

# **ADSL2+ MODEM**

## **User manual**

# Contents

|           |  |          |
|-----------|--|----------|
| Chapter 1 | Introduction .....                                 | 1        |
|           | Features .....                                     | 1        |
|           | ADSL standard supports .....                       | 1        |
|           | Encapsulation supports .....                       | 1        |
|           | System requirements .....                          | 2        |
|           | LED status description .....                       | 3        |
|           | Rear panel layout .....                            | 3        |
| Chapter 2 | Hardware Installation .....                        | <b>5</b> |
| Chapter 3 | Modem Parameters Setting .....                     | <b>6</b> |
|           | Configuring computer network card IP address ..... | 6        |
|           | Web setting interface .....                        | 6        |
|           | Main interface .....                               | 6        |
|           | Ethernet over ATM (RFC1483 Bridge) setting .....   | 7        |
|           | PPP over Ethernet (RFC2516) setting .....          | 11       |
|           | TR-069 Configuration .....                         | 16       |
| Chapter 4 | Questions & Answers .....                          | 17       |

# Chapter 1 Introduction

The device is a well-designed high-speed ADSL2+ modem/router.

## Features

- Full speed, Auto-sense a ADSL routing, bridging
- Up to 24Mbps downstream and up to 1Mbps upstream data rate
- Friendly GUI for web configuration
- Support TR-069
- Support for up to 8 Permanent Virtual Circuits (PVCs)
- Support Port Mapping/Forwarding and DMZ Host network
- NAT, IP filtering and Password Authentication to Modem
- VPN Pass-through support
- DHCP Server support
- Support remote management & Local Web Based Firmware Upgrade
- Support Bulid-in PPPoE

## ADSL standard supports

- ITU G.992.1 (G.dmt) Annex A
- ITU G.992.2 (G.lite)
- ANSI T1.413 Issue 2
- ITU G.992.3(ADSL2)
- ITU G.992.5(ADSL2+)

## Encapsulation supports

- RFC 1483 bridge
- RFC 1483 Router

- Classical IP over ATM (RFC 1577)
- PPP over ATM (RFC 2364)
- PPP over Ethernet (RFC 2516)

## System requirements

Recommended system requirements are:

- Pentium 300MHZ or above
- Memory: 128MB or above
- 10M Base-T Ethernet or above
- Win9X, Win2000, WinXP, WinMe, WinNT
- Ethernet Network Card

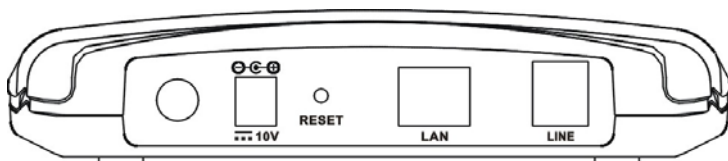
Please collect the following information from your ADSL service provider. This information will be very helpful for your ADSL configuration. To keep a record for reference, you can fill in the column as follow:

|                                    |  |
|------------------------------------|--|
| <b>VPI</b>                         |  |
| <b>VCI</b>                         |  |
| <b>Encapsulation: VCMUX or LLC</b> |  |
| <b>Protocol</b>                    |  |
| <b>Standard</b>                    |  |
| <b>User name</b>                   |  |
| <b>Password</b>                    |  |
| <b>Password protocol</b>           |  |

## LED status description

| Indicator | Status      | Description                |
|-----------|-------------|----------------------------|
| Power     | Off         | No power                   |
|           | ON          | Power supplied             |
| ADSL      | Quick Blink | DSL line is training       |
|           | ON          | DSL line is connected      |
| Data      | Blink       | DSL data transferring      |
| LAN       | ON          | Ethernet connection is OK  |
|           | Blink       | Ethernet data transferring |

## Rear panel layout



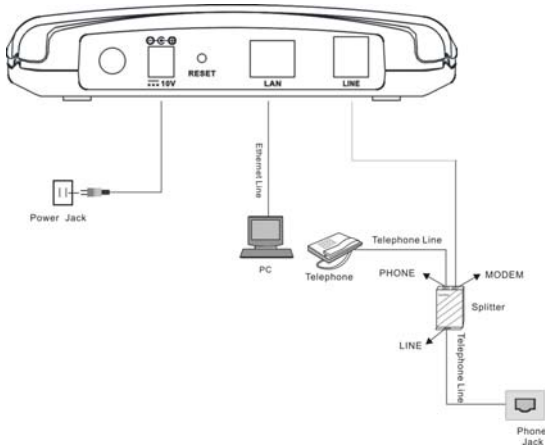
| Interface | Description               |
|-----------|---------------------------|
| Switch    | Power on/off switch       |
| Power     | Plug in for power adaptor |
| RESET     | Modem Reset button        |

|      |   |
|------|---|
|      | Press and hold around 5~10s to reset the hardware. The modem will auto restart. This action will recover the modem's default configuration. |
| LAN  | LAN interface for connecting to computer or Switch  |
| LINE | ADSL connector for connecting to ADSL telephone line  |

## Chapter 2 Hardware Installation

Please connect the device to you computer as follow:

- If connecting to the splitter, connect the “Line” splitter to wall jack using one telephone cable
- Use the other telephone cable to connect “MODEM” port of the splitter and “LINE” port of the modem. The “phone” port of the splitter can be use to connect the telephone by a telephone cable.
- Use Ethernet cable to connect “Ethernet” port of the modem and “Ethernet” port of your computer.



If do not need to connect to the splitter,

- Connect the modem to wall jack with a telephone cable
- Use Ethernet cable to connect “Ethernet” port of the modem and network adaptor of your computer.

## Chapter 3 Modem Parameters Setting

### Configuring computer network card IP address

Configure your network card's TCP/IP properties to Obtain an IP address automatically from modem, or set the computer's IP with the same network mask of the modem.(For example: modem's IP is 192.168.1.1/255.255.255.0,

Then you can set computer's IP to:

**192.168.1.x/255.255.255.0.**

The range for x is from 3 to 253.

### Web setting interface

Open IE or Netscape Web browser, Input **http://192.168.1.1**(MODEM default IP address) in the address column, then click <Enter> button, access the following setting interface:

Input user name and password, then click **Login** key to enter WEB setting interface.

Default setting:

IP Address: **192.168.1.1**

Subnet Mask: **255.255.255.0**

Username/Password: **admin/admin**

### Main interface

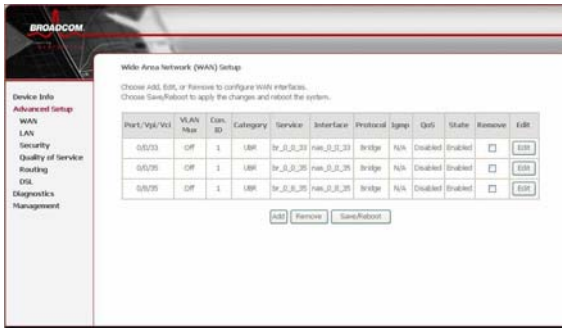
After type right user name and password, the following window will pop up:



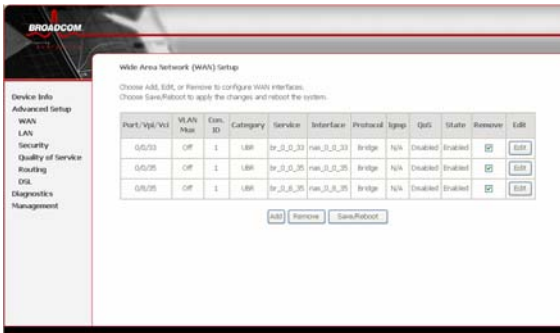
Here provide the most common RFC1483 Bridge and PPP over Ethernet (RFC2516) setting for reference. If you want to know more about other protocol, please contact your ADSL service provider for details.

## Ethernet over ATM (RFC1483 Bridge) setting

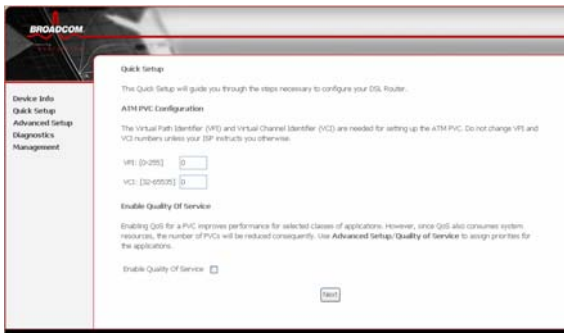
1. From the Home page, click “**Advanced Setup**”, see the following:



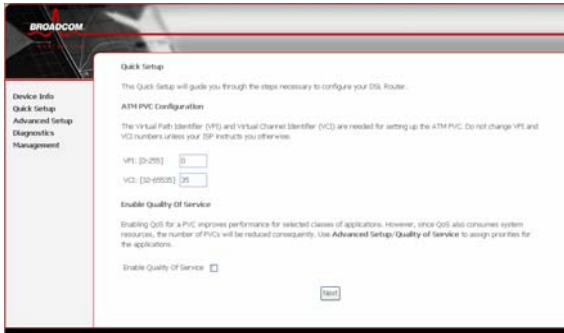
2. Check all “**Remove**” checkboxes, see the following:



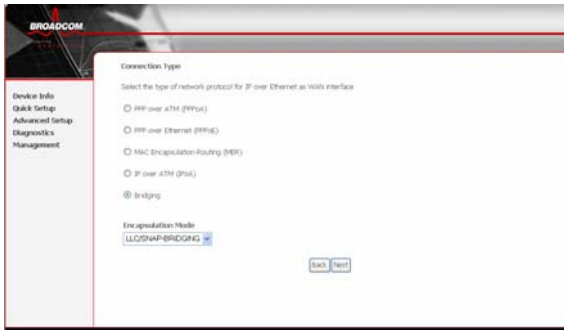
3. Click the “**Remove**” button. Refresh the page after one minute. The “**Quick Setup**” page should appear, see the following:



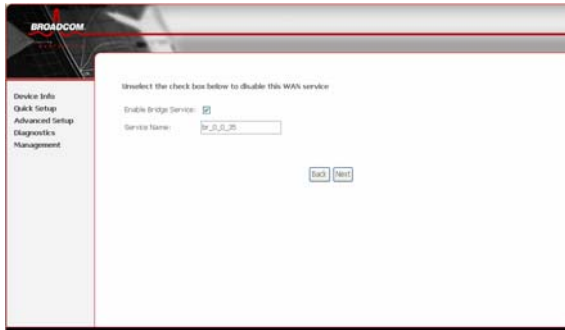
4. Set VPI/VCI, see the following:



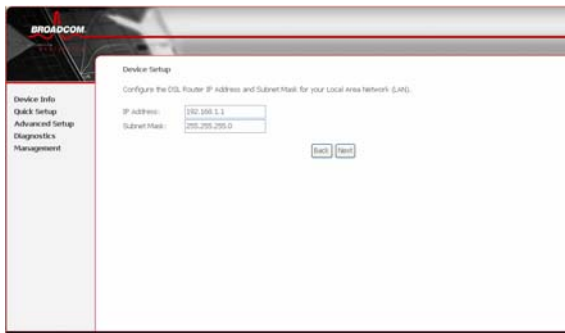
5. Click the “Next” button, and you can set the encapsulation which get from your ADSL service provider. Select Bridging, see the following:



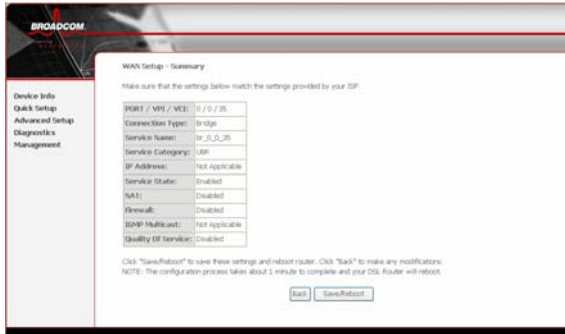
6. Click the “Next” button , select the check box below to enable this WAN service, see the following:



7. Click the “Next” button, configure the DSL Router IP Address and Subnet Mask for your Local Area Network (LAN) , please use the default configurations, see the following:



- Click the “Next” button, make sure that the settings below match the settings provided by your ISP., see the following:



- Click the “Save/Reboot” button, save your configurations.

### **NOTICE:**

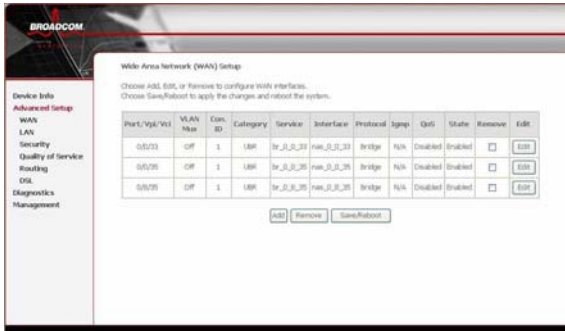
If you select Dial-UP link, after configuring your ADSL modem, please install the third-party dial up program to access Internet (For example: Ethernet 300/Ethernet 500/WinPoet). If your system is WinXP, you can use its own Internet access program without any other additional programs.

### **PPP over Ethernet (RFC2516) setting**

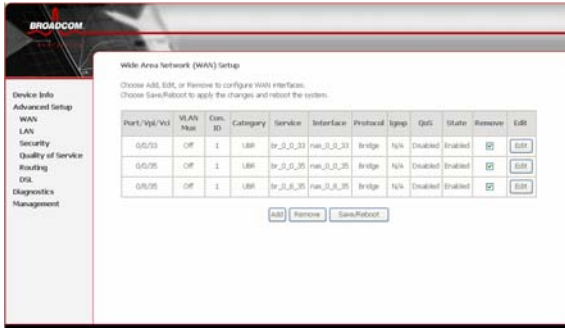
PPPoE is also named as RFC 2516. It is a method of encapsulating PPP packets over Ethernet. PPP or Point-to-Point protocol is a method of establishing a network connection/session between network hosts. It usually provides a mechanism of authenticating users.

To configure the MODEM for PPPoE:

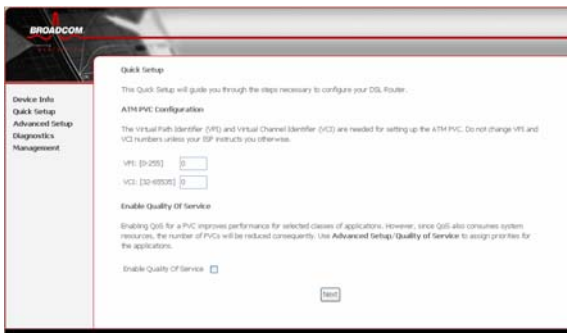
1. From the Home page, click on “**Advanced Setup**”, see the following:



2. Check all “**Remove**” checkboxes, see the following:

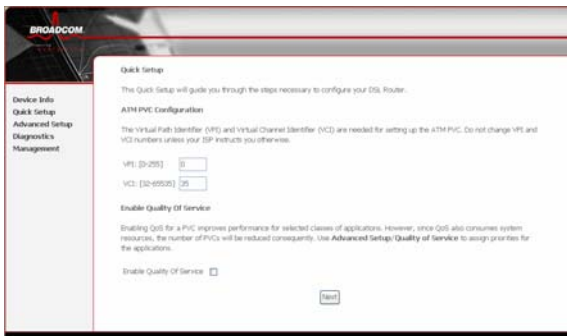


3. Click the “Remove” button. Refresh the page after one minute. The “Quick Setup” page should appear, see the following:



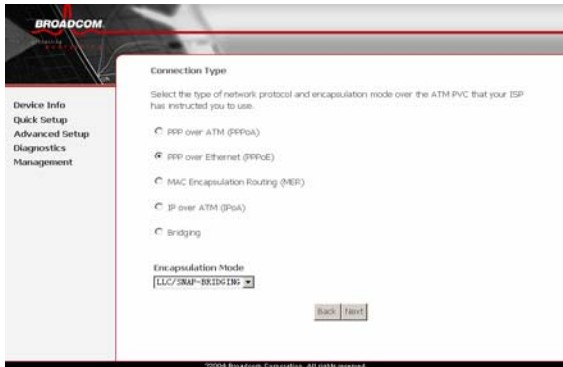
The screenshot shows the 'Quick Setup' page for an ATM PVC configuration. The page is titled 'Quick Setup' and includes a sub-section for 'ATM PVC Configuration'. It contains two input fields for 'VPI: [0-255]' and 'VCI: [32-65535]', both with a '0' entered. Below these fields is a section for 'Enable Quality Of Service' with a checkbox that is currently unchecked. A 'Next' button is located at the bottom right of the main content area. The left sidebar contains navigation links: 'Device Info', 'Quick Setup', 'Advanced Setup', 'Diagnostics', and 'Management'.

4. Set VPI/VCI, see the following

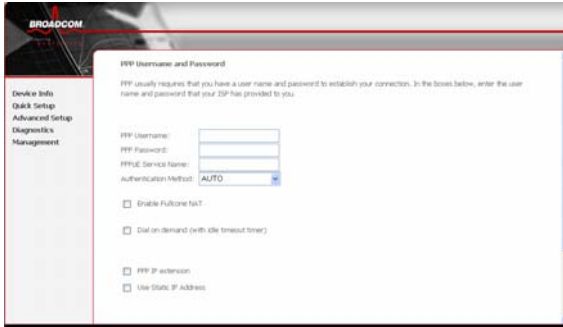


This screenshot is identical to the one above, showing the 'Quick Setup' page for ATM PVC configuration. The 'VPI: [0-255]' and 'VCI: [32-65535]' input fields are present, but the values are not yet entered. The 'Enable Quality Of Service' checkbox remains unchecked, and the 'Next' button is visible at the bottom right. The left sidebar navigation is also visible.

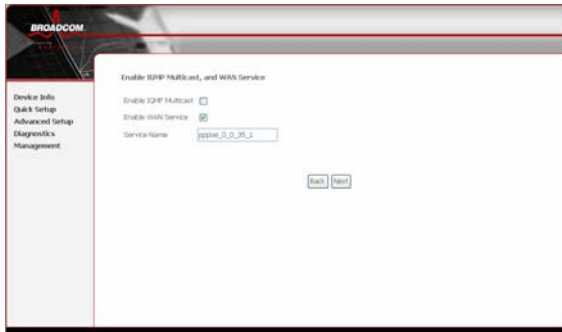
- Click the “Next” button. Select PPP over Ethernet (PPPoE) and the type of network protocol and encapsulation mode over the ATM PVC that your ISP has instructed you to use, see the following:



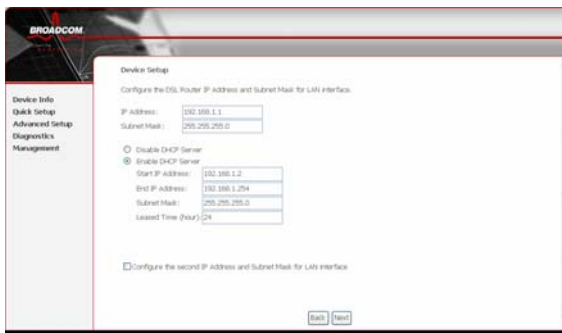
- Click the “Next” button, fill out PPP Username and PPP Password, see the following:



- Click the “Next” button, uncheck IGMP Multicast, and enable WAN Service, see the following:



- Click the “Next” button, configure the DSL Router IP Address and Subnet Mask for LAN interface. Enable DHCP Server, please use the default configurations, and see the following.



- Click the “Next” button; make sure that the settings below match the settings provided by your ISP. See the following:

**BROADCOM**

WAN Setup - Static

Make sure that the settings below match the settings provided by your ISP.

|                     |                        |
|---------------------|------------------------|
| PORT / VPI / VC2:   | 0 / 0 / 35             |
| Connection Type:    | PPPoE                  |
| Service Name:       | pppoe_0_0_35_1         |
| Service Category:   | LAN                    |
| IP Address:         | Automatically Assigned |
| Service State:      | Enabled                |
| NAT:                | Enabled                |
| Firewall:           | Enabled                |
| DHCP Multicast:     | Enabled                |
| Quality of Service: | Disabled               |

Click "Save/Reboot" to save these settings and reboot router. Click "Back" to make any modifications.  
NOTE: The configuration process takes about 1 minute to complete and your DSL Router will reboot.

Back Save/Reboot

- Click the “Save/Reboot” button, save your configurations, then finish the Setting for PPPoE.

## TR-069 Configuration

Click the “Management” and then click the “TR-069 Client” to configure the MODEM for TR069:

**BROADCOM**

TR-069 client - Configuration

WAN Management Protocol (TR-069) allows an Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device.

Select the desired values and click "Apply" to configure the TR-069 client options.

Inform  Disable  Enable

Inform Interval: 300

ACS URL:

ACS User Name: admin

ACS Password: \*\*\*\*\*

Connection Request User Name: admin

Connection Request Password: \*\*\*\*\*

Save/Apply Get-PC-Methods

Disable: modem cannot automatically send out the request to the TR069 server

Enable: modem can automatically send out the request to the TR069 server  
Select “Enable”, all items below are effective

Inform Interval: Each modem how many seconds sends out the connection request to the TR069 server

ACS URL: the path of modem sending out the request the TR069 server

ACS User Name: the username of modem logging in TR069 server

ACS Password: the password of modem logging in TR069 server

Connection Request User Name: the username of the TR069 server visits modem TR069 process

Connection Request Password: the password of the TR069 server visits modem TR069 process

## **Chapter 4      Questions & Answers**

### **1. Question: Why all LED indicators are off?**

**Answer:**

- Check the connection between the power adaptor and the power socket
- Check the power switch is on or not

### **2. Question: Why Ethernet LED is not lighting?**

**Answer:**

- Check the connection between the ADSL modem and your

computer or Hub/Switch

- Check your PC or Hub/Switch running status and make sure them are working normally.
- Check your network cable for connecting the Modem with other device:

For PC, you should use the crossover cable;

For Hub/Switch, you should use straight through cable.

**3. Question: Why cannot visit Internet with ADSL LED is on?**

**Answer:**

Make sure following information has been input correctly:

VPI/VCI

Username/password.

**4. Question: Why cannot open the Modem configure web page?**

**Answer:**

Follow below steps to check the communication between the computer and Modem:

Click start -> run (input ping demands)-> Ping 192.168.1.1 (Modem IP address).

If cannot reach the modem, please check following configuration:

- The type of the network cable
- The connection between the modem and computer
- You computer's TCP/IP configuration

**5. Question: How to load the default setting after incorrect configuration?**

**Answer:**

Press “reset” button 5s-10s to load the default configuration.

The modem’s default IP address: 192.168.1.1/255.255.255.0

Username/password: admin/admin