Vigor2500V/Vi Quick Installation Guide

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Safety Instructions and Approval

Safety Instructions   1. Read the installation guide thoroughly before you set up the router.
2. 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.
3. Do not place the router in a damp or humid place, e.g. a bathroom.
4. The router should be used in a sheltered area, within a temperature range of +5 to +40 Celsius.
5. 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.
6. Keep the package out of reach of children.
7. 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.

European Community
Hereby, we declare that the router is in compliance with the essential requirements and other relevant provisions of R&TTE Directive 99/5/EC.

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 ADSL & Router technology, all routers will be regularly upgraded. Please consult the DrayTek web site for more information on newest firmware, tools and documents.
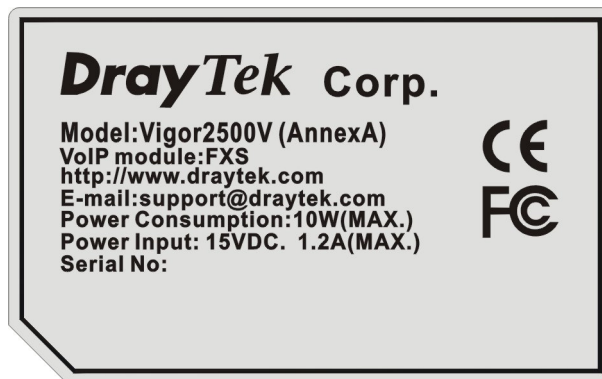**http://www.draytek.com**/

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1. Introduction

1.1 Brief Overview

	Vigor2500V	Vigor2500Vi
ADSL Router	*	*
VoIP	*	*
PSTN life line	*	*
ISDN loop through	-	*
ISDN backup	-	*

The Vigor2500V/Vi router, an Internet access solution for your LAN, which provides you the shared web surfing and countless value-added features, such as Firewall / Security, VoIP, multimedia support. These are all in a reliable one-box solution.

> **What's "PSTN life line" and "ISDN loop through"?**
>
> **PSTN life line** and **ISDN loop through** is a backup mechanism for voice communication in the event of Internet access failure, VoIP unreachable or manual configuration. In other words, the Vigor2500V series provides users three possible lines to implement their voice communication, i.e. **VoIP**, **PSTN** and **ISDN** (for Vigor2500Vi only). The user can choose any one of these three selections by manual configuration or automatic detection to dial out a phone call.

1.2 Highlights

VoIP
· G.168 Line Echo-cancellation
· Gain Control
· Jitter Buffer (250ms)
· Voice CODEC: G.711 A/u law, G.729 A/B, VAD/CNG
· Tone Generation and Detection: DTMF, Dial, Busy, Ring Back
· Protocol: SIP, RTP/RTCP

ADSL
· Compatible with ADSL lines up to 8 Mbps.
· Support PPPoE, PPPoA, MPoA

LAN
· 4 port 10/100 Base-TX Ethernet switch
· DHCP server for IP assignment (up to 253 users)
· DNS cache and proxy

Network Features
· DHCP server / relay
· Dynamic DNS
· Call Scheduling

Firewall
· Stateful packet inspection
· Selectable DoS/DDoS protection
· IP address anti-spoofing
· User-configurable packet filtering
· NAT/PAT with Port Forwarding/Redirection & DMZ
· E-mail alerting mechanism

E-mail Detection
· Detect user-defined e-mails and hold them in mail server (POP3).

Flexible URL Content Filtering
· URL blocking by user-defined keywords
· Preclude web surfing from using directly IP address
· Java/ActiveX/cookies/proxy blocking
· Executable/compressed/multimedia files blocking
· Time schedule support

Application Support
· Windows Messenger, Yahoo Messenger, MSN Messenger V6.0, NetMeeting, ICQ2001b/2002a, most online gaming, and other multimedia applications
· UPnP protocol support

Router Management
· Web-based User Interface
· Command line interface (Telnet)
· Telnet remote access support
· Built-in diagnostic tools
· Quick Start Wizard
· Attack alert by e-mail
· Syslog Monitoring

ISDN Facilities (for Vigor2500Vi only)
· Compatible with Euro ISDN
· Automatic ISDN backup
· Support for 64/128kbps (multilink-PPP)
· Bandwidth on demand (automatically switches between 64kbps and 128kbps)
· LAN-to-LAN connectivity
· Remote Activation
· Virtual TA

Routing Support
· RIPv2 **(not applicable to the UK)**
· Static Route **(not applicable to the UK)**

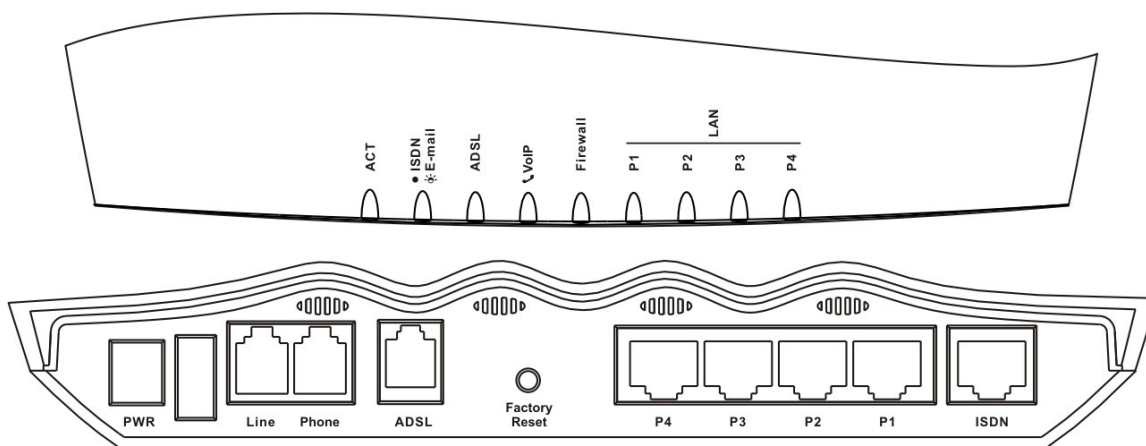# 1.3 Front Panel LEDs and Rear Panel Interfaces

1.3.1 Vigor2500V
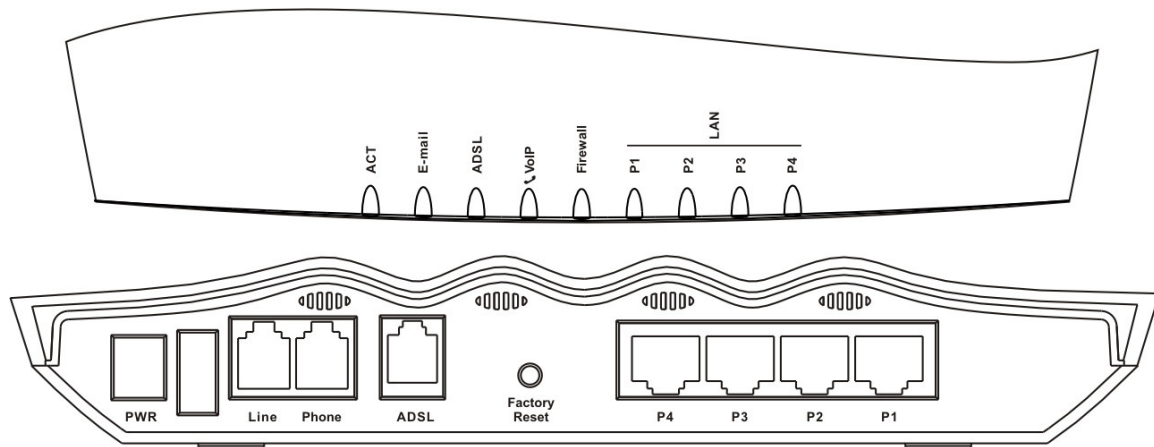
LED	Status	Explanation
ACT (Activity)	blinking	The router is powered on and running properly.
E-mail	blinking	When detecting one or more user-defined e-mails existing on mail server.
ADSL	on	The ADSL line is showtime.
VoIP	green	Solid light when the handset of phone is picked up (off hooked).
		Blinking per 0.3 second when phone call is via ISDN loop through.
		Blinking per 2 seconds when phone is connected through VoIP.
	orange	Solid light when phone call is via PSTN life line.
Firewall	on	The firewall function is active.
	blinking	When encountering DoS attacks.
LAN (P1, P2, P3, P4)	green	A normal 100Mbps connection is through its corresponding port.
	orange	A normal 10Mbps 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.
ADSL	Connect the ADSL line to access the Internet.
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.
P1, P2, P3, P4	Connect to the local network devices.

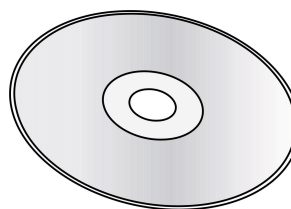## 1.3.2 Vigor2500Vi

LED	Status	Explanation
ACT (Activity)	blinking	The router is powered on and running properly.
ISDN/E-mail	on	The ISDN network is correctly setup.
	blinking	When detecting one or more user-defined e-mails existing on mail server.
ADSL	on	The ADSL line is showtime.
VoIP	green	Solid light when the handset of phone is picked up (off hooked).
		Blinking per 0.3 second when phone call is via ISDN loop through.
		Blinking per 2 seconds when phone is connected through VoIP.
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P1, P2, P3, P4	Connect to the local network devices.
ISDN	Connected to an external NT1(or NT1+) box provided by your ISDN service provider.

1.4 Package Contents
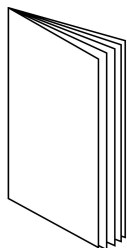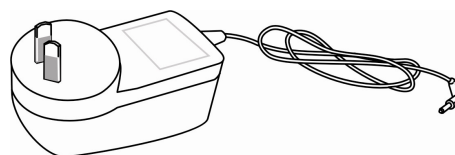

Quick Installation Guide
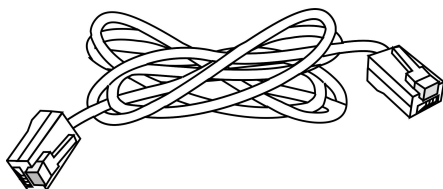

CD (Manual and Utilities)
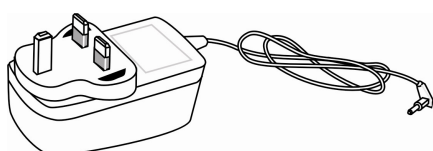
UK-type power adapter
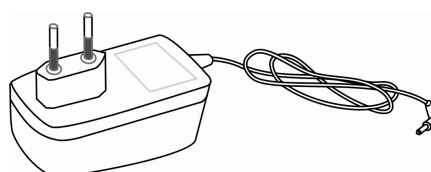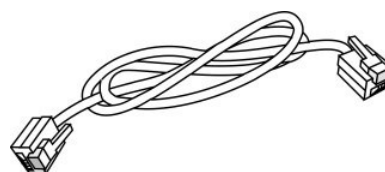

EU-type power adapter
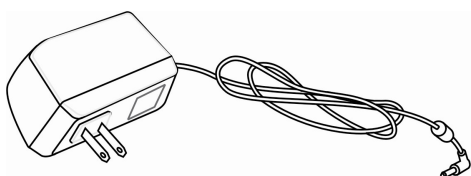
USA/Taiwan-type power adapter

AU/NZ-type power adapter

RJ-45 (Ethernet)

RJ-11 to RJ-11 (Annex A / B)

RJ-11 to RJ-45 (Annex B)

**RJ-45 to RJ-45 (ISDN)**
(for Vigor2500Vi only)

2. Quick Install Your Vigor2500V/Vi Router

2.1 Hardware Installation

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

1. Connect the ADSL interface to the external splitter with a RJ-11 cable.
2. Connect one port of 4-port switch to your computer with a RJ-45 cable.
3. Connect the attached power adapter to the power port.
4. Check the **ACT**, **ADSL** and **LAN** LEDs to assure network connections. (Regarding detailed LED status explanation please refer to section 1.3)

Connection scenario is shown as below:
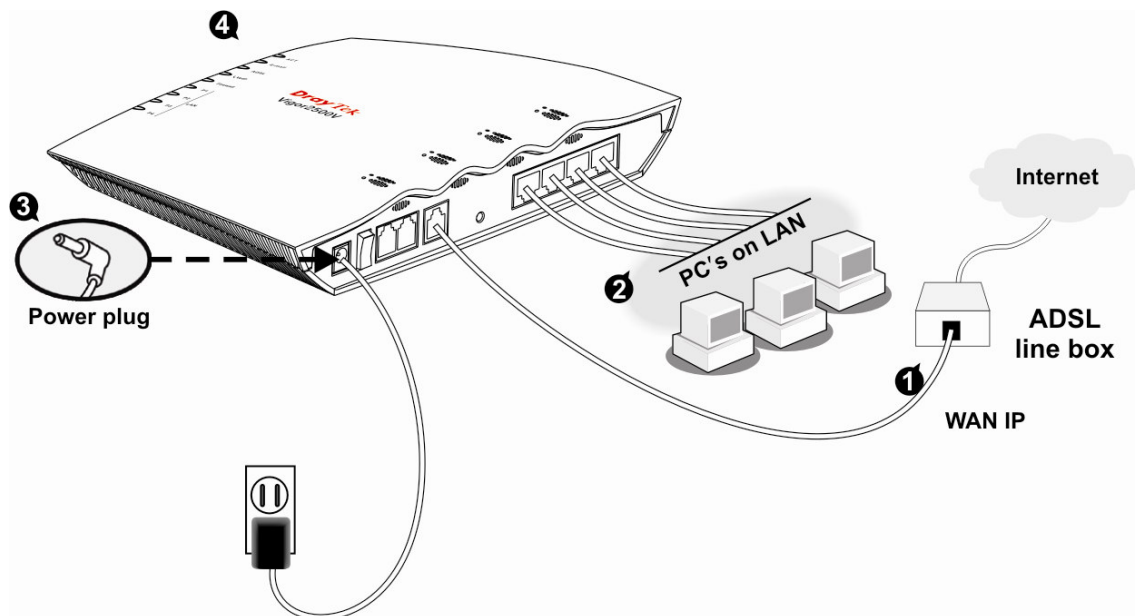
2.2 Configure Your Router via Web Configurator

1. Launch the Web browser and link to **http://192.168.1.1 ,** then an authentication
   dialog box will pop up.

2. If this is a first time setup of the router, type **admin** as the user name and leave
   the password field blank. Click **OK** to continue. Then the setup main menu of
   Web Configurator will appear.

3. Click **Internet Access Setup** in order to configure the router to access the
   Internet with different modes (e.g. **PPPoE / PPPoA, MPoA**). The following
   description states the setup page.

A. Using PPPoE / PPPoA with a DSL Modem

1. PPPoE / PPPoA Client
   Check "Enable**"** to enable the PPPoE/PPPoA client protocol on the WAN interface.

2. DSL Modem Settings
   Select active PVC channel by Multi-PVC channel item. And then fill all the other fields in this group with correct parameters according to your ISP's information.

3. ISP Access Setup
   Enter your allocated username and password according to the information provided by your ISP. If you want to connect to Internet all the time, please check "Always On".

4. Click **OK** to save settings.

B. Using MPoA with a DSL Modem

MPoA (RFC1483/2684) Mode

MPoA (RFC1483/2684) ⊙ Enable ○ Disable
Encapsulation
[1483 Bridged IP LLC ▼]

DSL Modem Settings

Multi-PVC channel [Channel 2 ▼]
VPI [8]
VCI [36]
Modulation [Multimode ▼]

ISDN Dial Backup Setup
Dial Backup Mode [None ▼]

RIP Protocol
☐ Enable RIP

Bridge Mode
☐ Enable Bridge Mode

WAN IP Network Settings
○ Obtain an IP address automatically
Router Name [   ] *
Domain Name [   ] *
⊙ Specify an IP address   [WAN IP Alias]
IP Address [0.0.0.0]
Subnet Mask [255.255.255.0]
Gateway IP Address [   ]

* : Required for some ISPs
⊙ Default MAC Address
○ Specify a MAC Address
MAC Address:
[00] . [50] . [7F] : [00] . [00] .
[01]

[OK]

1. MPoA (RFC1483/2684)
Check "Enable" to enable the MPoA protocol on the WAN interface. Then select an appropriate encapsulation which provided by your ISP.

2. DSL Modem Settings
Select active PVC channel by Multi-PVC channel item. And then fill all the other fields in this group with correct parameters according to your ISP's information.

3. WAN IP Network Settings
Enter your allocated WAN IP address (or enable DHCP client to get IP automatically from ISP) and DSL parameters according to the information provided by your ISP.

4. Click **OK** to save settings.

3. VoIP Settings

This section explains the capabilities of VoIP on the router. Click **VoIP Setup** from the main menu to enter the VoIP configuration page.
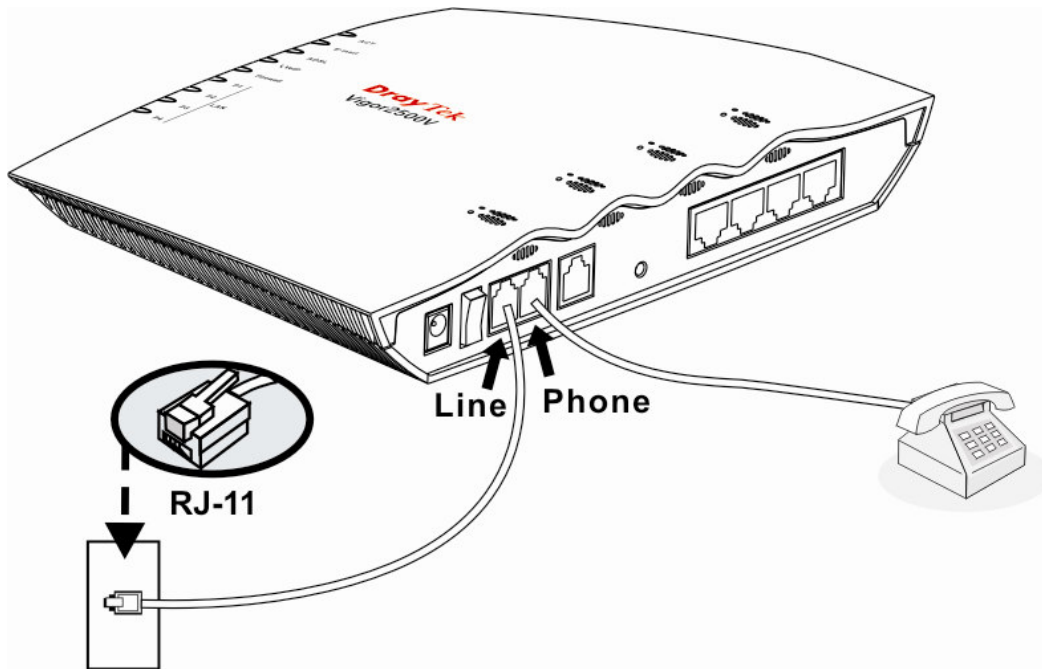
⚠ **Caution:** The **Phone** port can be connected to an analog phone only. Do not connect the **Phone** port to the telephone wall jack; this connection might damage your router.

> DialPlan Setup

> SIP Related Functions Setup

> CODEC/RTP/DTMF Setup

> Voice Call Status

3.1 DialPlan Setup

Click **DialPlan Setup**, you can setup quick dial phone book which includes the maximum of sixty entries (sixty dial numbers).

DialPlan Configuration

Index	Phone number	Name	IP Address / Domain	Status
1.	1234	aaron	203.69.175.19	v
2.	611	irene	iptel.org	v
3.				x
4.				x
5.				x
6.				x
7.				x
8.				x
9.				x
10.				x
11.				x
12.				x
13.				x
14.				x
15.				x
16.				x
17.				x
18.				x
19.				x
20.				x

>> **Next**

Status: v --- Active, x --- Inactive, ? --- Empty

Click each index number, and then you can edit each dial settings respectively.

Index No. 1

☑ Enable

Phone Number :   12

Name :   63065

IP Address / Domain :   fwd.pulver.com

[OK]

Enable: To enable this entry for mapping phone number when you dial the keypad on the phone.

Phone Number: Choose any number from 0~9 and * to set as a quick dial number.

Name: This field can fill with name (when using SIP protocol) or number. The number or name you filled must be the same as called party's setting.

IP Address / Domain: This field should be entered either IP address or domain name.

Example 1:
If Tom gives you a SIP URL as **sip:63065@fwd.pulver.com** then you can input
the number just as the previous figure, except you can change any number in the
Phone Number field.

Example 2:
If Aaron gives you a sip url as **sip:aaron@203.69.175.19** then you can enter the
DialPlan as:

Phone Number:	1234 (any number you like)
Name:	aaron
IP Address / Domain:	203.69.175.19

Example 3:
If Kevin gives you an IP address 203.69.175.16 only, then you can use keypad on
the phone to dial directly as **#203*69*175*16#** to Kevin without setup any
information on your DialPlan.

3.2 SIP Related Function Setup

SIP Port: The port number is used to send/receive SIP message for building a
   session. While the default value is 5060, you can change it to other number.
   However, this situation needs other party to change simultaneously to the same
   number.
Registrar: You can enter domain name or IP address of SIP Registrar server. For
   example, iptel.org or 195.37.77.101 is identical. You have to apply an account
   of SIP Registrar server before you can use it. However, it is not necessary to
   use sip registrar server function in order to use VoIP function.
Use Registrar: Check this box then you can use registrar function to register your
   Vigor Router with an SIP registrar server.

Name: You can enter a name or a number in this field. This field is the name part of SIP url.

Password: Enter the password when you use a SIP registrar server which needs password.

Expire Time: The time duration that SIP registrar server keeps your registration record. Before the time expired, Vigor will issue another register message to registrar server again.

3.3 Calling Scenario

3.3.1 Peer-to-Peer calling

There are two people, say Kevin and Aaron. They both have a Vigor2500V series router in hand, so here are their settings in order to call each other.

Kevin's IP address: **214.61.172.53**
Aaron's IP address: **203.69.175.19**

A. Kevin's settings   **B. Aaron's settings**

A-1. DialPlan index 1   **B-1. DialPlan index 1**

Phone Number**: 1234**   Phone Number**: 123**
(any number you like)   (any number you like)
Name**: aaron**   Name**: kevin**
IP Address / Domain**: 203.69.175.19**   IP Address / Domain**: 214.61.172.53**

A-2. SIP Related Function   **B-2. SIP Related Function**

SIP Port**: 5060**   SIP Port**: 5060**
Registrar**: (leave blank)**   Registrar**: (leave blank)**
Port 1:   Port 1:
Use Register**: (leave blank)**   Use Register**: (leave blank)**
Name**: kevin**   Name**: aaron**
Password**: (leave blank)**   Password**: (leave blank)**
Expiry Time**: (use default value)**   Expiry Time**: (use default value)**

A-3. CODEC/RTP/DTMF   **B-3. CODEC/RTP/DTMF**

 (use default value)   **(use default value)**

C. Now, when Kevin wants to call Aaron, he picks up the phone and dials **1234**.

D. When Aaron wants to call Kevin, he picks up the phone and dials **123**

3.3.2 Calling via SIP server

Here's the scenario that two people call each other via SIP server; this is a good way to calling when they use dynamic public IP addresses. Again, here're the settings for each other:

Kevin's SIP url: **kevin@iptel.org**
Irene's SIP url: **irene@fwd.pulver.com**

A. Kevin's settings	**B. Irene's settings**
A-1. DialPlan index 1	**B-1. DialPlan index 1**
Phone Number**: 611** (any number you like) Name**: irene** IP Address / Domain**: fwd.pulver.com**	Phone Number**: 217** (any number you like) Name**: kevin** IP Address / Domain**: iptel.org**
A-2. SIP Related Function	**B-2. SIP Related Function**
SIP Port**: 5060** Registrar**:iptel.org**	SIP Port**: 5060** Registrar**: fwd.pulver.com**
Port 1: Use Register**: (checked)** Name**: kevin** Password**: ********** (enter kevin's registrar password) Expiry Time**: (use default value)**	Port 1: Use Register**: (checked)** Name**: irene** Password**: ********** (enter irene's registrar password) Expiry Time**: (use default value)**
A-3. CODEC/RTP/DTMF	**B-3. CODEC/RTP/DTMF**
(use default value)	**(use default value)**

C. Now, when Kevin wants to call Irene, he picks up the phone and dials **611**.

D. When Irene wants to call Kevin, she picks up the phone and dials **217**

4. Trouble Shooting

This section will guide you how to shoot troubles on abnormal situations. Please follow the order of subsection as below to check your installation.

4.1 Is the Hardware Status OK?

1. Check that if the power line and ADSL/LAN cable are connected correctly.
2. Turn on the router, and then check that if the **ACT** LED blink once per second and the correspondent **LAN** LED is light.
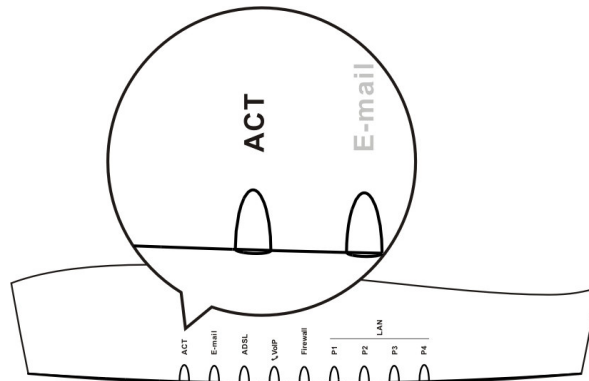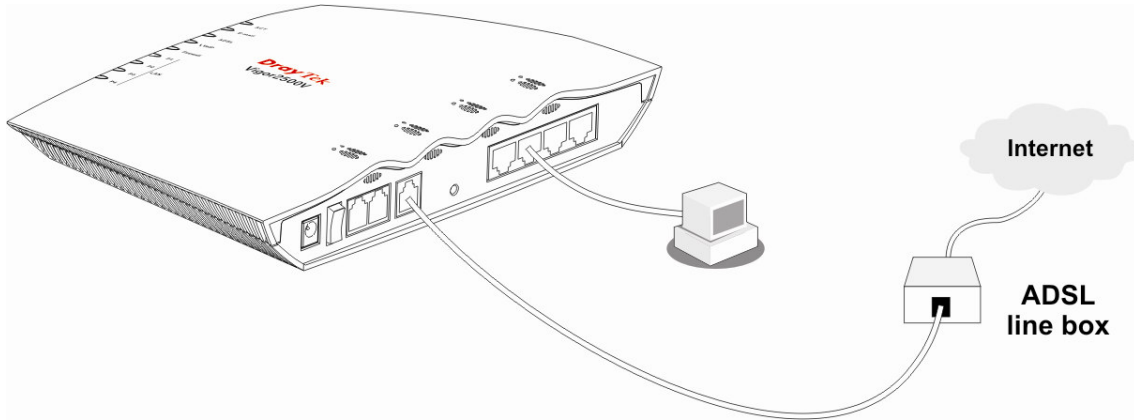
4.2 Are the Network Connection Settings on Your PC OK?

The following example is based on Windows XP case, regarding the other OS examples, please refer to the similar steps or 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**.
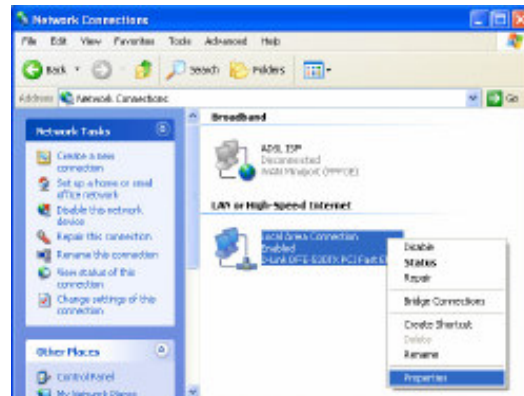
3. Select on **Internet Protocol (TCP/IP)** and then click **Properties**.

4. Select **Obtain an IP address automatically** and **Obtain DNS server address automatically**.
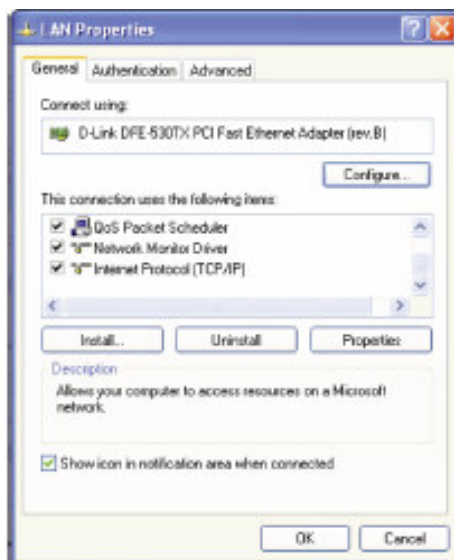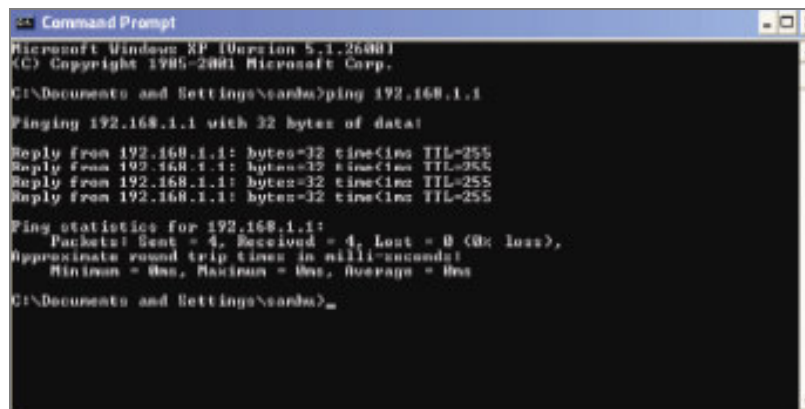
4.3 Can You Ping the Router from PC?

The default gateway IP of the router is 192.168.1.1. Please check that if you can ping the router correctly.

A. 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).
3. Type **ping 192.168.1.1** and press [Enter]

B. For Mac (Terminal)

Notice that if the computer receives a reply from 192.168.1.1. If not, please check the IP address of your PC. We recommend you set the network connection as get IP automatically. (Please refer to the next section)

4.4 Are the ISP Settings OK?

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

A. For PPPoE/PPPoA Users (refer to the following figure)
1. Check that if the **Enable** option is selected.
2. Verify if all parameters of **DSL Modem Settings** are entered with correct value which given by your ISP.
3. Verify if **Username** and **Password** are entered with correct value which given by your ISP.

B. For MPoA (RFC1483/2684) Users (refer to the following figure)
1. Check that if the **Enable** option is selected.
2. Verify if all parameters of **DSL Modem Settings** are entered with correct value which given by your ISP.
3. Verify if **IP Address, Subnet Mask** and **Gateway** are set correctly, or that your ISP requires using DHCP clients to obtain IP automatically.

4.5 Report to ISP and Dealer for Further Technical Support

1. If the router settings are correct at all, and the router still does not connect, please contact your ISP technical support representative to help you for configuration.
2. If the router does not work correctly, please contact your dealer for help. For any further questions, please send e-mail to **support@draytek.com**