 

**Quick Start Wizard** 

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.

## Connect to Internet WAN 1 Select one of the following Internet Access types provided by your ISP. PPPOE PPTP L2TP Static IP DHCP About 1 About

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

### 

**PPTP/L2TP:** if you click PPTP/L2TP, you will get the following page. Please type in all the information originally provided by your ISP. Then click **Next** for next step.

### **Quick Start Wizard**

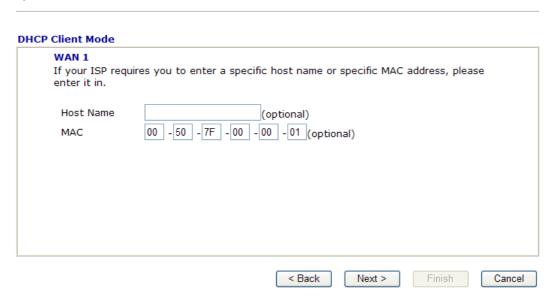
WAN 1 Enter the user name, pass your ISP.	word, WAN IP configuration and PPTP server IP provide	ed by
User Name		
Password		
Confirm Password		
WAN IP Configuration		
Obtain an IP address	automatically	
<ul><li>Specify an IP address</li></ul>	S Company of the Comp	
IP Address	172.16.3.229	
Subnet Mask	172.16.3.4	
Gateway	172.16.3.1	
Primary DNS	undefined	
Second DNS	undefined	
PPTP Server		

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

### **Quick Start Wizard Static IP Client Mode** WAN 1 Enter the Static IP configuration probided by your ISP. WAN IP 172.16.3.229 Subnet Mask 255.255.0.0 Gateway 172.16.3.229 Primary DNS Secondary DNS (optional) < Back Next > Finish Cancel

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

### **Quick Start Wizard**



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.

## Please confirm your settings: WAN Interface: WAN1 Physical Mode: Ethernet Physical Type: Auto negotiation Internet Access: DHCP Click Back to modify changes if necessary. Otherwise, click Finish to save the current settings and restart the Vigor router.

< Back

Next >

Finish

Quick Start Wizard Setup OK !!!

Cancel

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

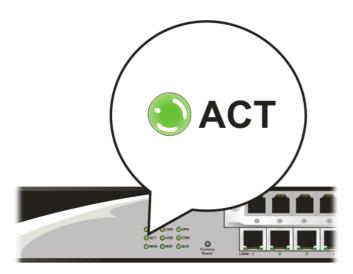
- > Checking if the hardware status is OK or not.
- Checking if the network connection settings on your computer are OK or not.
- Pinging the router from your computer.
- ➤ Checking if the ISP settings are OK or not.
- ➤ Backing to factory default setting if necessary.

If all above stages are done and the router still cannot run normally, it is the time for you to contact your dealer for advanced help.

### 4.1 Checking If the Hardware Status Is OK or Not

Follow the steps below to verify the hardware status.

- 1. Check the power line and LAN cable connections. Refer to "2.1 Hardware Installation" for details.
- 2. Turn on the router. Make sure the **PWR** LED is on.
- 3. Check if **ACT** LED blinks once per second and the correspondent **LAN** LED is bright.



4. If not, it means that there is something wrong with the hardware status. Simply back to "2.1 Hardware Installation" to execute the hardware installation again. And then, try again.

### 4.2 Checking If the Network Connection Settings on Your Computer Is OK or Not

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

### **For Windows**



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

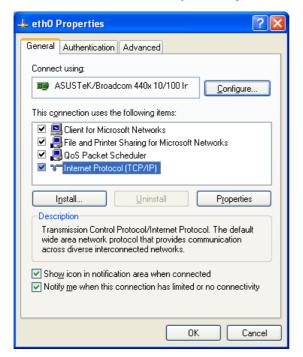
1. Go to **Control Panel** and then double-click on **Network Connections.** 



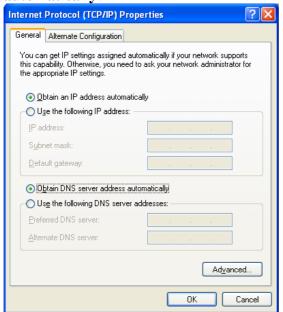
2. Right-click on **Local Area Connection** and click on **Properties**.



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

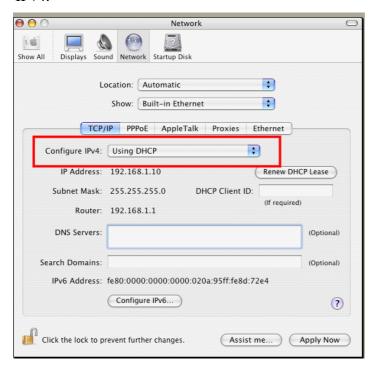


4. Select Obtain an IP address automatically and Obtain DNS server address automatically.



### For 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.



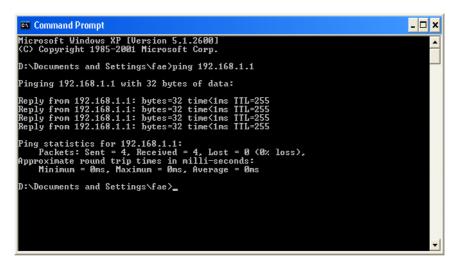
### 4.3 Pinging the Router from Your Computer

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]. If the link is OK, the line of "**Reply from 192.168.1.1:bytes=32 time<1ms TTL=255**" will appear.
- 4. If the line does not appear, please check the IP address setting of your computer.

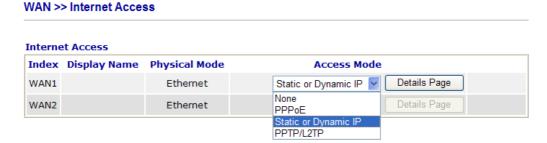
### For MacOs (Terminal)

- 1. Double click on the current used MacOs on the desktop.
- 2. Open the **Application** folder and get into **Utilities**.
- 3. Double click **Terminal**. The Terminal window will appear.
- 4. Type **ping 192.168.1.1** and press [Enter]. If the link is OK, the line of "64 bytes from 192.168.1.1: icmp\_seq=0 ttl=255 time=xxxx ms" will appear.

```
000
                          Terminal - bash - 80x24
Last login: Sat Jan 3 02:24:18 on ttyp1
                                                                               B
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$
```

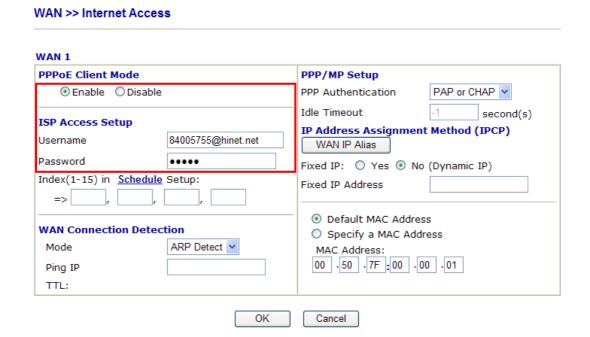
### 4.4 Checking If the ISP Settings are OK or Not

Open **Internet Access** page and then check whether the ISP settings are set correctly.



### For PPPoE Users

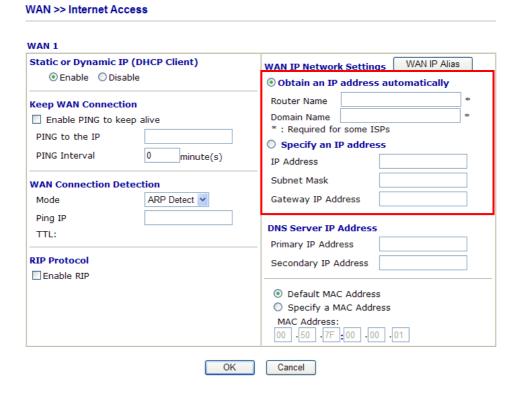
- 1. Check if the **Enable** option is selected.
- 2. Check if **Username** and **Password** are entered with correct values that you **got from** your **ISP**.





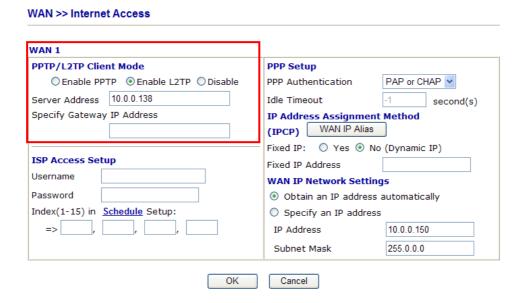
### For Static/Dynamic IP Users

- 1. Check if the **Enable** option is selected.
- 2. Check if **Obtain an IP address automatically** for Dynamic IP setting is selected. Or check if **IP address, Subnet Mask** and **Gateway** are entered with correct values for Static IP setting that you **got from** your **ISP**.



### For PPTP/L2TP Users

- 1. Check if the **Enable** option for **PPTP/L2TP** Link is selected.
- 2. Check if **Server, Username, Password** and **WAN IP address** are set correctly (must identify with the values from your ISP).



### 4.5 Backing to Factory Default Setting If Necessary

Sometimes, a wrong connection can be improved by returning to the default settings. Try to reset the router by software or hardware.

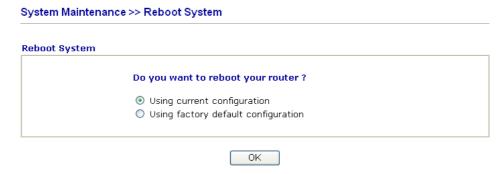


**Warning:** After pressing **factory default setting**, you will loose all settings you did before. Make sure you have recorded all useful settings before you pressing. The password of factory default is null.

### **Software Reset**

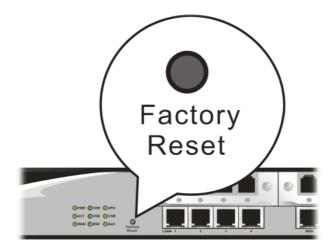
You can reset the router to factory default via Web page.

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



### **Hardware Reset**

While the router is running (ACT LED blinking), press the **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.