SMC® Networks

USER MANUAL

ADSL2 Barricade™ N
11n Wireless 4-Port ADSL2/2+ Modem Router

SMC7904WBRA-N2

SMC7904WBRA-N2
User Manual

Contents

1 Compliances

1.1 Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of conformity with the essential requirements of the R&TTE Directive 1999/5/EC:

- EN 60950-1:2006 + A11: 2009

  Safety of Information Technology Equipment.

- EN 300 328 V1.7.1: 2006-10

  Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.

- EN 301 489-17 V1.8.1/ 2008-04
  EN 301 489-17 V2.1.1/ 2009-05

  Electromagnetic compatibility and Radio spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 17: Specific conditions for 2.4 GHz wideband transmission systems and 5 GHz high performance RLAN equipment.

- EN 62311: 2008

  Assessment of electronic and electrical equipment related to human exposure restrictions for electromagnetic fields (0 Hz - 300 GHz).

This device is a 2.4 GHz wideband transmission system (transceiver), intended for use in all EU member states and EFTA countries, except in France and Italy where restrictive use applies.

In Italy the end-user should apply for a license at the national spectrum authorities in order to obtain authorization to use the device for setting up outdoor radio links and/or for supplying public access to telecommunications and/or network services.
This device may not be used for setting up outdoor radio links in France and in some areas the RF output power may be limited to 10 mW EIRP in the frequency range of 2454 – 2483.5 MHz. For detailed information the end-user should contact the national spectrum authority in France.

This equipment may be operated in:

The official CE certificate of conformity can be downloaded by selecting the relevant model/ part number from www.smc.com -> support -> download.

Български [Bulgarian]	С настоящето, SMC Networks декларира, че това безжично устройство е в съответствие със съществените изисквания и другите приложими разпоредби на Директива 1999/5/ЕС.
cs Česky [Czech]	SMC tímto prohlašuje, že tento Router je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
da Dansk [Danish]	Undertegnede SMC erklærer herved, at følgende udstyr Router overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
nl Nederlands [Dutch]	Hierbij verklaart SMC dat het toestel Router in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.
en English	Hereby, SMC, declares that this Router is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Estonian et Eesti	Käesolevaga kinnitab SMC seadme Router vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
Finnish fi Suomi	SMC vakuuttaa täten että Router tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.

French fr Français	Par la présente SMC déclare que l'appareil Router est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
German de Deutsch	Hiermit erklärt SMC, dass sich das Gerät Router in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Greek el Ελληνική	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ SMC ΔΗΛΩΝΕΙ ΟΤΙ Router ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Hungarian hu Magyar	Alulírott, SMC nyilatkozom, hogy a Router megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
Italian it Italiano	Con la presente SMC dichiara che questo Router è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
lv Latviski [Latvian]	Ar šo SMC deklarē, ka Router atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
lt Lietuvių	Šiuo SMC deklaruoja, kad šis Router atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Maltese mt Malti	Hawnhekk, SMC, jiddikjara li dan Router jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Polish pl Polski	Niniejszym SMC oświadcza, że Router jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Portuguese pt Português	SMC declara que este Router está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.

Romanian Română	SMC Networks declară că acest dispozitiv fără fir respectă cerinţele esenţiale precum şi alte dispoziţii relevante ale Directivei 1999/5/EC.
Slovak sk Slovensky	SMC týmto vyhlasuje, že Router spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Slovenian sl Slovensko	SMC izjavlja, da je ta Router v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Spanish es Español	Por medio de la presente SMC declara que el Router cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Swedish sv Svenska	Härmed intygar SMC att denna Router står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.
Turkish Turk	SMC Networks bu kablosuz cihazın temel gereksinimleri ve 1999/5/EC yonergesindeki ilgili koşulları karşıladığını beyan eder.

2 Safety Precautions

Read the following information carefully before operating the device. Please follow the following precaution items to protect the device from risks and damage caused by fire and electric power:

- Use the power adapter that is included with the device package.
- Pay attention to the power load of the outlet or prolonged lines. An overburdened power outlet or damaged cords and plugs may cause electric shock or fire. Check the power cords regularly, if you find any damage, replace it at once.
- Proper space for heat dissipation is necessary to avoid any damage caused by device overheating. The ventilation holes on the device are designed for heat dissipation to ensure that the device works normally. Do not cover these ventilation holes.
- Do not put this device close to a place where a heat source exits or high temperature occurs. Avoid placing the device in direct sunshine.
- Do not put this device close to a place which is damp or wet. Do not spill any fluid on this device.
- Please follow the instructions in the user manual/quick install guide carefully to connect the device to your PC or other electronic product. Any invalid connection may cause a power or fire risk.
- Do not place this device on an unstable surface or support.

3 Précautions de sécurité

Lisez attentivement les informations suivantes avant d'utiliser votre appareil. Respectez toutes les précautions afin de protéger l'appareil des risques et dégâts provoqués par un incendie et l'alimentation électrique :

- Utilisez exclusivement l'adaptateur d'alimentation fourni avec cet appareil.
- Faites attention à la puissance de charge de la prise de courant ou des rallonges électriques. Une prise surchargée ou des cordons et des fiches endommagés peuvent provoquer une électrocution ou un incendie. Vérifiez régulièrement votre câble électrique. Si vous constatiez le moindre défaut, remplacez-le immédiatement.
- Il est primordial de laisser suffisamment d'espace autour de l'appareil pour permettre la dissipation de la chaleur et éviter les dégâts provoqués par une surchauffe de l'appareil. Les orifices de ventilation de l'appareil sont conçus pour permettre la dissipation thermique et garantir le bon fonctionnement de l'appareil. Ne couvrez jamais ces orifices.
- Ne placez pas cet appareil à proximité d'une source de chaleur ou dans un endroit exposé à des températures élevées. Evitez également de l'exposer à la lumière directe du soleil.
- Ne placez pas cet appareil à proximité d'un lieu humide ou mouillé. Prenez garde à ne renverser aucun liquide sur cet appareil.
- Merci de suivre les instructions du manuel d'utilisateur / guide d'installation rapide attentivement pour connecter l'appareil à votre PC ou à tout autre produit électronique. Toute connexion non valide peut provoquer un problème électrique ou un risque d'incendie.
- Ne placez pas cet appareil sur une surface ou un support instable.

4 Sicherheitsmaßnahmen

Lesen Sie vor der Inbetriebnahme des Gerätes aufmerksam die nachstehenden Informationen. Bitte befolgen Sie die nachstehenden Sicherheitsmaßnahmen, damit das Gerät nicht beschädigt wird oder Gefahren durch Brand oder elektrische Energie entstehen:

- Verwenden Sie nur das beim Gerät mitgelieferte Netzteil.
- Achten Sie auf die Last der Steckdose oder des Verlängerungskabels. Eine überlastete Steckdose oder beschädigte Kabel und Stecker können Stromschläge und Brand verursachen. Prüfen Sie die Netzkabel regelmäßig. Ersetzen Sie sie umgehend, falls sie beschädigt sind.
- Achten Sie zur Vermeidung von Geräteschäden aufgrund von Überhitzung darauf, dass genügend Freiraum zur Wärmeabfuhr vorhanden ist. Die Belüftungsöffnungen am Gerät dienen der Wärmeabfuhr und damit der Gewährleistung eines normalen Gerätebetriebs. Decken Sie diese Belüftungsöffnungen nicht ab.
- Stellen Sie dieses Gerät nicht in der Nähe von Wärmequellen oder an Orten mit hohen Temperaturen auf. Platzieren Sie das Gerät nicht im direkten Sonnenlicht.
- Stellen Sie dieses Gerät nicht an feuchten oder nassen Orten auf. Achten Sie darauf, keine Flüssigkeiten über dem Gerät zu verschütten.
- Befolgen Sie die Hinweise im Benutzerhandbuch (bzw. in der Kurzanleitung) zum Anschluß des Gerätes an einen PC oder ein anderes Elektrogerät. Jegliche unzulässige Verbindung birgt die Gefahr von Stromschlägen und Brandgefahr.
- Platzieren Sie dieses Gerät nicht auf einer instabilen Oberfläche oder Halterung.

5 Precauciones de seguridad

Lea la siguiente información detenidamente antes de utilizar el dispositivo. Siga las indicaciones de precaución que se mencionan a continuación para proteger el dispositivo contra riesgos y daños causados por el fuego y la energía eléctrica:

- Utilice el adaptador de alimentación incluido en el paquete del dispositivo.
- Preste atención a la carga de potencia de la toma de corriente o de los alargadores. Una toma de corriente sobrecargada o líneas y enchufes dañados pueden provocar descargas eléctricas o un incendio. Compruebe los cables de alimentación con cierta frecuencia. Si detecta algún daño, reemplácelos inmediatamente.
- Deje un espacio adecuado para que se disipe el calor y evitar así cualquier daño en el dispositivo causado por sobrecalentamiento. Los orificios de ventilación del dispositivo están diseñados para disipar el calor y garantizar que dicho dispositivo funciona con normalidad. No tape estos orificios de ventilación.
- No coloque este dispositivo cerca de un lugar donde haya una fuente de calor o temperaturas elevadas. Evite exponer el dispositivo a la luz solar directa.
- No coloque este dispositivo junto a un lugar húmedo o mojado. No derrame ningún fluido sobre el dispositivo.
- Por favor, siga cuidadosamente las instrucciones que figuran en el manual/guía de instalación rápida para conectar el dispositivo a su PC o a cualquier otro producto electrónico. Cualquier conexión no válida podría causar riesgo de descarga o de incendio.
- No coloque este dispositivo en una superficie o soporte inestable.

6 Precauções de Segurança

Leia atentamente as seguintes informações antes de utilizar o dispositivo. Respeite as seguintes indicações de segurança para proteger o dispositivo contra riscos e danos causados por fogo e energia eléctrica:

- Utilize o transformador incluído na embalagem do dispositivo.
- Respeite a potência da tomada eléctrica e das extensões. Uma tomada eléctrica sobrecarregada ou cabos e fichas danificadas podem causar choques eléctricos ou fogo. Verifique regularmente os cabos de alimentação. Caso algum se encontre danificado, substitua-o imediatamente.
- É necessário deixar algum espaço livre em volta do dispositivo para dissipação de calor, de forma a evitar danos causados pelo sobreaquecimento do dispositivo. Os orifícios de ventilação do dispositivo foram concebidos para dissipar o calor e assegurar que o mesmo funciona normalmente. Não bloqueie esses orifícios de ventilação.
- Não coloque este dispositivo junto a fontes de calor ou em locais com temperaturas elevadas. Evite colocar o dispositivo sob luz solar directa.
- Não coloque este dispositivo junto a locais molhados ou com humidade. Não derrame líquidos sobre o dispositivo.
- Por favor siga atentamente as instruções do manual / guia de instalação rápida para conectar o dispositivo ao seu PC ou a qualquer outro dispositivo electrónico. Atenção que qualquer tipo de ligação inválida pode originar risco de choque eléctrico ou de incêndio.
- Não coloque este dispositivo numa superfície ou suporte instáveis.

7 Overview

The SMC7904WBRA-N2 Router is an ADSL2+ Integrated Access Device. It provides four 10/100Base-TX Ethernet interfaces at the user end. The Router provides a high-speed ADSL broadband connection to the Internet or Intranet for high-end users, such as net bars and office users. It provides high-performance access to the Internet, with downstream speeds up to 24 Mbps.

The Router supports WLAN access. It complies with IEEE 802.11b/g and 802.11n standards, and WEP, WPA, and WPA2 security specifications. The WLAN of the Router supports a two-transmit, two-receive (2T2R) antenna configuration.

7.1 Packing List

- SMC7904WBRA-N2
- ADSL splitter
- Switching AC power adapter
- Ethernet cable (RJ-45)
- 2 Telephone cables (RJ-11)
- Quality Warranty Card
- Quick Installation Guide (QIG)
- GPL Notice
- CD; includes User Manual and GPL source code

7.2 Application

- Home gateway
- SOHOs
- Small enterprises
- High data rate broadband sharing
- Audio and video streaming and transfer
- PC file and application sharing
- Network and online gaming

7.3 Features

- User-friendly GUI for web configuration
- Several pre-configured popular games. Just enable the game support and the port settings are automatically configured.
- Compatible with all standard Internet applications
- Industry-standard and interoperable DSL interface
- Simple web-based status page displays a snapshot of system configuration, and links to the configuration pages
- Downloadable flash software updates
- Support for up to 8 permanent virtual circuits (PVCs)
- Support for up to 8 PPPoE sessions
- Support for RIP v1 and RIP v2
- WLAN with high-speed data transfer rates of up to 130 Mbps, compatible with IEEE 802.11b/g/n, 2.4 GHz compliant equipment
- Optimized Linux 2.6 Operating System
- IP routing and bridging
- Asynchronous transfer mode (ATM) and digital subscriber line (DSL) support
- Point-to-point protocol (PPP)
- Network/port address translation (NAT/PAT)
- Quality of Service (QoS)
- Wireless LAN security: WPA, 802.1X, RADIUS client
- Universal plug-and-play (UPnP)
- File server for network attached storage (NAS) devices
- Print server
- Web filtering
- Management and control
  - Web-based management (WBM)
  - Command line interface (CLI)
  - TR-069 WAN management protocol
- Remote update
- USB mass-storage, SAMBA and DLNA
- System statistics and monitoring
- DSL router is targeted at the following platforms: DSL modems, wireless access points and bridge.

7.4 Standards Compatibility and Compliance

- Support s application level gateway (ALG)
- ITU G.992.1 (G.dmt)
- ITU G.992.2 (G.lite)
- ITU G.994.1 (G.hs)
- ITU G.992.3 (ADSL2)
- ITU G.992.5 (ADSL2+)
- ANSI T1.413 Issue 2
- IEEE 802.3
- IEEE 802.3u
- IEEE 802.11b
- IEEE 802.11g
- IEEE 802.11n

8 Hardware Description and Installation

8.1 Hardware Description

8.1.1 Front Panel

Figure 1 Front Panel

The following table describes the indicators on the front panel.

Indicator	Color	Status	Description
Power	Green	On	The device is powered on and operating normally.
	Red	On	The device has detected a self-test failure or other malfunction.
	Off		The device is powered off.
DSL	Green	On	DSL link has been established.
		Slow Blink	No DSL link detected.
		Fast Blink	DSL link detected.
	Off		The device is powered off.

Indicator	Color	Status	Description
Internet	Green	On	There is a connection to the Internet (PPP is up).
		Blink	Data is being transmitted.
	Red	On	Authentication has failed.
	Off		No PPP connection or the PPP connection is down.
LAN 1/2/3/4	Green	On	An Ethernet link is established.
		Blink	Transmitting or receiving data over the Ethernet link.
	Off		No Ethernet link established.
WLAN	Green	On	The WLAN is enabled.
		Blink	Transmitting or receiving data over the WLAN.
	Off		The WLAN is disabled.
WPS	Green	On	A Wi-Fi Protected Setup connection has been successfully established.
		Blink	Wi-Fi Protected Setup is setting up a connection.
	Off		Wi-Fi Protected Setup is idle.
USB	Green	On	A USB device is connected.
	Off		No USB device is connected.

8.1.2 Rear Panel

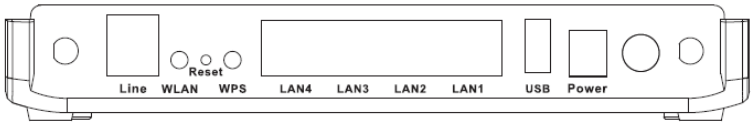


Figure 2 Rear panel

The following table describes the interfaces and buttons on the rear panel.

Interface	Description
Line	RJ-11 port for connecting to the ADSL interface or a splitter through a telephone cable.
WLAN	WLAN switch for enabling or disabling the WLAN function.
Reset	Press the button for at least 3 seconds and then release it. System restores the factory default settings.
WPS	Enables WPS PBC mode. When WPS is enabled, press this button for the wireless router to start the negotiation of PBC mode.
LAN 4~1	RJ-45 ports for connecting the router to PCs or other network devices.
USB	USB host port for connection to a USB device to support a specific value-added application.
Power	For connecting the AC power adapter to supply 12 V DC, 1 A.
◯	Power on/off switch, next to the power socket.

⚠ **Warning:**

*Do not press the **Reset** button unless you want to clear the current settings. The **Reset** button is in a small circular hole on the rear panel. If you want to restore the default settings, press the **Reset** button for 3 seconds with a fine needle inserted into the hole and then release the button. The system reboots and returns to the factory defaults.*

The power specification is 12V, 1A. If the power adapter does not match the specification, it may damage the device.

8.2 Hardware Installation

8.2.1 Choosing the Best Location for Wireless Operation

Many environmental factors may affect the effective wireless function of the DSL Router. If this is the first time that you have set up a wireless network device, read the following information:

The access point can be placed on a shelf or desktop, ideally you should be able to see the LED indicators in the front, as you may need to view them for troubleshooting. Designed to reach up to 100 meters indoors and up to 300 meters outdoors, the wireless LAN lets you access your network from anywhere you want. However, the numbers of walls, ceilings, or other objects that the wireless signals must pass through limit signal range. Typical ranges vary depending on types of materials and background radio frequency noise in your home or business.

8.2.2 Connecting the Router

Step1 Connect the **Line** interface of the Router to the **MODEM** interface of the splitter through a telephone cable. Connect the phone to the **PHONE** interface of the splitter through a telephone cable. Connect the incoming line to the **LINE** interface of the splitter.

The splitter has three interfaces:

- **LINE**: Connect to a wall phone jack (RJ-11 jack).
- **MODEM**: Connect to the ADSL jack of the device.
- **PHONE**: Connect to a telephone set.

Step2 Connect the **LAN** interface of the Router to the network interface card (NIC) of the computer through an Ethernet cable (MDI/MDIX).

Step3 Plug one end of the power adapter to the wall outlet and connect the other end to the **Power** interface of the device.

Connection 1

Figure 3 displays the application diagram for the connection of the router, computer, splitter and the telephone sets, when no telephone set is placed before the splitter.

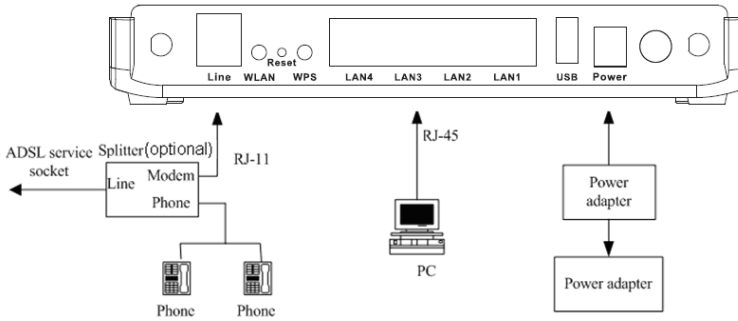


Figure 3 Connection diagram (Without connecting telephone sets before the splitter)

Connection 2

Figure 4 displays the connection when the splitter is installed close to the router.

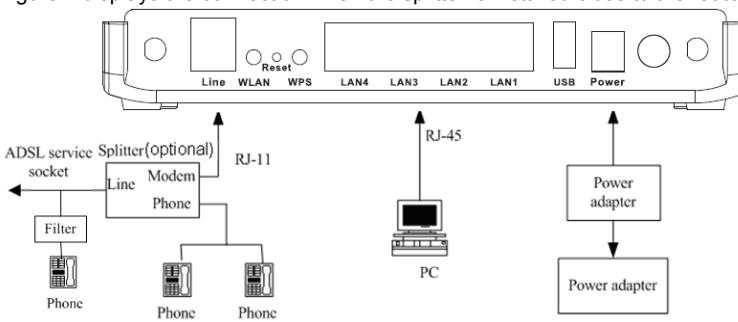


Figure 4 Connection diagram (Connecting a telephone set before the splitter)

Note:

When connection 2 is used, the filter must be installed close to the telephone cable. See Figure 4. Do not use the splitter to replace the filter.

Installing a telephone directly before the splitter may lead to failure of connection between the device and the central office, or failure of Internet access, or slow connection speed. If you really need to add a telephone set before the splitter, you must add a microfilter before a telephone set. Do not connect several telephones before the splitter or connect several telephones with the microfilter.

9 PC Network Configuration and Login

9.1 PC Network Configuration

Each network interface on the PC should either be configured with a statically defined IP address and DNS address, or be instructed to automatically obtain an IP address using the network DHCP server. DSL router provides a DHCP server on its LAN and it is recommended to configure your LAN to automatically obtain its IP address and DNS server IP address.

The configuration principle is identical but should be carried out differently on each operating system.

The following displays the **TCP/IP Properties** dialog box on Windows XP.

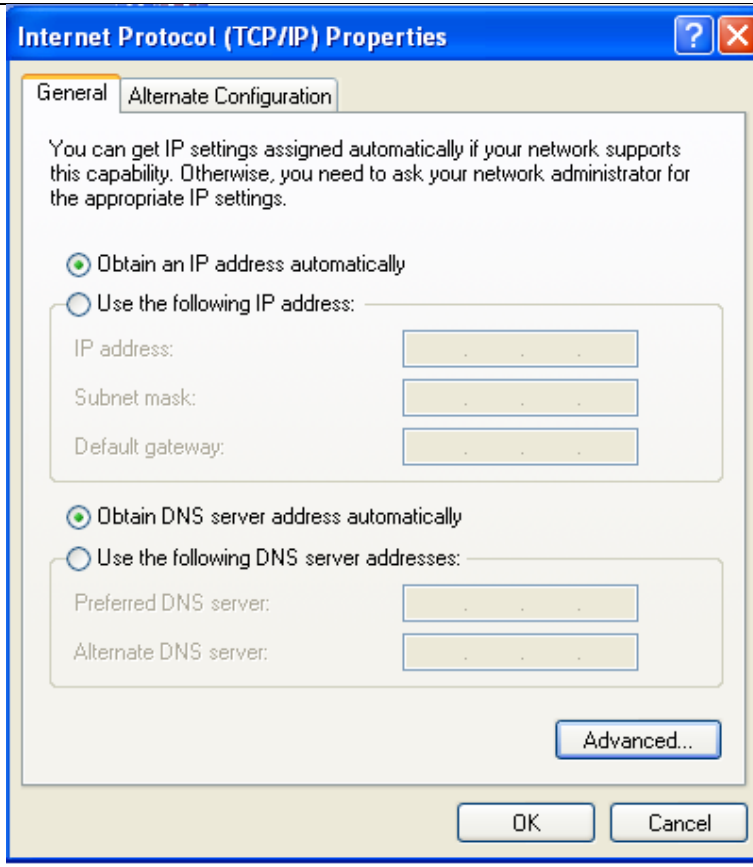


Figure 5 IP and DNS configuration

TCP/IP configuration steps for Windows XP are as follows:

Step1 Choose **Start** > **Control Panel** > **Network Connections**.

Step2 Right-click the Ethernet connection icon and choose **Properties**.

Step3 On the **General** tab, select the **Internet Protocol (TCP/IP)** component and click **Properties**.

Step4 The **Internet Protocol (TCP/IP) Properties** window appears.

Step5 Select the **Obtain an IP address automatically** radio button.

Step6 Select the **Obtain DNS server address automatically** radio button.

Step7 Click **OK** to save the settings.

9.2 Logging In to the DSL Router

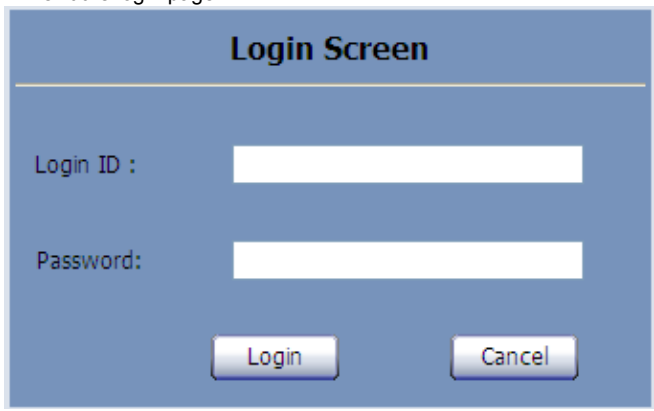
To log in to the DSL router, follow these steps:

Step1 Open a Web browser on your computer.

Step2 Enter ***http://192.168.2.1*** (the default IP address of the DSL router) in the address bar. The login page appears.

Step3 Enter the Login ID and the password. The default Login ID is **admin** with default password **smcadmin**. It is recommended to change these default values after logging in to the DSL router for the first time.

Step4 Click **Login** to log in to the Web page. Otherwise, please click **Cancel** to exit the login page.

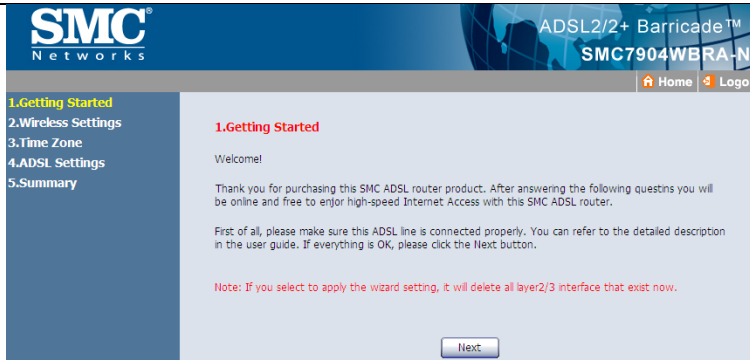


10 Web-Based Management

This chapter describes how to use Web-based management of the DSL router, which allows you to configure and control all of DSL router features and system parameters through a user-friendly GUI.

After logging in to the DSL router successfully, the following page appears.

- **Setup Wizard**: Select this option to display the following page. For the wizard configuration, refer to 5.1.1 Wizard Setup.



- **Advanced Setup**: Select this option to display the following page. For configuration details, refer to the following section.

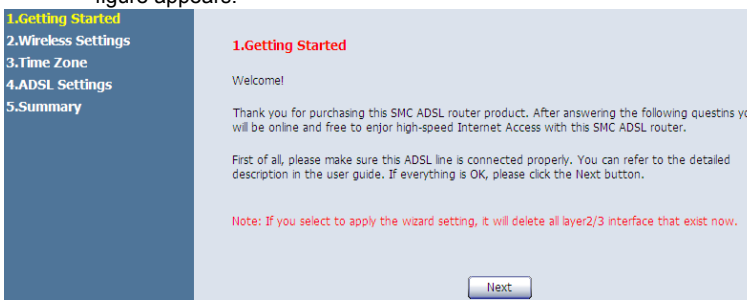
10.1 Start

Choose **Start** and the submenus of **Start** are shown as below:

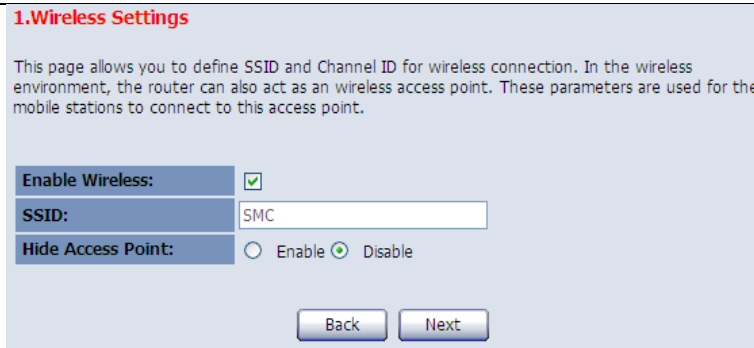
10.1.1 Wizard Setup

Wizard helps you to fast and accurately configure Internet connection and other important parameters. The following sections describe these various configuration parameters.

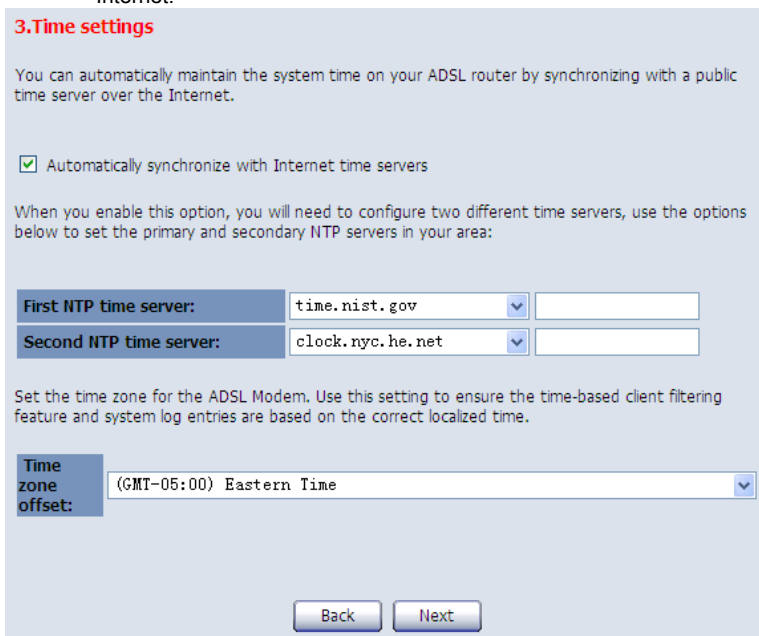
Step1 Choose **Wizard** in the main page and the page as shown in the following figure appears.



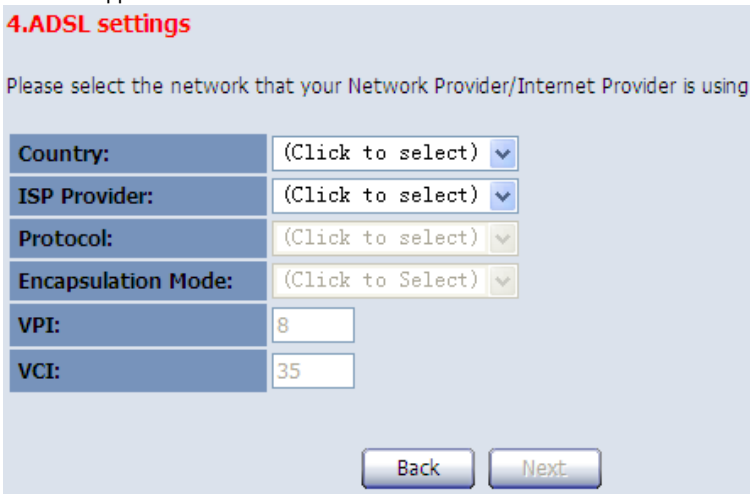
Step2 In the **Getting Started** page, click **Next** and the following page appears. In this page, you can enable wireless, set the SSID, and enable or disable hide access point.



Step3 After proper setting wireless, click **Next** and the **Times settings** page appears. In this page, you can automatically maintain the system time on your ADSL router by synchronizing with a public time server over the Internet.

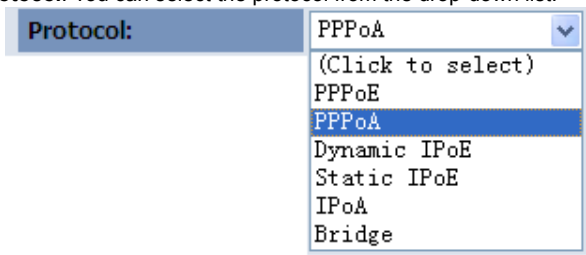


Step4 After proper setting time, click **Next** and the **ADSL settings** page appears.



Select the country and ISP provider. Set the VPI and VCI. If you fail to find the country and ISP from the drop-down lists, select **Others**.

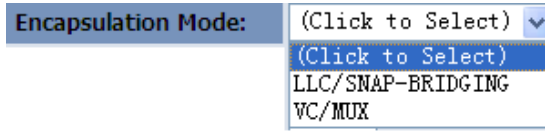
- **Protocol**: You can select the protocol from the drop-down list.



  - **PPPoE/PPPoA**: When you select the PPPoE or PPPoA as the protocol, you need to set the correct user name and password provided by your ISP.
  - **Static IPoE/IPoA**: When you select the static IPoE or IPoA as the protocol, you need to enter the IP address,

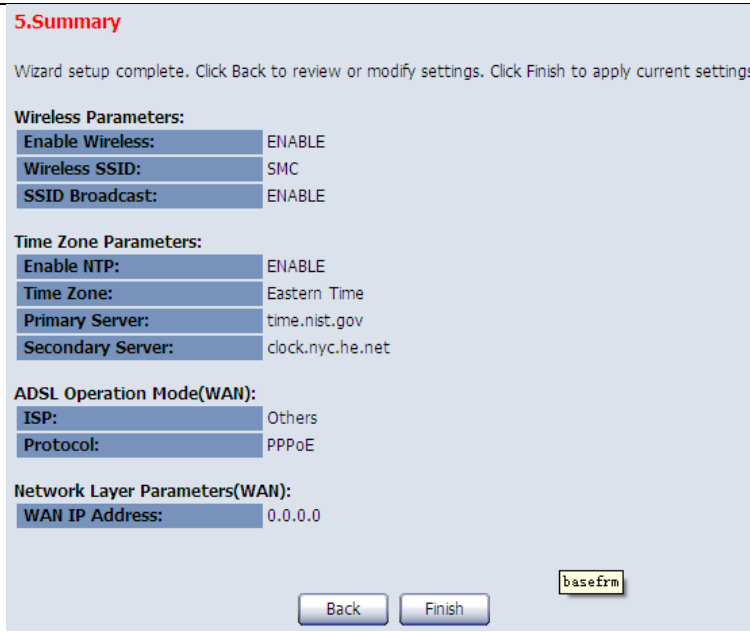
subnet mask, default gateway and DNS provided by your ISP.

- **Encapsulation Mode**: You can select the encapsulation mode from the drop-down list.



- **VPI (Virtual Path Identifier)**: The virtual path between two points in an ATM network, and its valid value is from 0 to 255.
- **VCI (Virtual Channel Identifier)**: The virtual channel between two points in an ATM network, ranging from 32 to 65535 (1 to 31 are reserved for known protocols).

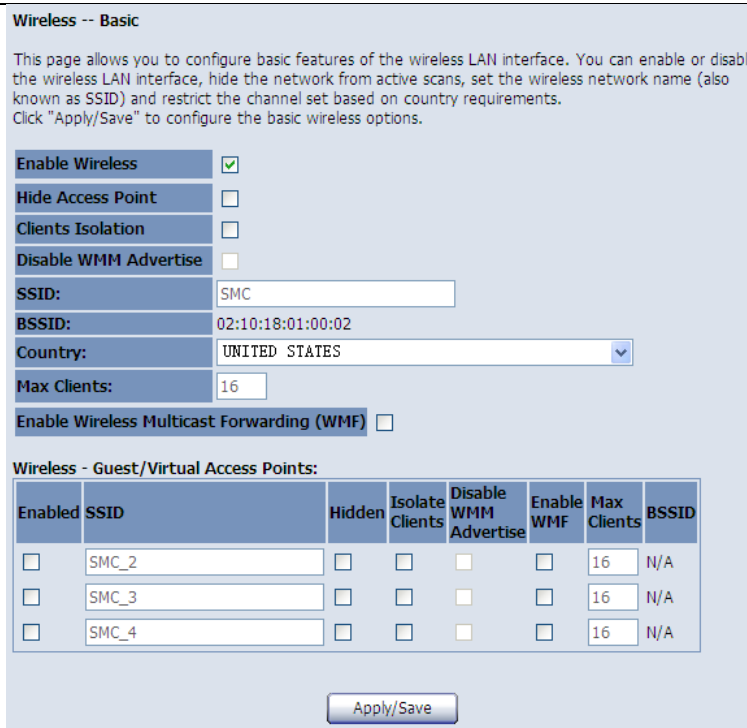
Step5 After proper setting ADSL, click **Next** and the **Summary** page appears. In this page, you can check whether the summary information matches the information provided by your ISP. Click **Back** to review or modify settings. Click **Finish** to apply current settings.



10.1.2 Wireless

10.1.2.1 Basic Settings

Choose **Start** > **Wireless** > **Basic** to display the following page.



This page allows you to configure the basic features of the wireless LAN interface.

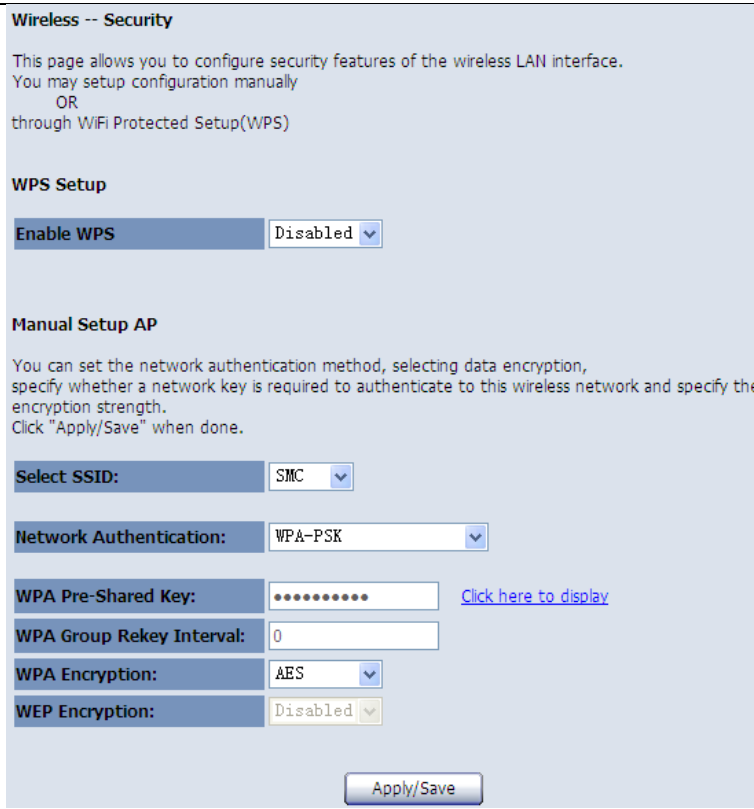
- **Enable Wireless:** Enable or disable the wireless function.
- **Hide Access Point:** if you want to hide any access point for your router, select this option, and then a station cannot obtain the SSID through the passive scanning.
- **Clients Isolation:** When many clients connect to the same access point, they can access each other. If you want to disable the access between the clients that connect to the same access point, you can select this option.
- **Disable WMM Advertise:** After enabling this option, the transmission performance multimedia of the voice and video data can be improved.
- **BSSID:** Display the MAC address of the wireless interface.

- **Country**: The name of the country with which your gateway is configured. This parameter further specifies your wireless connection. For example, The channel will adjust according to nations to adapt to each nation's frequency provision.
- **Max Clients:** Specify the maximum wireless client stations to be enabled to link with AP. Once the clients exceed the max vlaue, all other clients are refused.
- **Wireless - Guest/Virtual Access Points:** If you want to make Guest/Virtual network function be available, you have to check those boxes in the table below. In the current software version, three virtual access points can be configured.

After finishing setting, click **Apply/Save** to save the basic wireless settings and make the settings take effect.

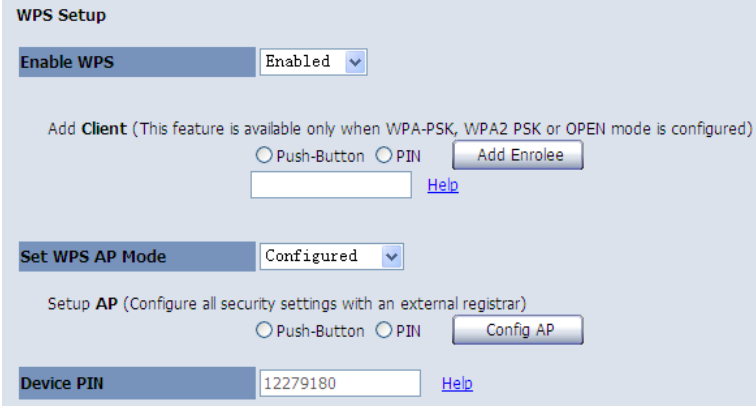
10.1.2.2 Security

Choose **Start** > **Wireless** > **Security** to display the following page.



This page allows you to configure the security features of the wireless LAN interface. In this page, you can configure the network security settings by the Wi-Fi Protected Setup (WPS) method or setting the network authentication mode.

- **WPS Setup**



There are 2 primary methods used in the Wi-Fi Protected Setup:

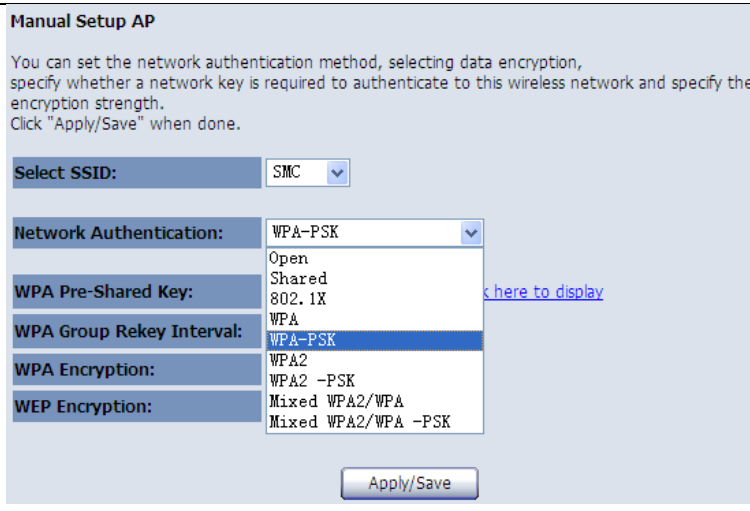
- PIN entry, a mandatory method of setup for all WPS certified devices.
- Push button configuration (PBC), an actual push button on the hardware or through a simulated push button in the software. (This is an optional method on wireless client).

If you are using the PIN method, you will need a Registrar (access point/wireless router) to initiate the registration between a new device and an active access point/wireless router. (**Note:** *The PBC method may also need a Registrar when used in a special case where the PIN is all zeros*)

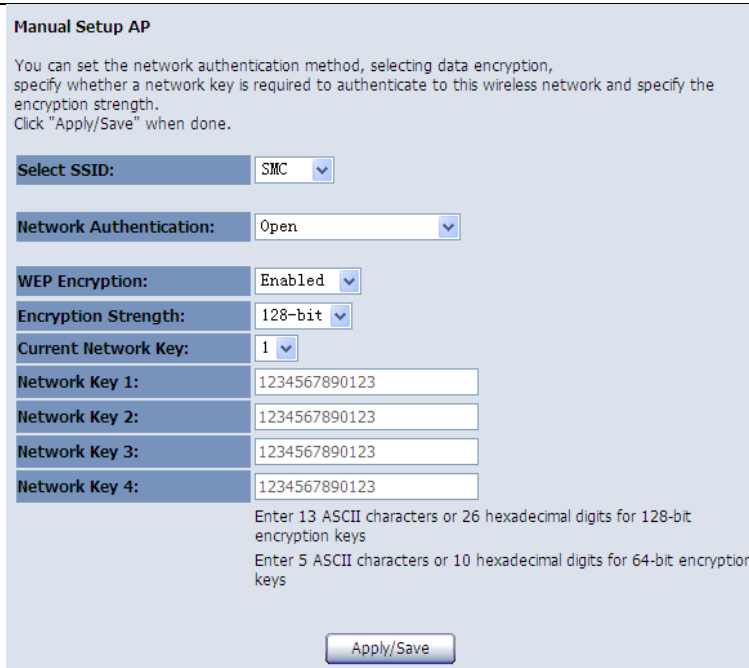
In order to use the push-button for WPS authentication, you must ensure that the network card support the function. if it supports, you need not to do any configuration. You can press the WPS button directly to enable the WPS function.

- **Manual Setup AP**

This page provides 9 types of network authentication modes, including Open, Shared, 802.1X, WPA, WPA-PSK, WPA2, WPA2-PSK, Mixed WPA2/WPA, and Mixed WPA2/WPA-PSK.

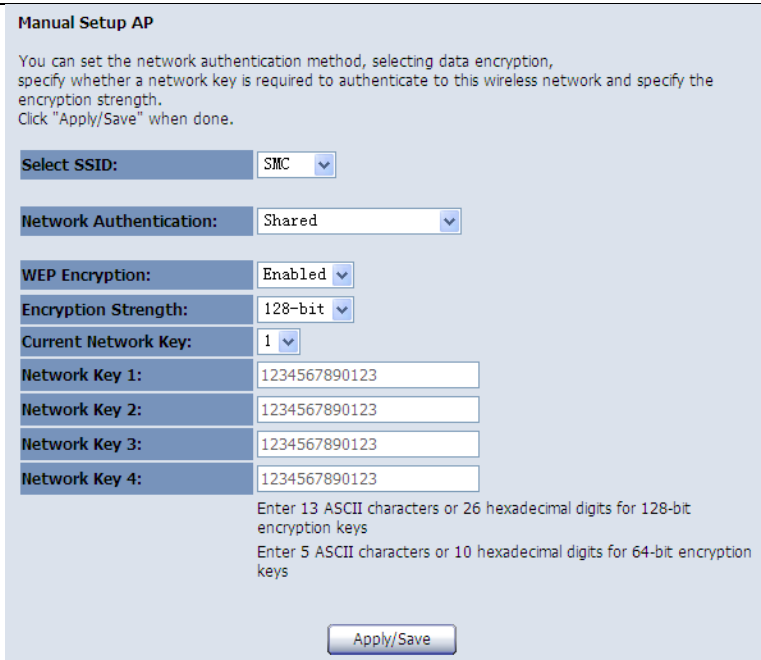

Manual Setup AP
You can set the network authentication method, selecting data encryption,
specify whether a network key is required to authenticate to this wireless network and specify the encryption strength.
Click "Apply/Save" when done.
Select SSID:
SMC
Network Authentication:
WPA-PSK
WPA Pre-Shared Key:
WPA Group Rekey Interval:
WPA Encryption:
WEP Encryption:
Open
Shared
802.1X
WPA
WPA-PSK
WPA2
WPA2 -PSK
Mixed WPA2/WPA
Mixed WPA2/WPA -PSK
k here to display
Apply/Save

- Open Mode



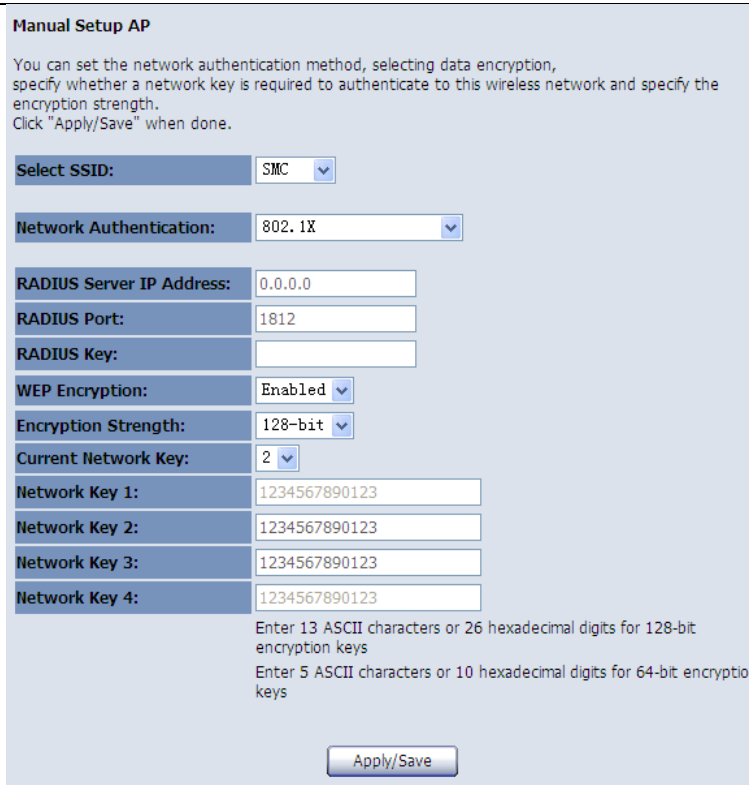
- **Select SSID:** Select a SSID for configuring the security settings.
- **Network Authentication:** Select the Open mode.
- **WEP Encryption:** Enable or disable WEP encryption. After enabling this function, you can set the encryption strength, current network key, and network keys.
- **Encryption Strength:** You can set 64-bit or 128-bit key.
- **Current Network Key:** The current key that you use.
- **Network Key1/2/3/4:** Set the network key. If it is 128-bit key, you need to enter 13 ASCII characters or 26 hexadecimal digits. For the 64-bit key, you need to enter 5 ASCII characters or 10 hexadecimal digits.

- Shared Mode



The parameters' description of shared mode, please refer to the **Open Mode**.

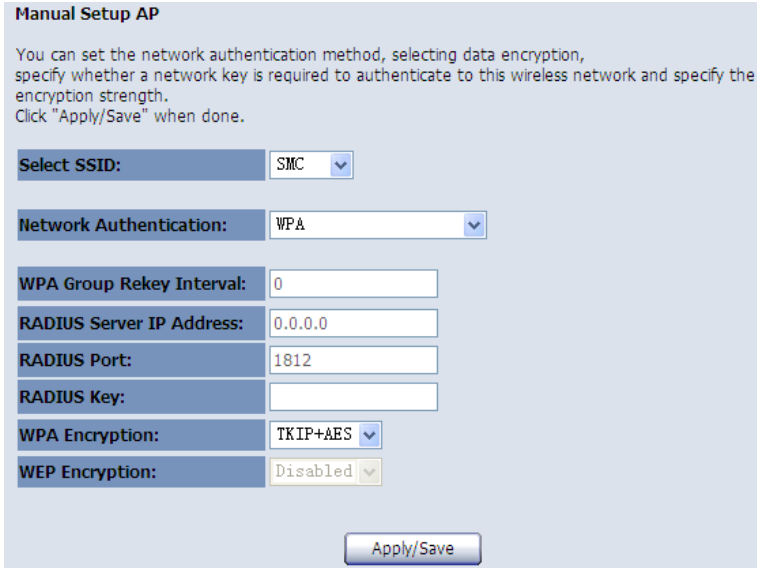
- 802.1x



- **Select SSID:** Select a SSID for configuring the security settings.
- **Network Authentication:** Select the 802.1X in the drop-down list.
- **RADIUS Server IP Address:** Enter the IP address of the RADIUS server. RADIUS server is used to authenticate the hosts on the wireless network.
- **RADIUS Port:** The port number that the RADIUS server uses. The default port number is 1812. You may change it according to the server setting.
- **RADIUS Key:** Set the RADIUS key for accessing the RADIUS server.
- **WEP Encryption:** You can only select **Enabled**.
- **Encryption Strength:** You can set 64-bit or 128-bit key.
- **Current Network Key:** The current key that you use.

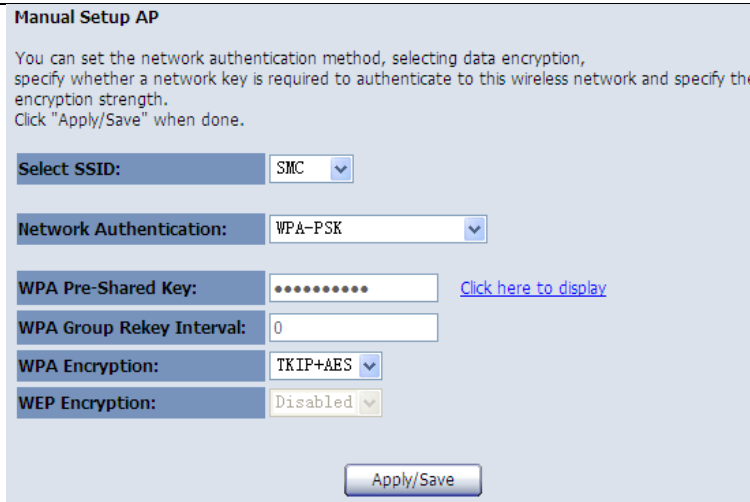
- **Network Key1/2/3/4:** Set the network key. If it is 128-bit key, you need to enter 13 ASCII characters or 26 hexadecimal digits. For the 64-bit key, you need to enter 5 ASCII characters or 10 hexadecimal digits.

- WPA Mode



- **Select SSID:** Select a SSID for configuring the security settings.
- **Network Authentication:** Select the WPA-PSK mode.
- **WPA Group Rekey Interval:** Setting the interval for renewing key.
- **RADIUS Server IP Address:** Enter the IP address of the RADIUS server. RADIUS server is used to authenticate the hosts on the wireless network.
- **RADIUS Port:** The port number that the RADIUS server uses. The default port number is 1812. You may change it according to the server setting.
- **RADIUS Key:** Set the RADIUS key for accessing the RADIUS server.
- **WPA/WAPI Encryption:** You may select AES, or TKIP+AES.

- WPA-PSK Mode

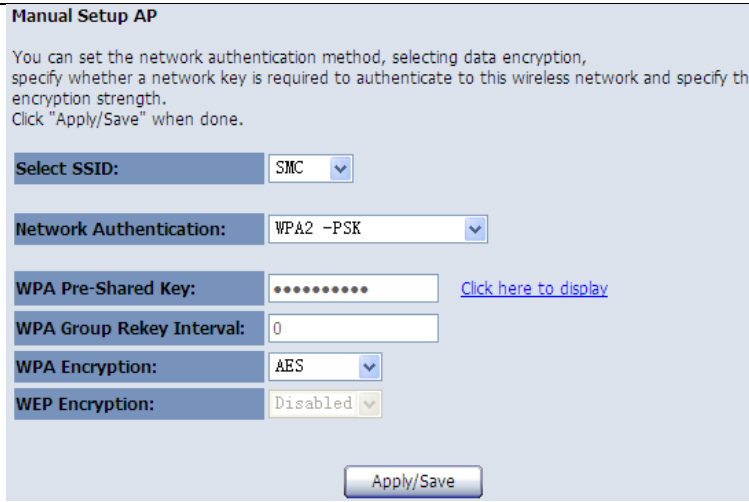


- **Select SSID:** Select a SSID for configuring the security settings.
- **Network Authentication:** Select the WPA-PSK mode.
- **WPA/WAPI passphrase:** The key for WPA encryption. Click the **Click here to display** button to display the current key. The default key is 87654321.
- **WPA Group Rekey Interval:** Setting the interval for renewing key.
- **WPA/WAPI Encryption:** You may select AES, or TKIP+AES.

- WPA2 Mode

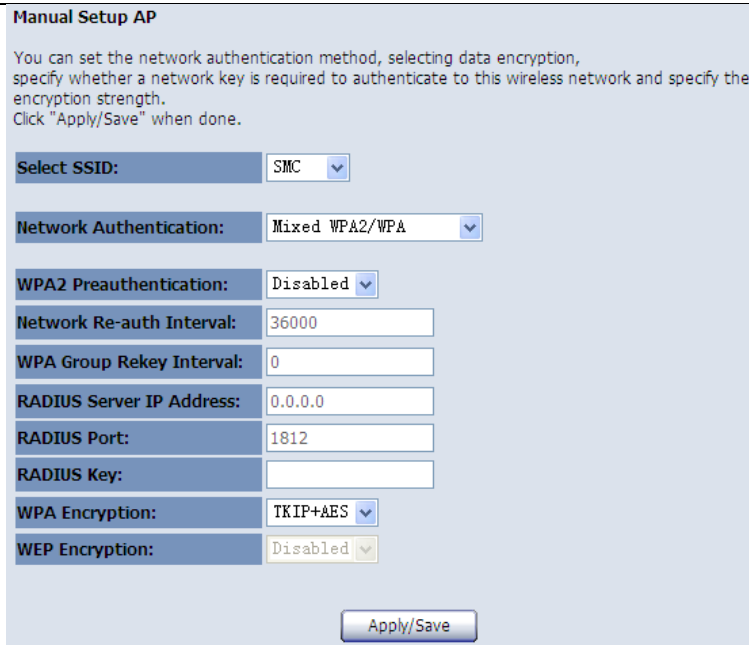
- **Select SSID:** Select a SSID for configuring the security settings.
- **Network Authentication:** Select the WPA2 mode.
- **WPA2 Preauthentication:** Enable or disable pre-authentication.
- **Network Re-auth Interval:** Set the network re-auth interval.
- **WPA Group Rekey Interval:** Setting the interval for renewing key.
- **RADIUS Server IP Address:** Enter the IP address of the RADIUS server. RADIUS server is used to authenticate the hosts on the wireless network.
- **RADIUS Port:** The port number that the RADIUS server uses. The default port number is 1812. You may change it according to the server setting.
- **RADIUS Key:** Set the RADIUS key for accessing the RADIUS server.
- **WPA/WAPI Encryption:** You may select AES, or TKIP+AES.

- WPA2-PSK



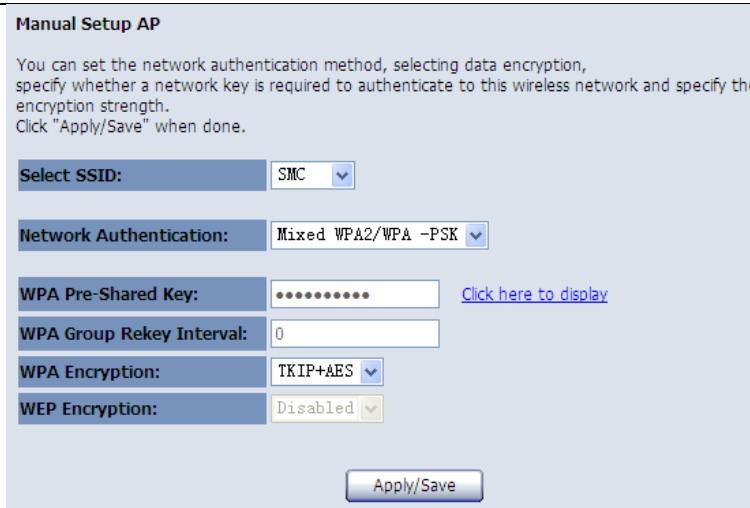
The parameters' description of WPA2-PSK mode, please refer to the **WPA-PSK mode**.

- Mixed WPA2/WPA



The parameters' description of Mixed WPA2/WPA mode, please refer to the **WPA2 mode**.

- Mixed WPA2/WPA-PSK

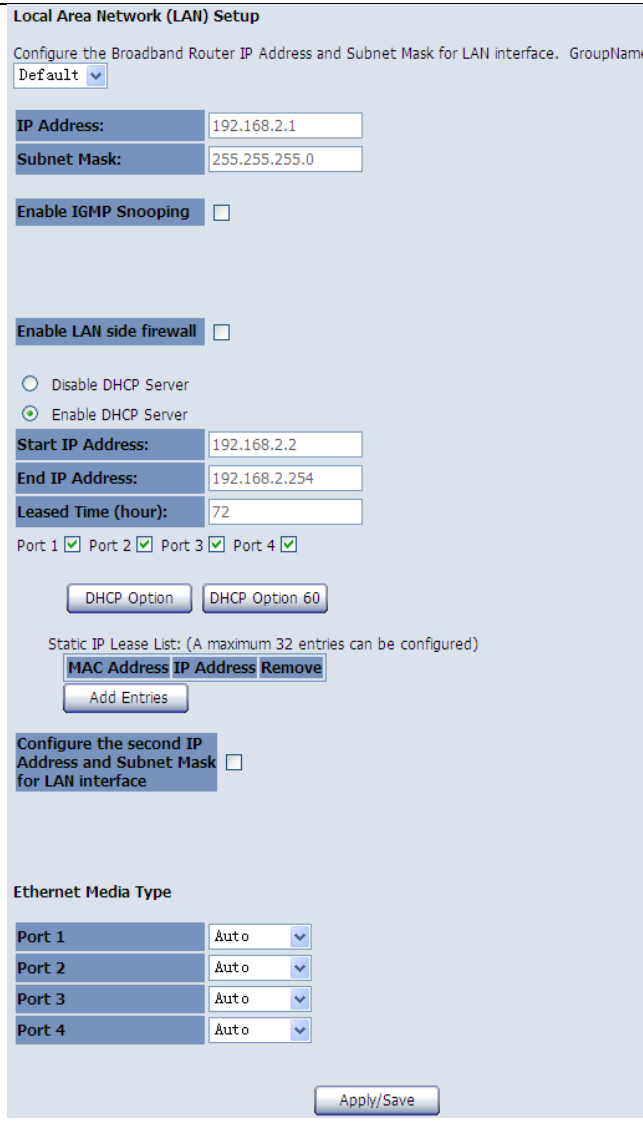


The parameters' description of Mixed WPA2/WPA-PSK mode, please refer to the **WPA-PSK mode**.

10.1.3 LAN

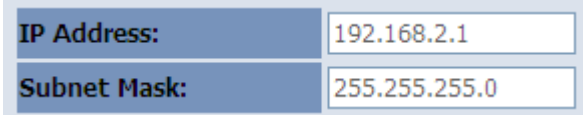
10.1.4 LAN Configuration

Choose **Advanced Setup > LAN**, and the following page appears.


Local Area Network (LAN) Setup
Configure the Broadband Router IP Address and Subnet Mask for LAN interface. GroupName
Default
IP Address:
192.168.2.1
Subnet Mask:
255.255.255.0
Enable IGMP Snooping
Enable LAN side firewall
Disable DHCP Server
Enable DHCP Server
Start IP Address:
192.168.2.2
End IP Address:
192.168.2.254
Leased Time (hour):
72
Port 1 Port 2 Port 3 Port 4
DHCP Option
DHCP Option 60
Static IP Lease List: (A maximum 32 entries can be configured)
MAC Address
IP Address
Remove
Add Entries
Configure the second IP Address and Subnet Mask for LAN interface
Ethernet Media Type
Port 1
Auto
Port 2
Auto
Port 3
Auto
Port 4
Auto
Apply/Save

In this page, you can configure an IP address for the DSL router, enable IGMP snooping, enable or disable the DHCP server, and edit the DHCP option.

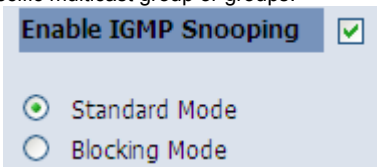
Configuring the Private IP Address for the DSL Router



In this page, you can modify the IP address of the device. The preset IP address is 192.168.2.1.

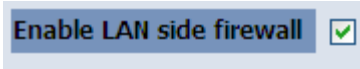
Enabling IGMP Snooping

IGMP snooping enables the router to forward multicast traffic intelligently, instead of flooding all ports in the VLAN. With IGMP snooping, the router listens to IGMP membership reports, queries and leave messages to identify the switch ports that are members of multicast groups. Multicast traffic will only be forwarded to ports identified as members of the specific multicast group or groups.



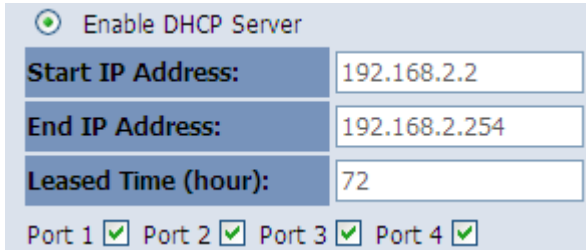
Enabling the LAN Side Firewall

Firewall can prevent unexpected traffic on the Internet from your host in the LAN.



In this page, you can enable or disable the LAN side firewall.

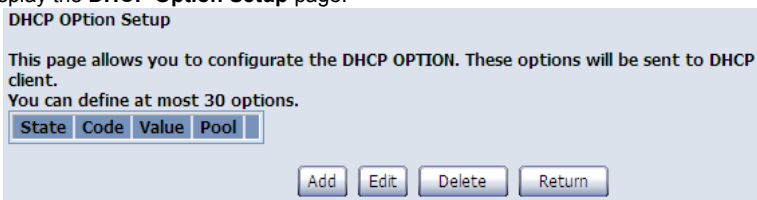
Configuring the DHCP Server



If you enable the DHCP sever, the clients will automatically acquire the IP address from the DHCP server. If the DHCP server is disabled, you need to manually set the start IP address, end IP address and the lease time for the clients in the LAN.

Editing the DHCP Option

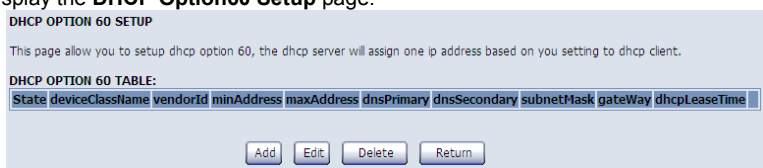
Click the **DHCP Option** button in the **Local Area Network (LAN) Setup** page to display the **DHCP Option Setup** page.



In this page, you can add, edit or delete the DHCP options, and these options will be sent to the DHCP client.

Editing the DHCP Option60

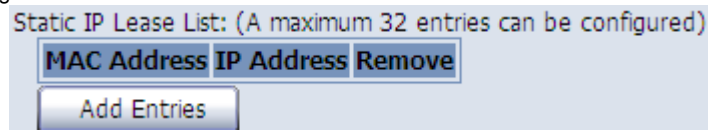
Click the **DHCP Option60** button in the **Local Area Network (LAN) Setup** page to display the **DHCP Option60 Setup** page.



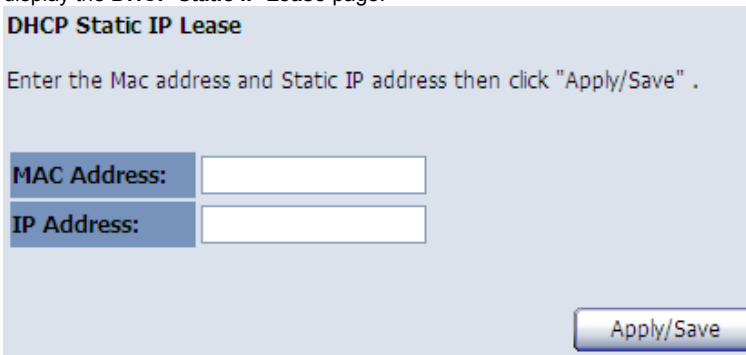
In this page, you can add, edit or delete the DHCP60 options.

Configuring the DHCP Static IP Lease List

The lease list of static IP address can reserve the static IP addresses for the hosts with the specific MAC addresses. When a host whose MAC address is in the lease list of static IP address requests the DHCP server for an IP address, the DHCP server assigns the reserved IP address to the host.



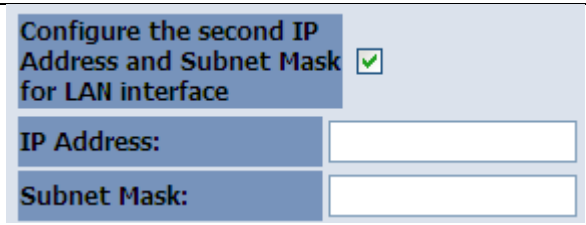
Click the **Add Entries** button in the **Local Area Network (LAN) Setup** page to display the **DHCP Static IP Lease** page.



In this page, enter the MAC address of the LAN host and the static IP address that is reserved for the host, and then click the **Apply/Save** button to apply the settings.

Configuring the Second IP Address and Subnet Mask for a LAN Interface

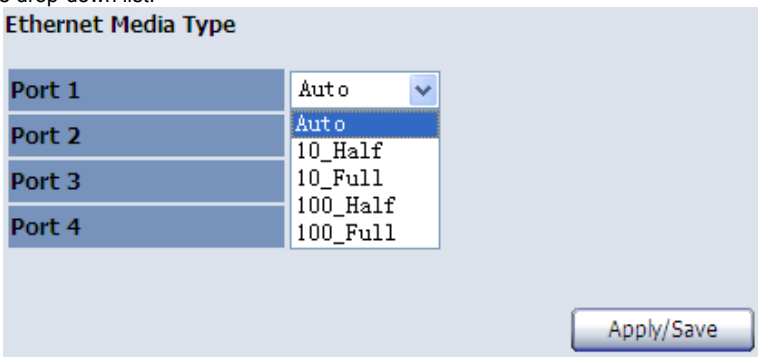
In the **Local Area Network (LAN) Setup** page, you are allowed to set the second IP address and the subnet mask for a LAN interface.



After enabling **Configure the second IP Address and Subnet Mask for LAN interface**, enter an IP address and a subnet mask for the LAN interface.

Ethernet Media Type

In the **Local Area Network (LAN) Setup** page, you can select the media type from the drop-down list.



After finishing setting, click the **Apply/Save** button to apply the settings.

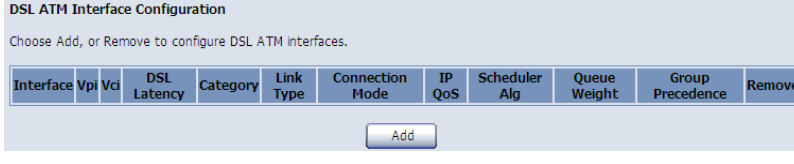
10.2 Advanced Setup

Choose **Advanced Setup** and the submenus of **Advanced Setup** are shown as below:

10.2.1 Layer2 Interface

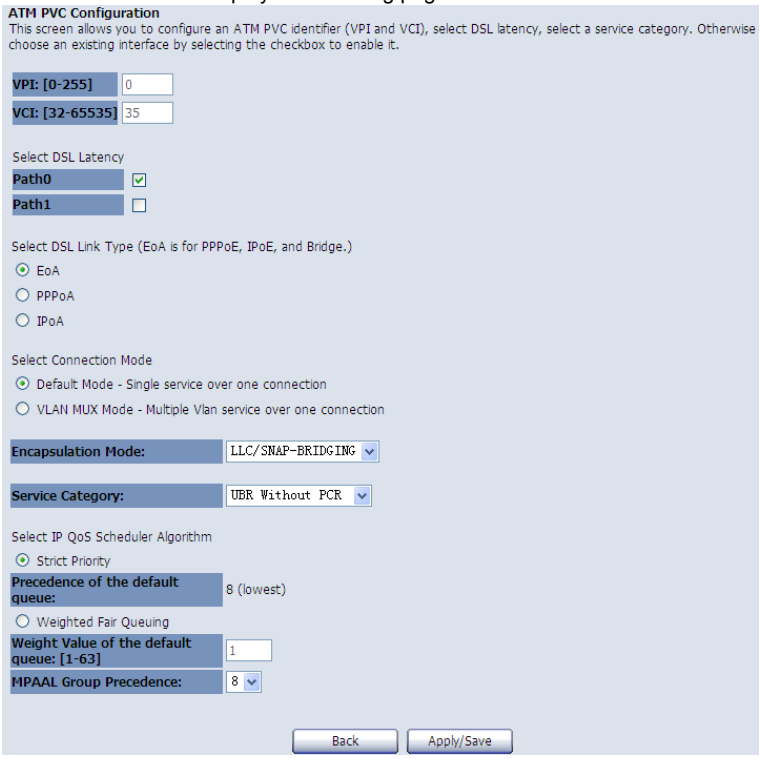
ATM Interface

Choose **Advanced Setup** > **ATM Interface** , and the following page appears.



In this page, you can add or remove the DSL ATM Interfaces.

Click the **Add** button to display the following page.



In this page, you can set the VPI and VCI values, and select the DSL latency, link type (EoA is for PPPoE, IPoE, and Bridge.), connection mode, encapsulation mode, service category, and IP QoS scheduler algorithm.

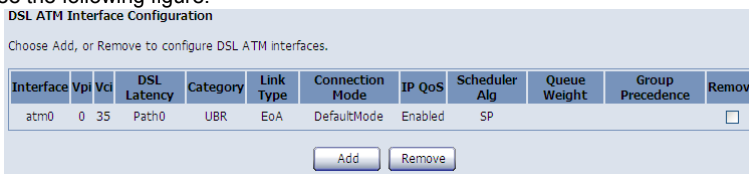
- **VPI (Virtual Path Identifier)**: The virtual path between two points in an ATM network, and its valid value is from 0 to 255.
- **VCI (Virtual Channel Identifier)**: The virtual channel between two points in an ATM network, ranging from 32 to 65535 (1 to 31 are reserved for known protocols).
- **Select DSL Latency**: You may select **Path0** and **Path1**.

- **Select DSL Link Type**: You may select **EoA** (it is for PPPoE, IPoE, and Bridge), **PPPoA**, or **IPoA**.
- **Select Connection Mode:** You may select the **Default Mode** or the **VLAN MUX Mode**.
- **Encapsulation Mode**: You may select **LLC/SNAP-BRIDGING** or **VC/MUX** in the drop-down list.
- **Service Category:** you may select **UBR Without PCR**, **UBR With PCR**, **CBR**, **Non Realtime VBR** or **Realtime VBR** in the drop-down lsit.
- **Select IP QoS Scheduler Algorithm:** You may select **Strict Priority** and **Weighted Fair Queuing**.

Note:

QoS cannot be set for CBR and Realtime VBR.

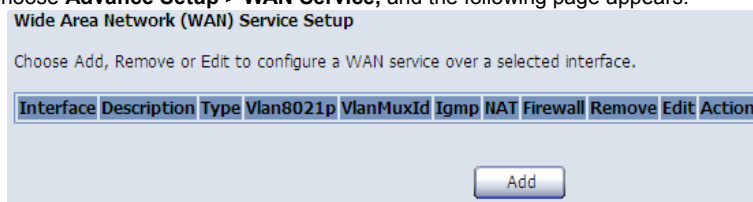
After finishing setting, click the **Apply/Save** button to make the settings take effect. See the following figure:



If you want to remove this Interface, please select the **Remove** check box that is corresponding to the selected interface and then click the **Remove** button.

10.2.2 WAN Service

Choose **Advance Setup > WAN Service,** and the following page appears.

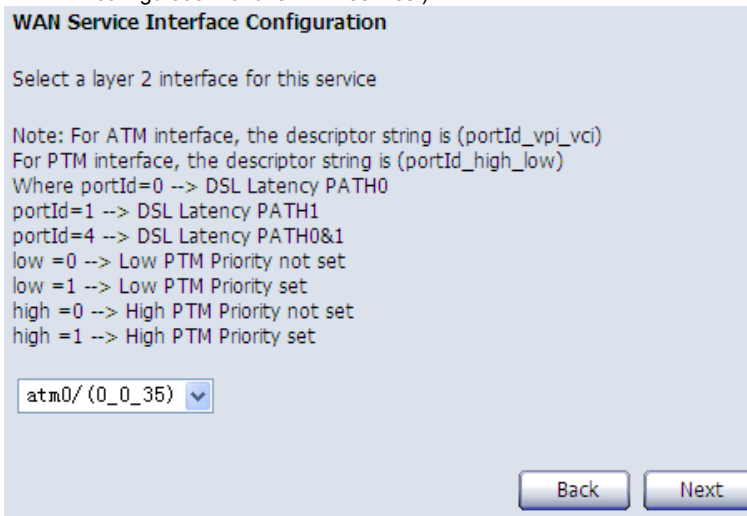


In this page, you are allowed to add, remove, or edit a WAN service.

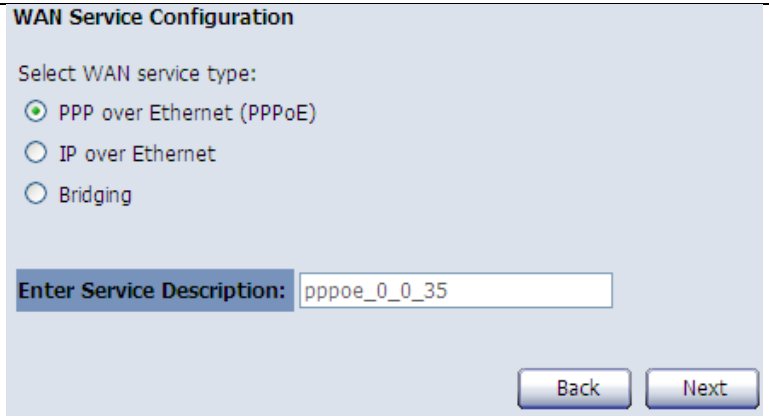
Adding a PPPoE WAN Service

This section describes the steps for adding the PPPoE service.

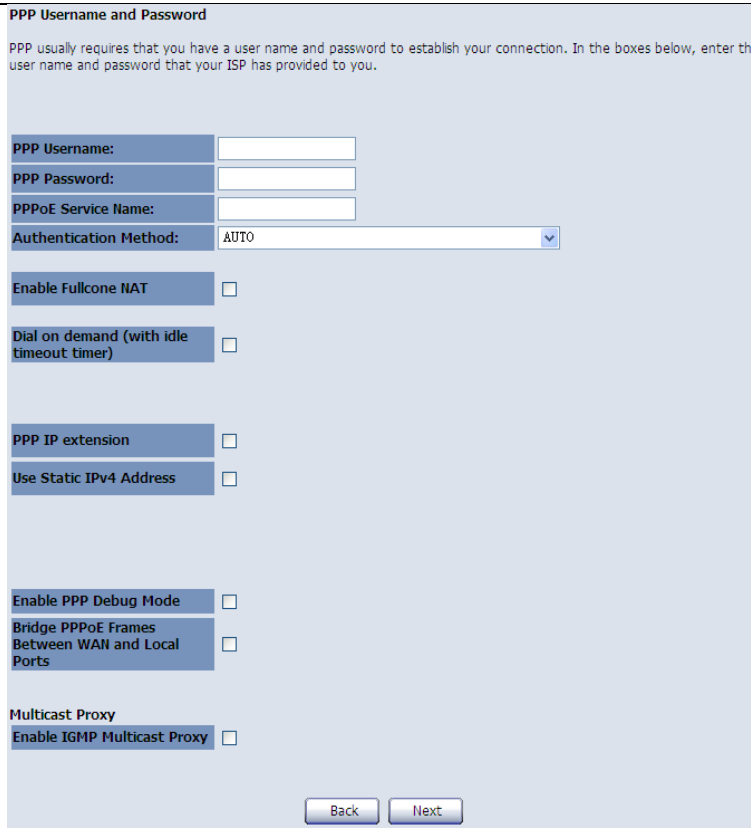
Step1 In the **Wide Area Network (WAN) Service Setup** page, click the **Add** button to display the following page. (At first, you must add a proper ATM configuration for this WAN service.)



Step2 In this page, you can select a ATM Interface for the WAN service. After selecting the ATM interface, click **Next** to display the following page.



Step3 In this page, select the WAN service type to be **PPP over Ethernet (PPPoE)**. Click **Next** to display the following page.

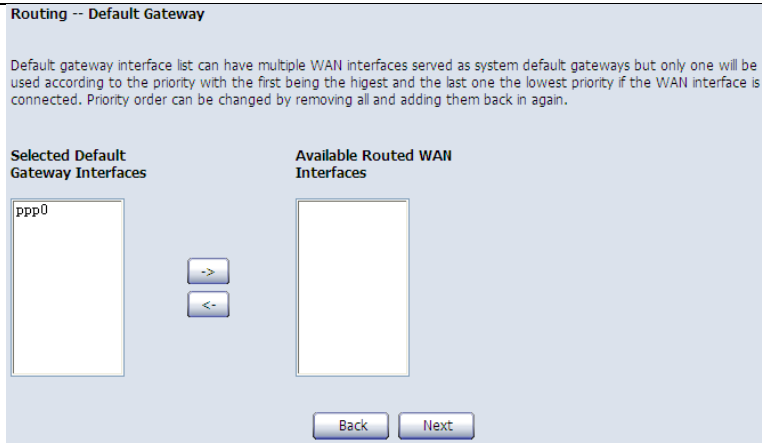


Step4 In this page, you can modify the PPP username, PPP password, PPPoE service name and authentication method.

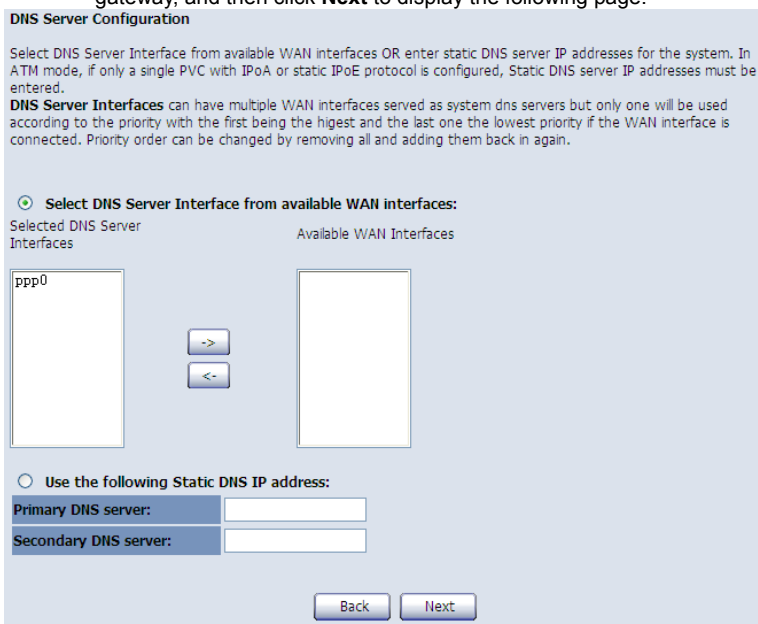
- **PPP Username:** The correct user name provided by your ISP.
- **PPP Password:** The correct password provided by your ISP.
- **PPPoE Service Name:** If your ISP provides it to you, please enter it. If not, do not enter any information.
- **Authentication Method:** The value can be AUTO, PAP, CHAP, or MSCHAP. Usually, you can select AUTO.

- **Enable Fullcone NAT:**. NAT is one where all requests from the same internal IP address and port are mapped to the same external IP address and port. Furthermore, any external host can send a packet to the internal host, by sending a packet to the mapped external address.
- **Dial on demand (with idle timeout timer):** If this function is enabled, you need to enter the idle timeout time. Within the preset minutes, if the modem does not detect the flow of the user continuously, the modem automatically stops the PPPOE connection. Once it detects the flow (like access to a webpage), the modem restarts the PPPoE dialup. If this function is disabled, the modem performs PPPoE dial-up all the time. The PPPoE connnection does not stop, unless the modem is powered off and DSLAM or uplink equipment is abnormal.
- **PPP IP extension:** If you want to configure DMZ Host, you should enable it first.
- **Use Static IPv4 Address:** If this function is disabled, the modem obtains an IP address assigned by an uplink equipment such as BAS, through PPPoE dial-up. If this function is enabled, the modem uses this IP address as the WAN IP address.
- **Enable PPP Debug Mode:**Enable or disable this function.
- **Bridge PPPoE Frames Between WAN and Local Ports:**Enable or disable this function.
- **Enable IGMP Multicast Proxy:**if you want PPPoE mode to support IPTV, enable it.

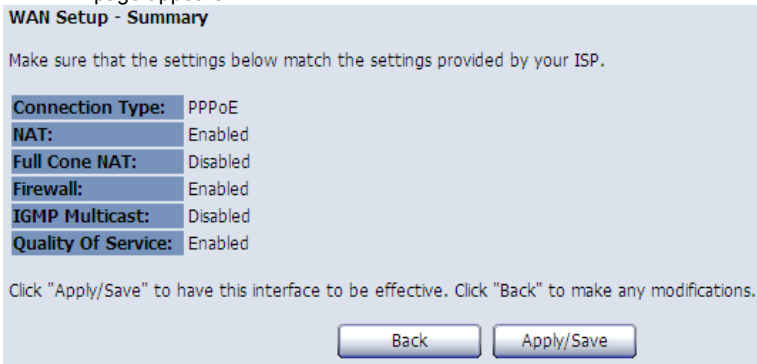
Step5 After setting the parameters, click **Next** to display the following page.



Step6 In this page, select a preferred WAN interface as the system default gateway, and then click **Next** to display the following page.



Step7 In this page, you may obtain the DNS server addresses from the selected WAN interface or manually enter the static DNS server addresses. If only a PVC with IPoA or static MER protocol is configured, you must manually enter the static DNS server addresses. Click **Next**, and the following page appears.

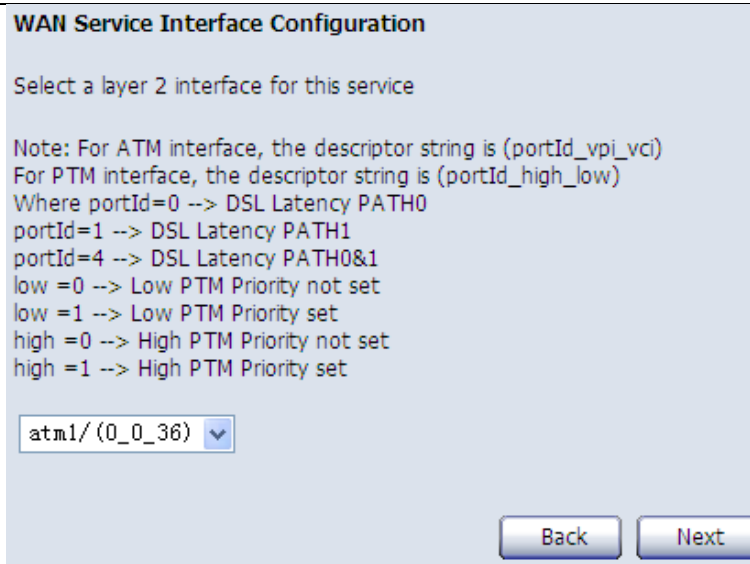


Step8 In this page, it displays the information about the PPPoE settngs. Click **Apply/Save** to save and apply the settings. You can modify the settings by clicking the **Back** button if necessary.

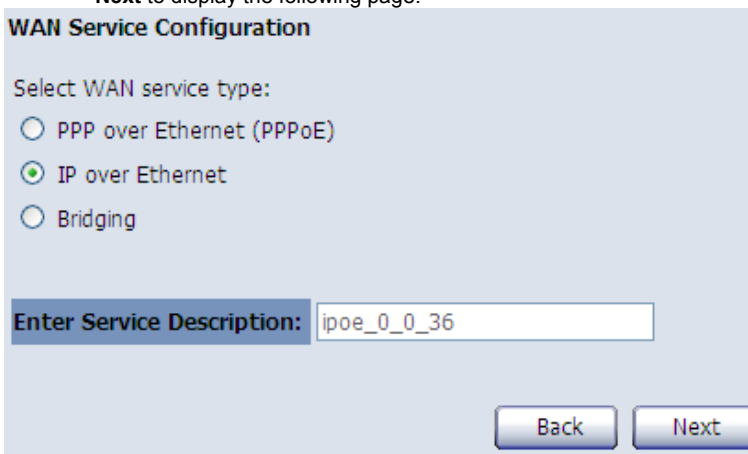
Adding a MER (IPoE) WAN service

This section describes the steps for adding the MER WAN service.

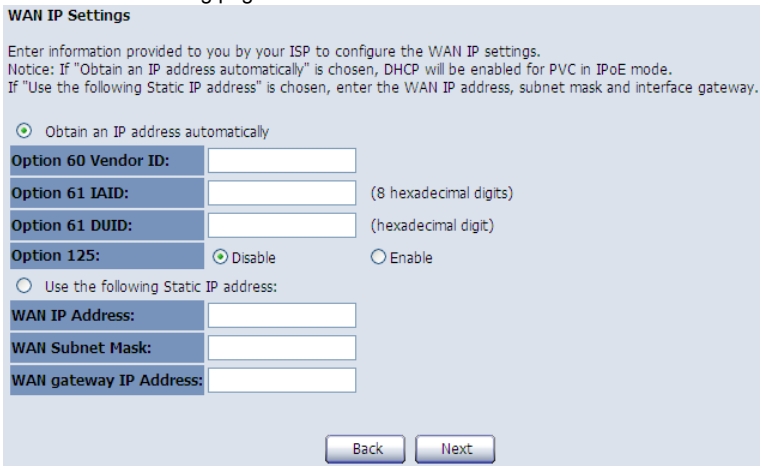
Step1 In the **Wide Area Network (WAN) Service Setup** page, click the **Add** button to display the following page. (At first, you must add a ATM configuration for this WAN service.)



Step2 Select an ATM Interface, for example, atm1/(0_0_36), and then click **Next** to display the following page.



Step3 In this page, select the WAN service type to be IP over Ethernet and enter the service description. After finishing setting, click **Next** to display the following page.

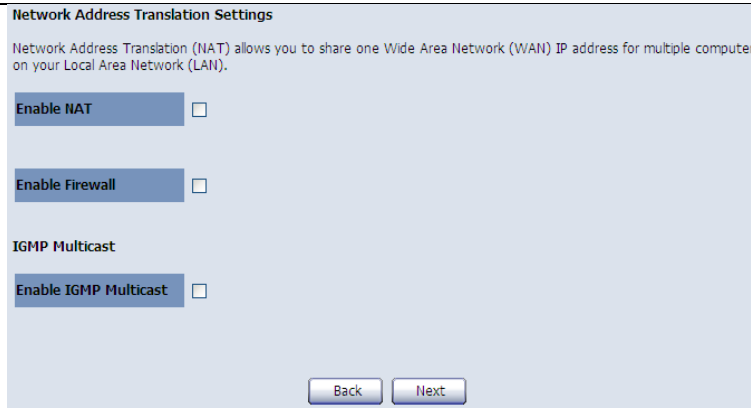


Step4 In this page, you can select obtain an IP address automatically or manually enter the IP address provided by your ISP. Click **Next** and the following page appears.

Note:

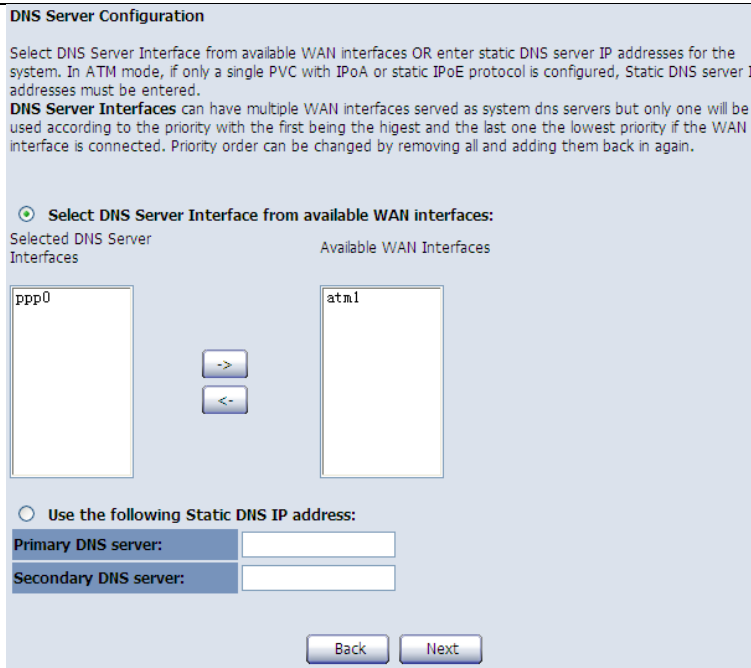
*If selecting **Obtain an IP address automatically**, DHCP will be enabled for PVC in MER mode.*

*If selecting **Use the following Static IP address**, please enter the WAN IP address, subnet mask and gateway IP address.*



Step5 In this page, you can set the network address translation settings,for example, enabling NAT, enabling firewall, and.enabling IGMP multicast. After finishing setting, click **Next** and the following page appears.

Step6 In this page, select a preferred WAN interface as the system default gateway and then click **Next** to display the following page.



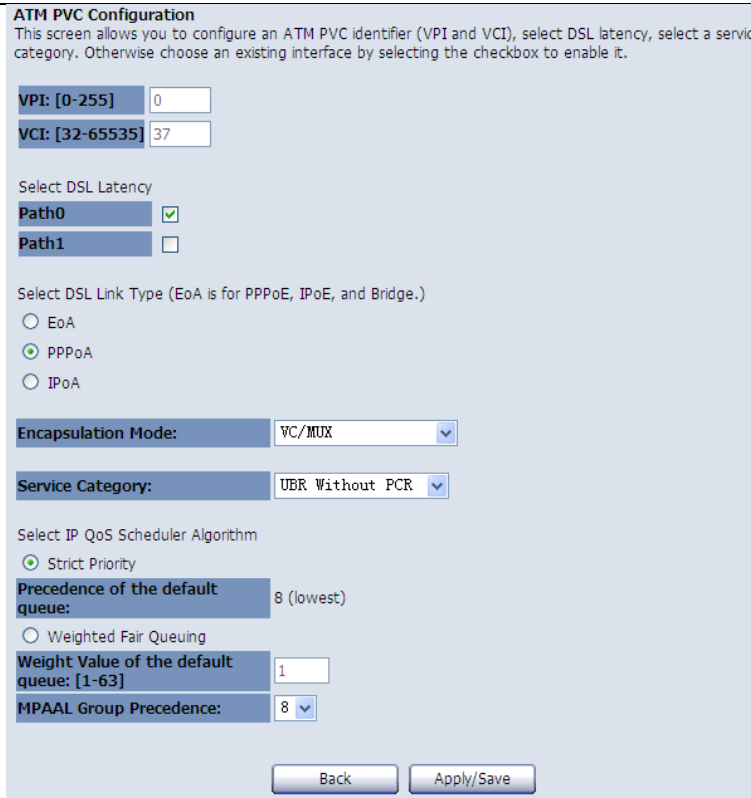
Step7 In this page, you may obtain the DNS server addresses from the selected WAN interface or manually enter static DNS server addresses. If only a PVC with IPoA or static MER protocol is configured, you must enter the static DNS server addresses. After finishing setting, click **Next** to display the following page.

Step8 In this page, it displays the information about the IPoE settngs.Click **Apply/Save** to save and apply the settings. You can modify the settings by clicking the **Back** button if necessary.

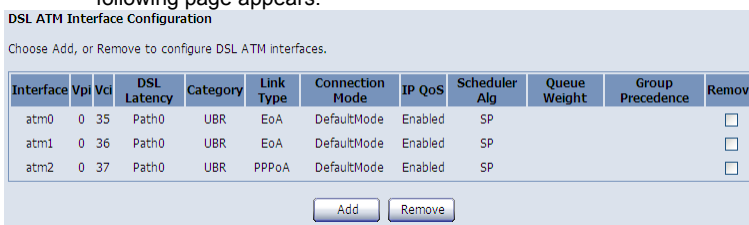
Adding a PPPoA WAN service

This section describes the steps for adding the PPPoA WAN service.

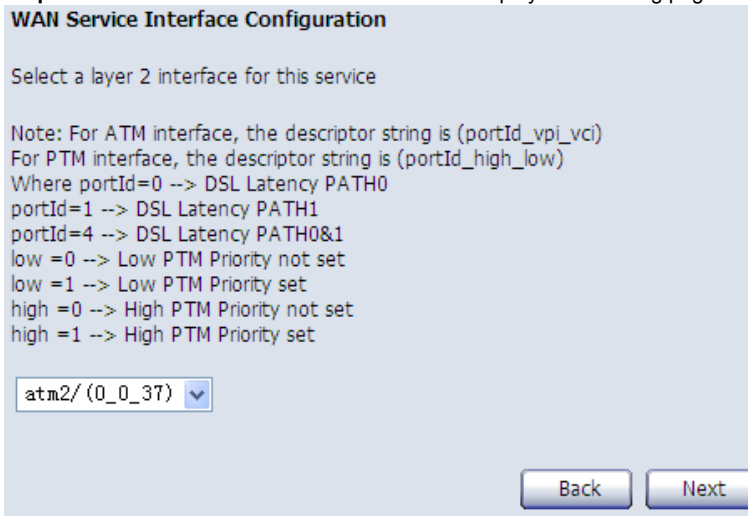
Step1 Choose **Advanced Setup** > **ATM Interface** to dsipaly the **DSL ATM Interface Configuration** page. In this page, you need to add a PVC for PPPoA mode. Click the **Add** button in the **DSL ATM Interface Configuration** page to display the following page.



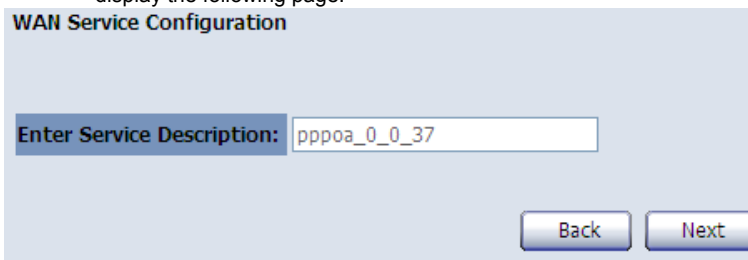
Step2 Select the DSL link type to be **PPPoA**, and select the encapsulation mode to be **VC/MUX** (according to the uplink equipment). After finishing setting, click the **Apply/Save** button to apply the setings, and the following page appears.



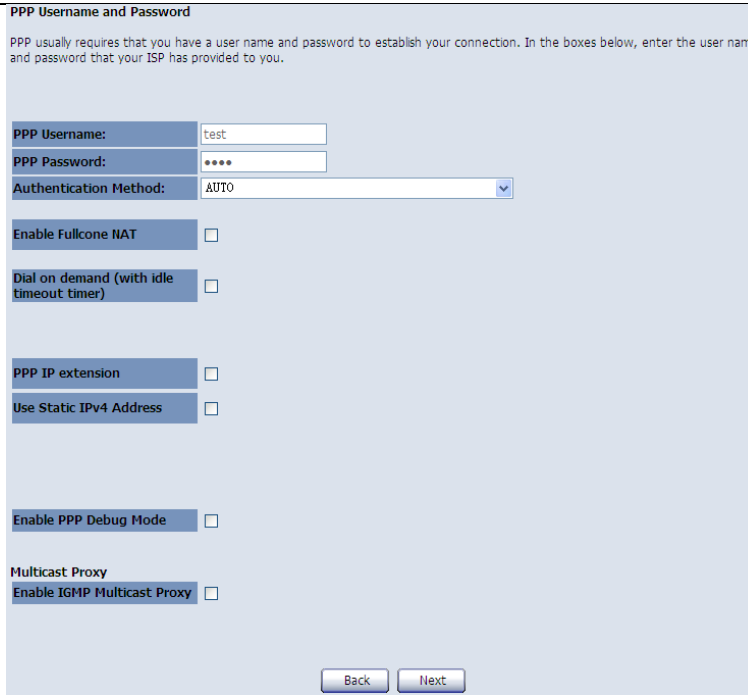
Step3 Choose **WAN Service** and click **Add** to display the following page.



Step4 Select the proper interface for the WAN service, and then click **Next** to display the following page.



Step5 In this page, you may modify the service description. Click **Next** to display the following page.



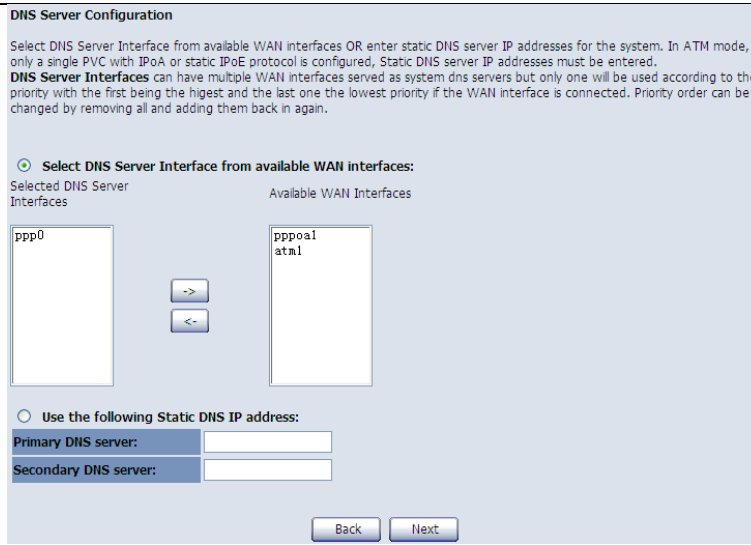
- **PPP Username:** The correct user name provided by your ISP.
- **PPP Password:** The correct password provided by your ISP.
- **Authentication Method:** The value can be AUTO, PAP, CHAP, or MSCHAP. Usually, you can select AUTO.
- **Enable Fullcone NAT:**. NAT is one where all requests from the same internal IP address and port are mapped to the same external IP address and port. Furthermore, any external host can send a packet to the internal host, by sending a packet to the mapped external address.
- **Dial on demand (with idle timeout timer):** If this function is enabled, you need to enter the idle timeout time. Within the preset minutes, if the modem does not detect the flow of the user continuously, the modem automatically stops the PPPoA connection. Once it detects the flow (like access to a webpage), the modem restarts the PPPoA dialup. If this function is disabled, the modem performs PPPoA dial-up all the time. The PPPoA connnection

does not stop, unless the modem is powered off and DSLAM or uplink equipment is abnormal.

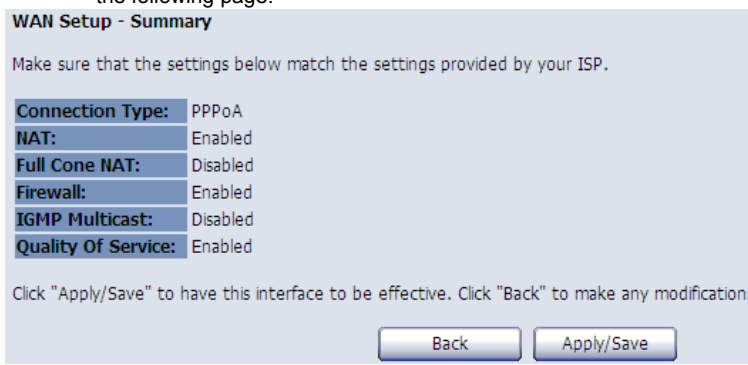
- **PPP IP extension:** If you want to configure DMZ Host, you should enable it first.
- **Use Static IPv4 Address:** If this function is disabled, the modem obtains an IP address assigned by an uplink equipment such as BAS, through PPPoA dial-up. If this function is enabled, the modem uses this IP address as the WAN IP address.
- **Enable PPP Debug Mode:**Enable or disable this function.
- **Enable IGMP Multicast Proxy:** If you want PPPoA mode to support IPTV, enable it.

Step6 In this page, you can enter the PPP username and PPP password provided by your ISP. Select the authentication method according to your requirement. After finishing setting, click **Next** to display the following page.

Step7 In this page, select a preferred WAN interface as the system default gateway and then click **Next** to display the following page.



Step8 In this page, you can obtain the DNS server addresses from the selected WAN interface or manually enter the static DNS server addresses. If only a PVC with IPoA or static MER protocol is configured, you must enter the static DNS server addresses. After finishing setting, click **Next** to display the following page.

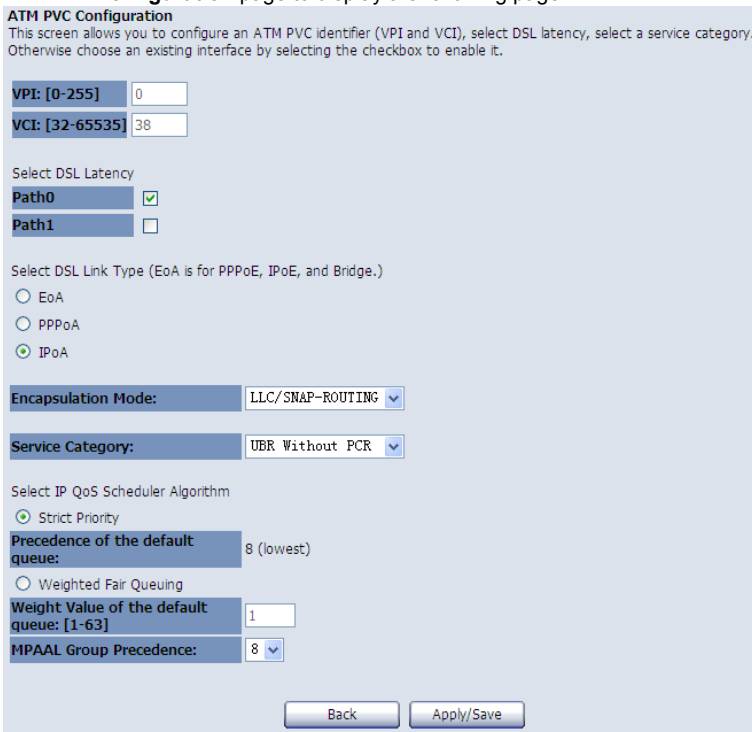


Step9 In this page, it displays the information about the PPPoA settngs.Click **Apply/Save** to apply the settings. You can modify the settings by clicking the **Back** button if necessary.

Adding an IPoA WAN service

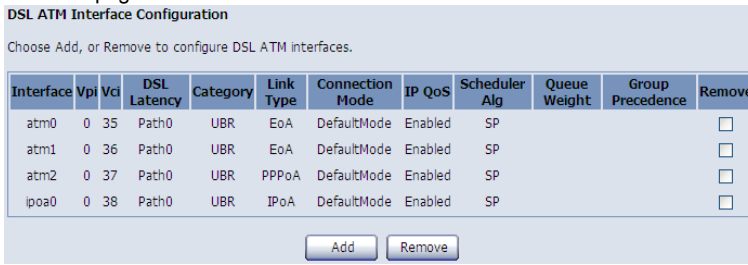
This section describes the steps for adding the IPoA WAN service.

Step1 Choose **Advanced Setup > ATM Interface** to dsipaly the **DSL ATM Interface Configuration** page. In this page, you need to add a PVC for IPoA mode. Click the **Add** button in the **DSL ATM Interface Configuration** page to display the following page.

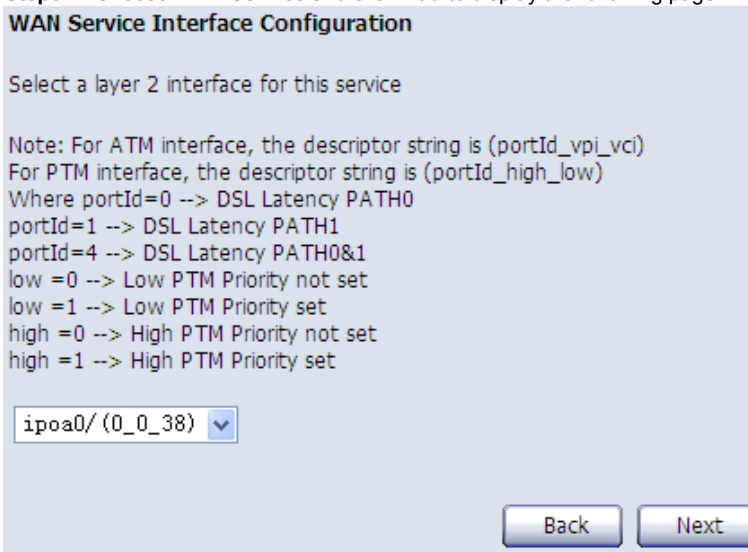


Step2 Select the DSL link type to be **IPoA**, and select the encapsulation mode to be **LLC/SNAP-ROUTING** (according to the uplink equipment). After

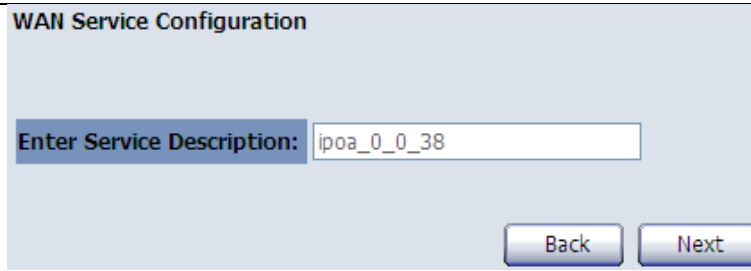
finishing setting, click the **Apply/Save** button to display the following page.



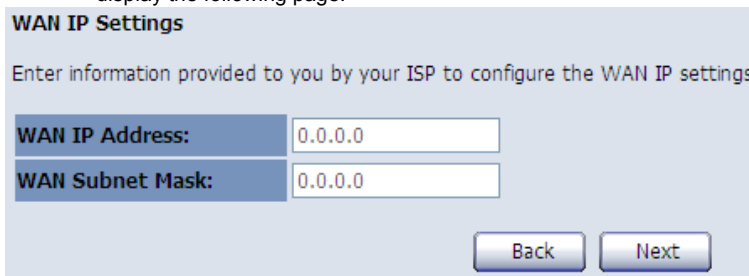
Step3 Choose **WAN Service** and click **Add** to display the following page.



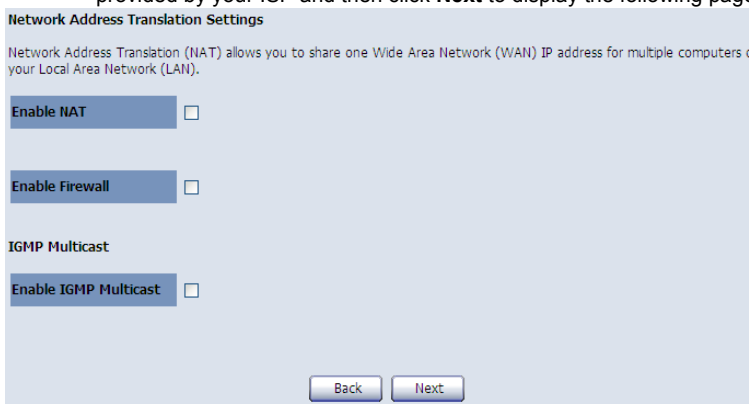
Step4 Select the proper interface for the WAN service ,and then click **Next** to display the following page.



Step5 In this page, you may modify the service description. Click **Next** to display the following page.



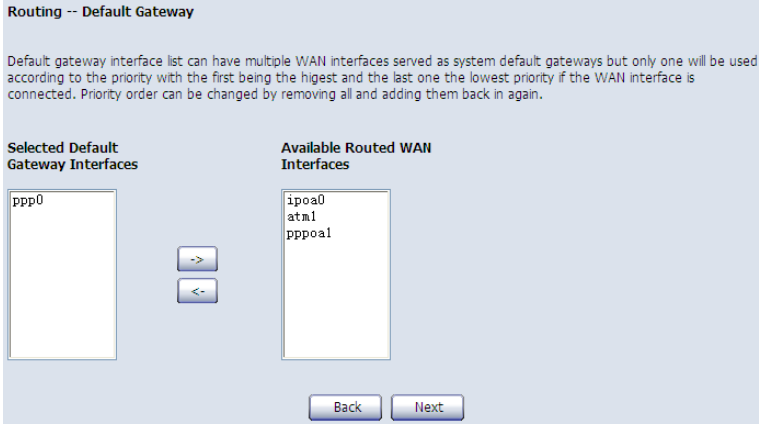
Step6 In this page, enter the WAN IP address and the WAN subnet mask provided by your ISP and then click **Next** to display the following page.



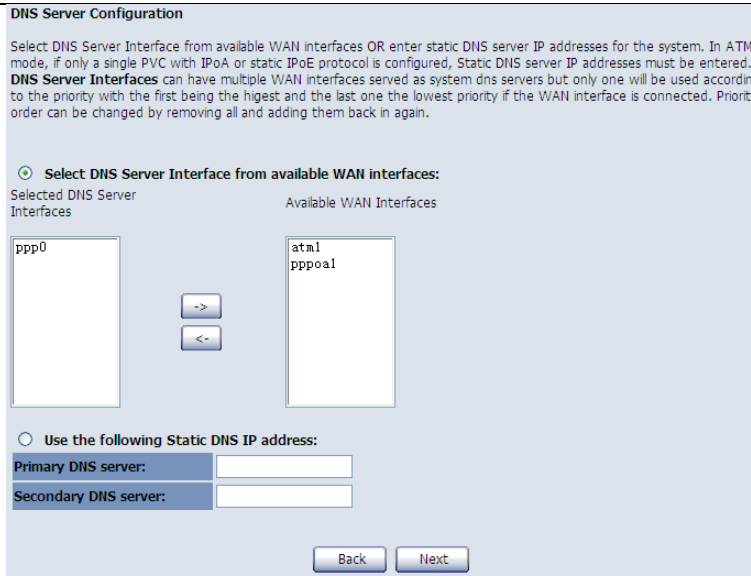
In this page, Network Address Translation (NAT) allows you to share one Wide Area Network (WAN) IP address for multiple computers on your Local Area Network (LAN).

If you do not want to enable NAT, and wish the user of modem to access the Internet normally, you need to add a route on the uplink equipment. Otherwise, the access to the Internet fails. Normally, please enable the NAT function.

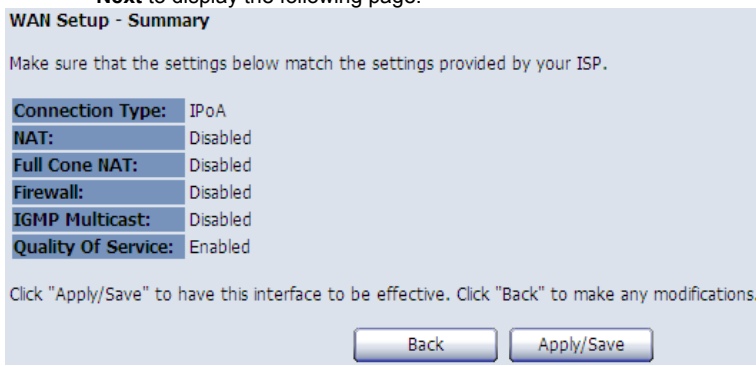
Step7 After finishing setting, click **Next** to display the following page.



Step8 In this page, select a preferred WAN interface as the system default gateway and then click **Next** to display the following page.



Step9 In this page, you can select DNS server interface from available WAN interface or enter static DNS server IP addresses fro the system. Click **Next** to display the following page.

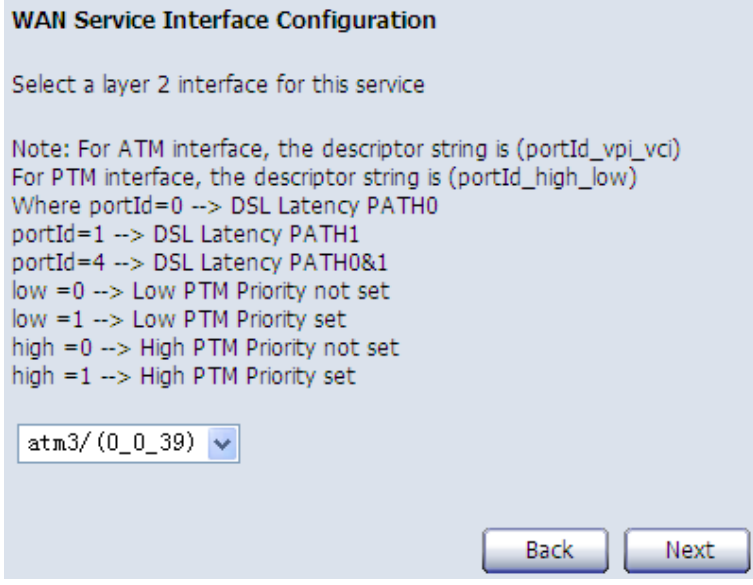


Step10 In this page, it displays the information about the IPoA settngs. Click **Apply/Save** to save and apply the settings. You can modify the settings by clicking the **Back** button if necessary.

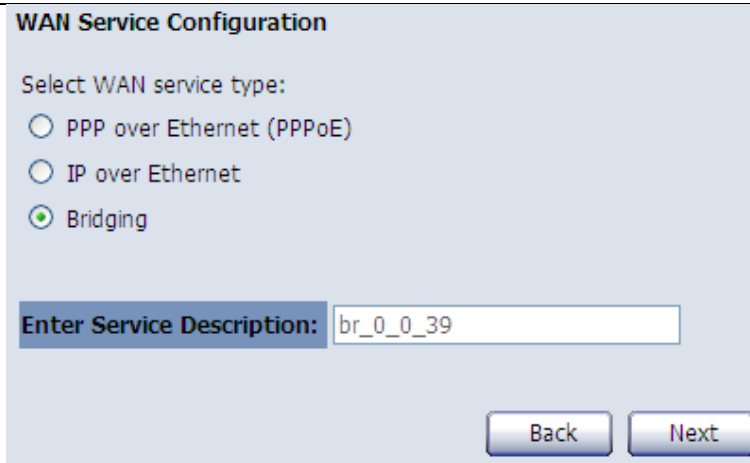
Adding a Bridge WAN service

This section describes the steps for adding the Bridge WAN service.

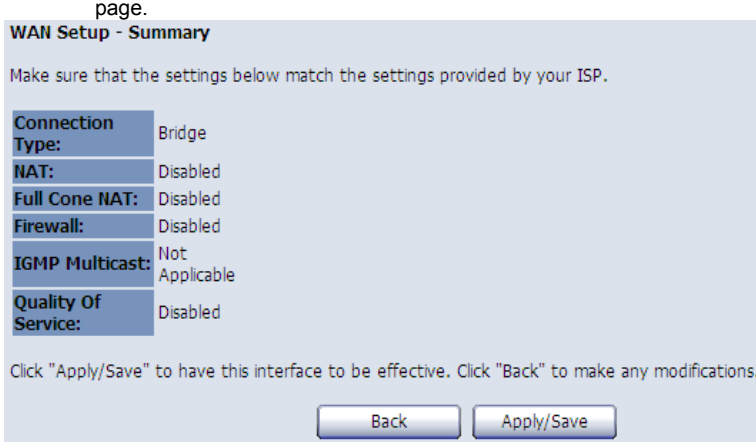
Step1 In the **Wide Area Network (WAN) Service Setup** page, click the **Add** button to display the following page. (At first, you must add a proper ATM configuration for this WAN service.) Click the **Add** button to display the following page.



Step2 Select the proper ATM Interface, for example atm3/(0_0_39) and then click **Next** to display the following page.



Step3 In this page, you can select the WAN service type, and modify the service description. After finishing setting, click **Next** to display the following page.



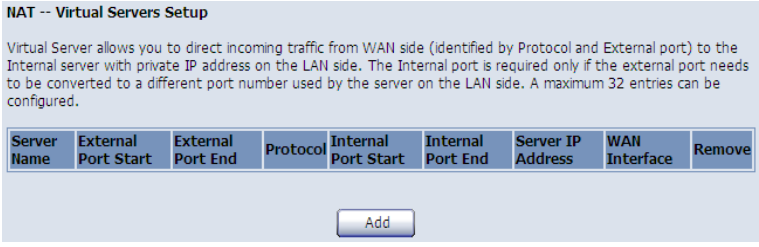
Step4 In this page, it displays the information about the bridge settngs. Click **Apply/Save** to save and apply the settings. You can modify the settings by clicking the **Back** button if necessary.

10.2.3 NAT

Virtual Servers

Firewall can prevent unexpected traffic on the Internet from your host on the LAN. The virtual server can create a channel that can pass through the firewall. In that case, the host on the Internet can communicate with a host on your LAN within certain port range.

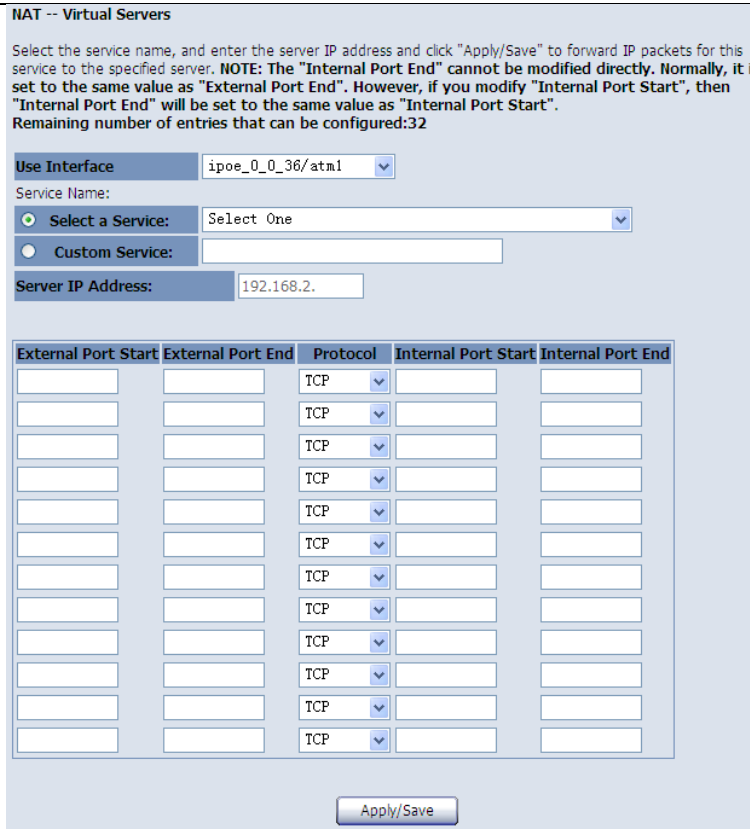
Choose **Advanced Setup > NAT > Virtual Servers**, and the following page appears.



In this page, you are allowed to add or remove a virtual server entry.

To add a virtual server, do as follows:

Click the **Add** button to display the following page.



- **Use interface**: Select an interface that you want to configure.
- **Select a Service**: Select a proper service in the drop-down list.
- **Custom Server**: Enter a new service name to establish a user service type.
- **Server IP Address**: Assign an IP address to virtual server.
- **External Port Start**: When selecting a service, the port number will automatically be displayed. You can modify it if necessary.
- **External Port End**: When selecting a service, the port number will automatically be displayed. You can modify it if necessary.

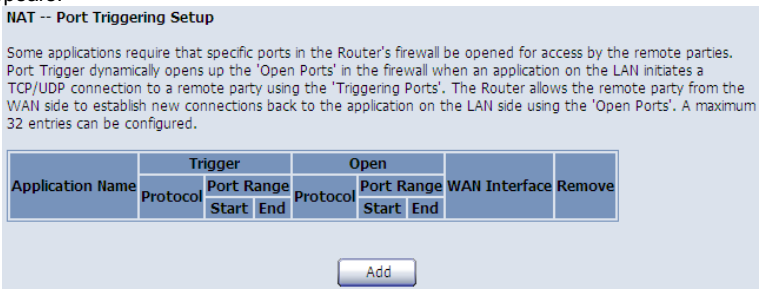
- **Protocol**: You may select TCP/UDP, TCP, or UDP in the drop-down list.
- **Internal Port Start**: When selecting a service, the port number will automatically be displayed. You can modify it if necessary.
- **Internal Port End**: When selecting a service, the port number will automatically be displayed. You can modify it if necessary.

After finishing setting, click **Save/Apply** to save and apply the settings.

Port Triggering

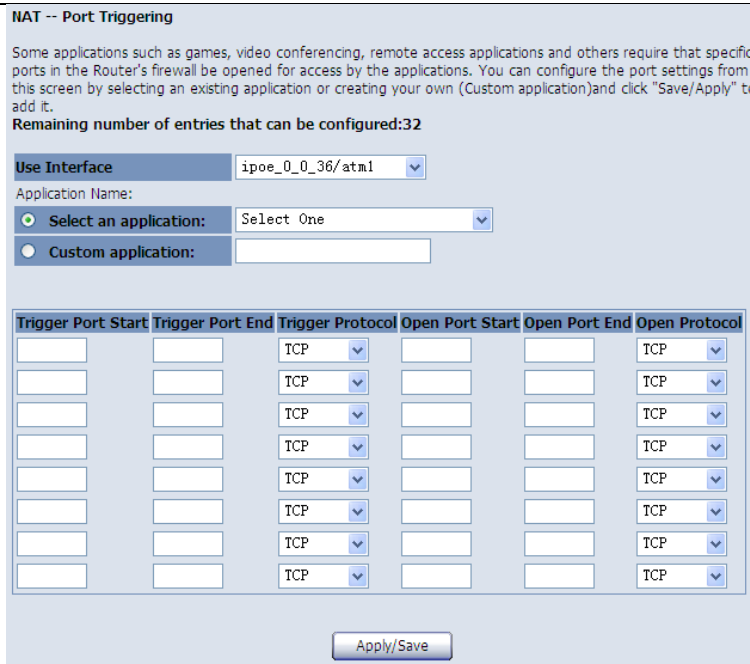
Some applications need some ports to be opened in the firewall for the remote access. When an application initializes a TCP/UDP to connect to a remote user, port triggering dynamically opens the open ports of the firewall.

Choose **Advanced Settings > NAT > Port Triggering**, and the following page appears.



In this page, you may add or delete an entry of port triggering.

Click the **Add** button to display the following page.



- **Use interface**: Select an interface that you want to configure.
- **Select an application:** Select a proper application in the drop-down list.
- **Custom application:** Manually define an application.
- **Trigger port Start:** The start port number that LAN uses to trigger the open port.
- **Trigger port End:** The end port number that LAN uses to trigger the open port.
- **Trigger Protocol:** Select the application protocol. You may select TCP/UDP, TCP, or UDP.
- **Open Port Start:** The start port number that is opened to WAN.
- **Open Port End:** The end port number that is opened to WAN.
- **Open Protocol:** Select the proper protocol that is opened to WAN. You may select TCP/UDP, TCP, or UDP.

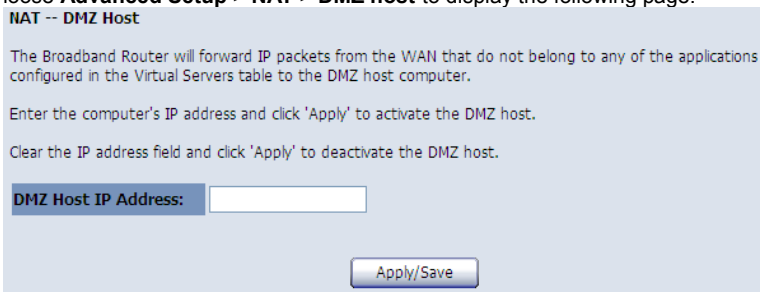
After finishing setting, click **Save/Apply** to apply the settings.

Note:
You can use a single port number, several port numbers separated by commas, port blocks consisting of two port numbers separated by a dash, or any combination of these, for example 80, 90-140, 180.

DMZ Host

DMZ allows all the ports of a PC on your LAN to be exposed to the Internet. Set the IP address of the PC to be DMZ host, so that the DMZ host will not be blocked by firewall.

Choose **Advanced Setup > NAT > DMZ host** to display the following page.



In this page, enter the IP address of the DMZ host.

After finishing the settings, click the **Apply/Save** button to apply the settings.

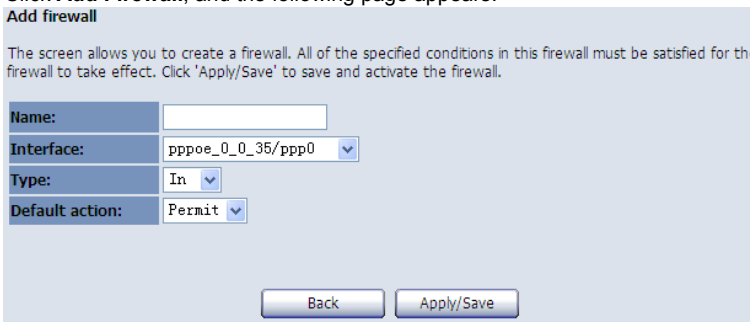
If you want to clear the DMZ function of the host, please delete the IP address of the host in the field of **DMZ Host IP Address**, and then click the **Apply/Save** button.

10.2.4 Security

Firewall

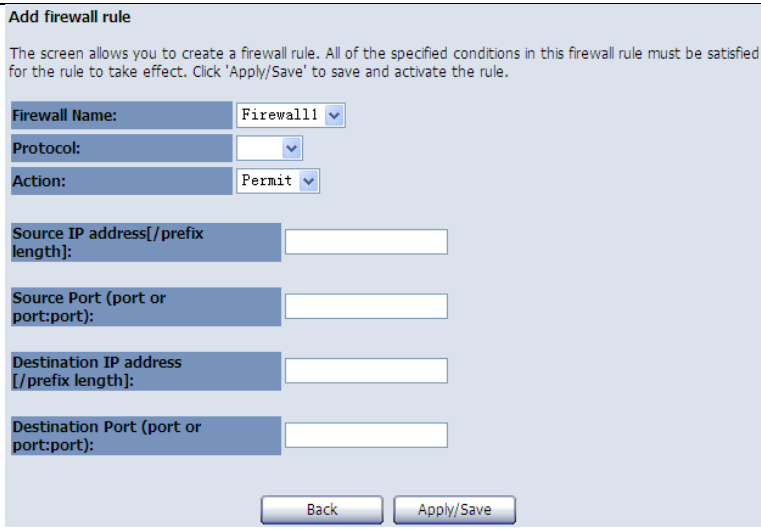
Choose **Security** > **Firewall** and the following page appears.

Click **Add Firewall**, and the following page appears.



- **name**: The name of firewall.
- **Interface**: You can select the interface from the drop-down list.
- **Type**: You can select **In** or **Out** from the drop-down list.
- **Default action**: You can select **Permit** or **Drop** from the drop-down list.

Click **Add Rule**, and the following page appears.



- **Firewall Name**: Select it from the drop-down list.
- **Protocol**: You can select **UDP**, **TCP**, or **ICMP** from the drop-down list.
- **Action**: You can select **Permit**, **Drop**, or **Reject** from the drop-down list.

After finishing setting, click **Save/Apply** to save and activate the rule.

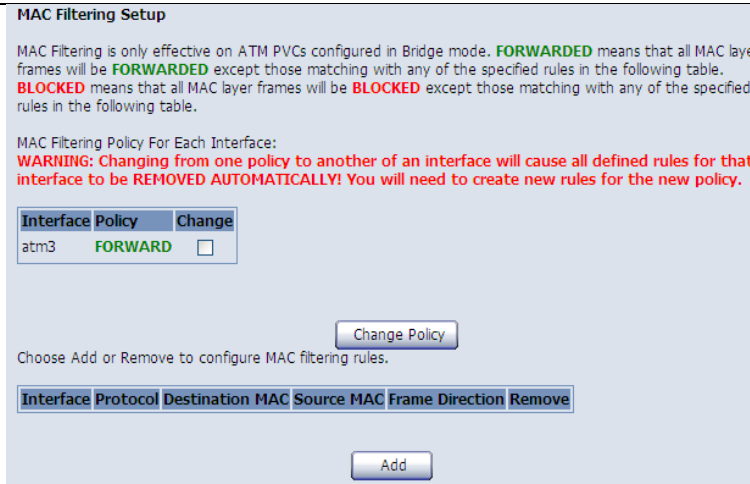
MAC Filtering Setup

In some cases, you may want to manage Layer2 MAC address to block or permit a computer within the home network. When you enable MAC filter rules, the DSL router serves as a firewall that works at layer 2.

Note:

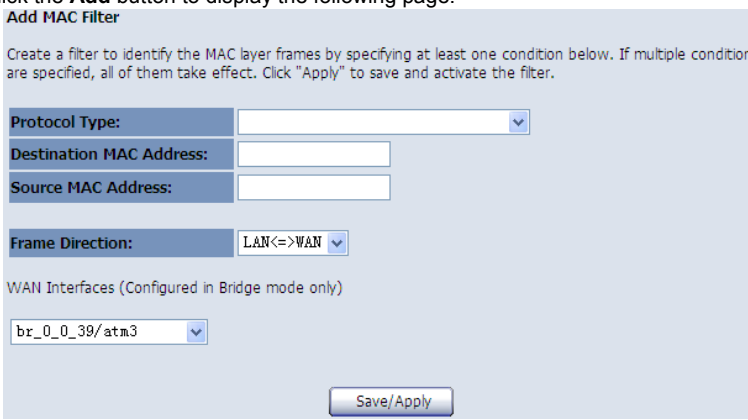
MAC filtering is only effective on ATM PVCs configured in bridge mode.

Choose **Security** > **MAC Filtering** and the following page appears.



In this page, you can add or remove the MAC filtering rule. You may change the MAC filtering policy from **FORWARDED** to **BLOCKED** by clicking the **Change Policy** button.

Click the **Add** button to display the following page.



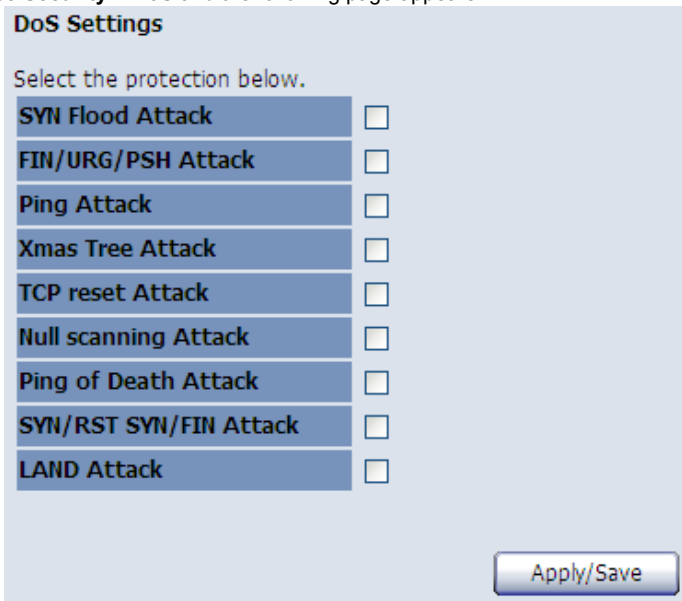
- **Protocol Type**: Select the proper protocol type.
- **Destination MAC Address**: Enter the destination MAC address.

- **Source MAC Address**: Enter the source MAC address.
- **Frame Direction**: The direction of transmission frame.
- **WAN Interface (Configured in bridge mode only)**: Select the proper WAN interface in the drop-down list.

After finishing setting, click **Apply/Save** to save and apply the filtering rule.

DoS

Choose **Security** > **DoS** and the following page appears.

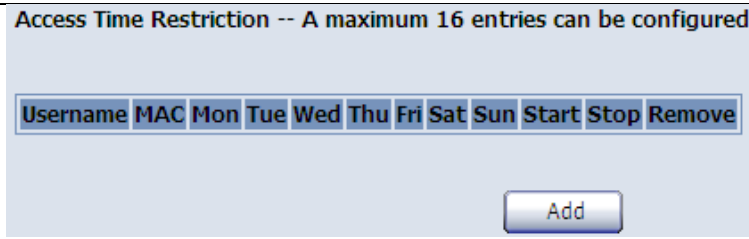


After selecting the protection, click **Apply/Save** to apply the settings.

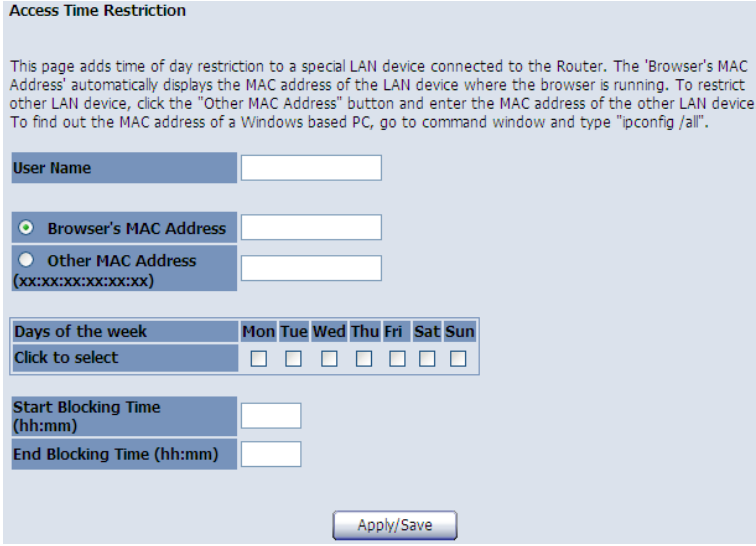
10.2.5 Parental Control

Time Restriction

Choose **Advanced Setup > Parental Control > Time Restriction**, and the following page appears.



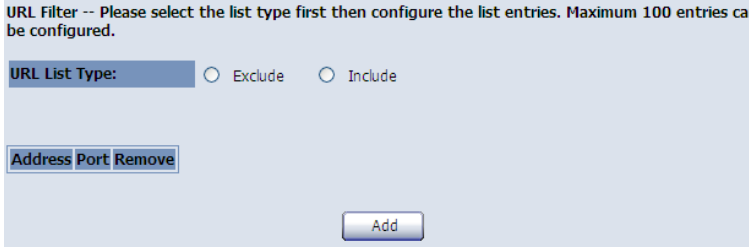
Click the **Add** button to display the following page.



This page is used to control the time restriction to a special LAN device that connects to the DSL router. In this page, se the user name and configure the time settings. After finishing setting, click the click **Apply/Save** to save and apply the settings.

Url Filter

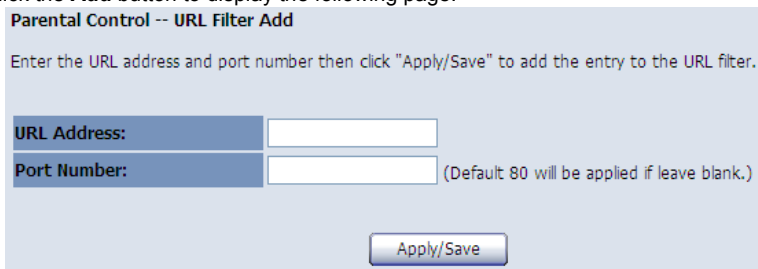
Click **Advanced Setup > Parental Control > Url Filter**, and the following page appears.



Thisp age is used to prevent the LAN users from accessing some Websites in the WAN.

In this page, you may select the **Exlude** URL list type or the **Include** URL list type. If you select the **Exlude** URL list type, it means that the URLs in the list are not accessible. If you select the select the **Include** URL list type, you are allowed to access the the URLs in the list.

Click the **Add** button to display the following page.

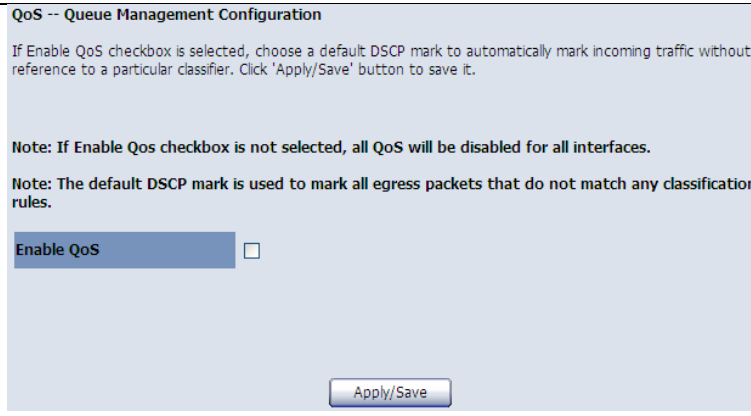


In this page, enter the URL address and its corresponding port number.

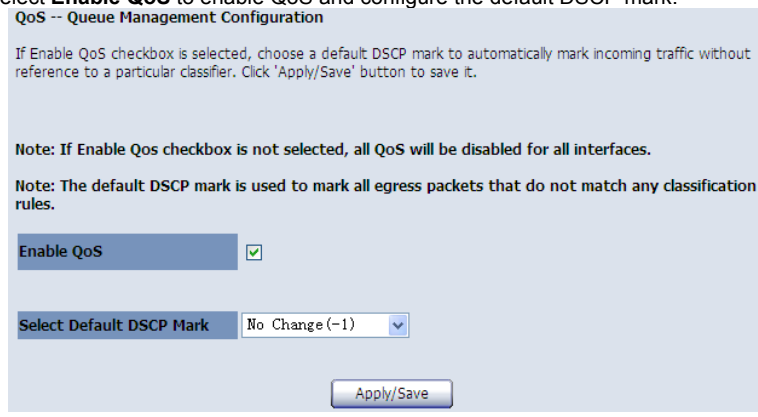
10.2.6 Quality of Service

Enabling QoS

Choose **Advance Setup > Quality of Service** and the following page appears.



Select **Enable QoS** to enable QoS and configure the default DSCP mark.



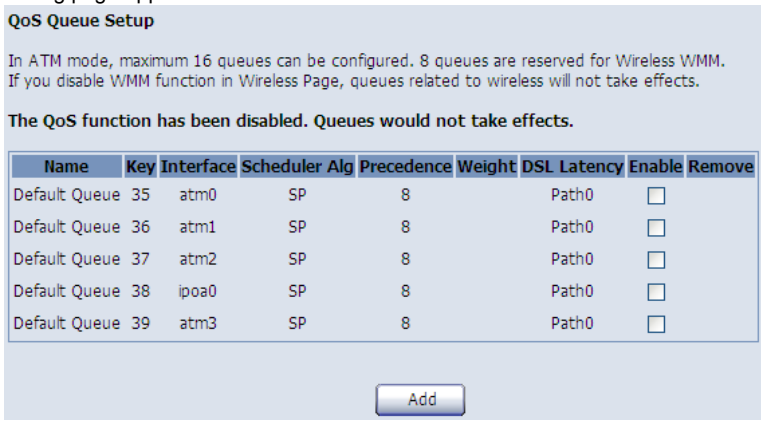
In this page, enable the QoS function and select the default DSCP mark.
After finishing setting, click **Apply/Save** to save and apply the settings.

Note:

*If the **Enable Qos** checkbox is not selected, all QoS will be disabled for all interfaces. The default DSCP mark is used to mark all egress packets that do not match any classification rules.*

Queue Configuration

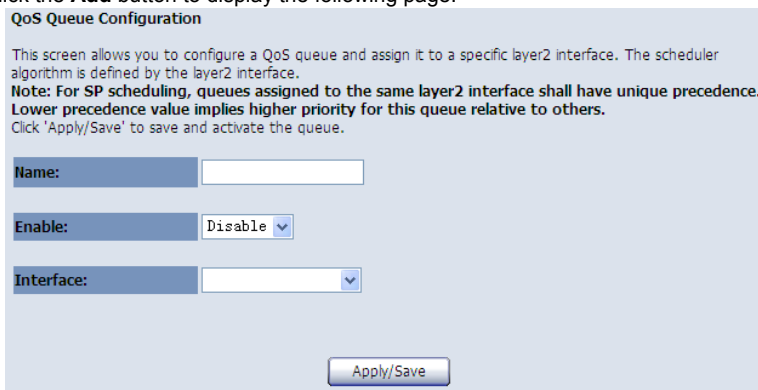
Choose **Advanced Setup > Quality of Service > Queue Configuration**, and the following page appears.



In this page, you can enable, add or remove a QoS rule.

Note:
The lower integer value for precedence indicates the higher priority.

Click the **Add** button to display the following page.



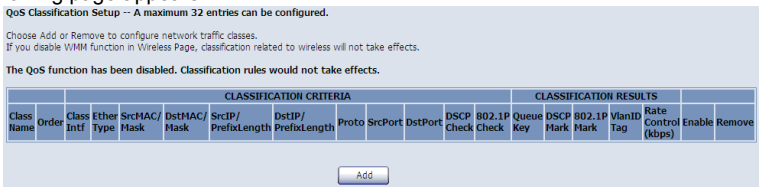
- **Name:** Enter the name of QoS queue.

- **Enable:** Enable or disable the QoS queue.
- **Interface:** Select the proper interface for the QoS queue.

After finishing setting, click **Apply/Save** to save and apply the settings.

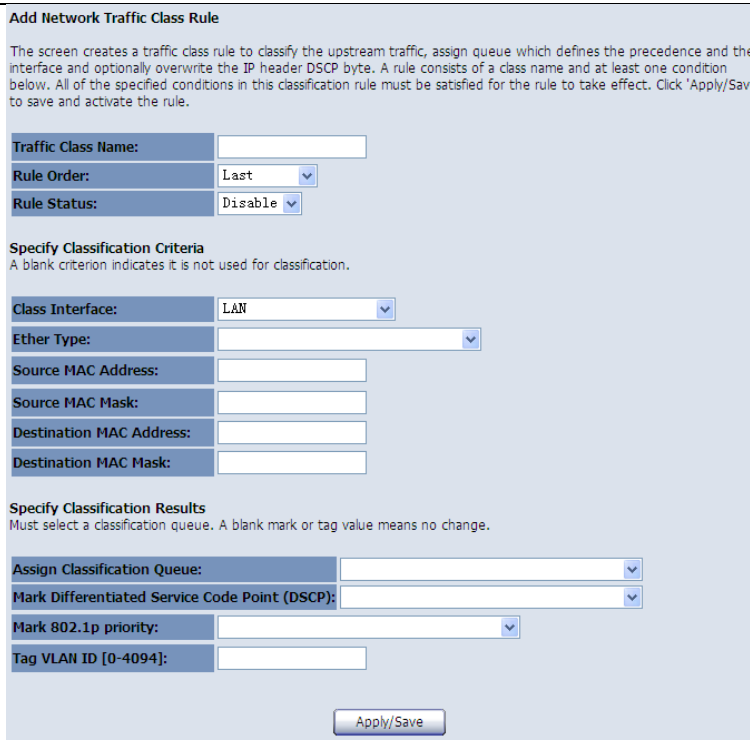
QoS Classification

Choose **Advanced Setup > Quality of Service > Qos Classification** and the following page appears.



In this page, you can enable, add or remove a QoS classification rule.

Click the **Add** button to display the following page.



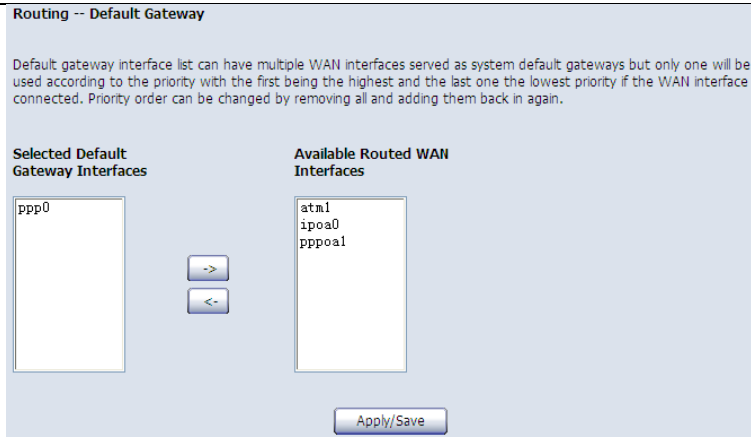
In this page, enter the traffic name, select the rule order and the rule status, and specify the classification criteria and the classification results.

After finishing setting, click **Apply/Save** to save and apply the settings.

10.2.7 Routing

Default Gateway

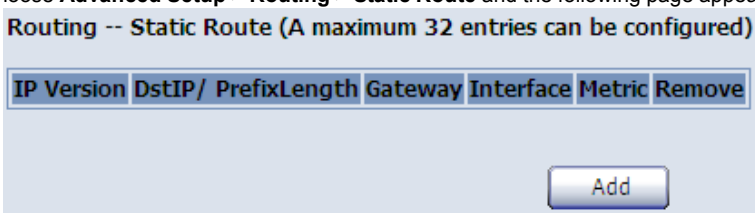
Choose **Advanced Setup > Routing > Default Gateway**, and the following page appears.



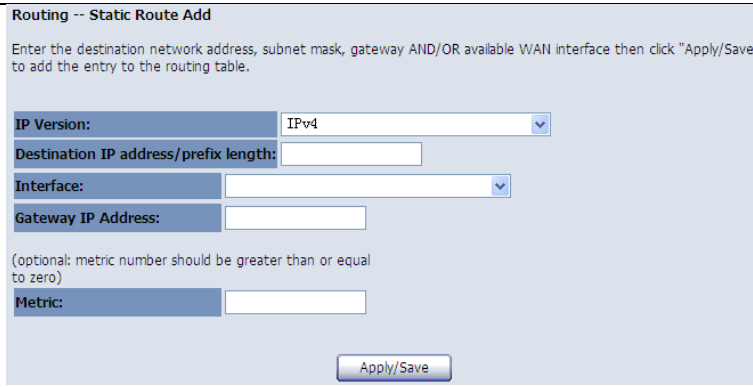
In this page, you can modify the default gateway settings.
After finishing setting, click **Apply/Save** to save and apply the settings.

Static Route

Choose **Advanced Setup > Routing > Static Route** and the following page appears.



Click the **Add** button to display the following page.

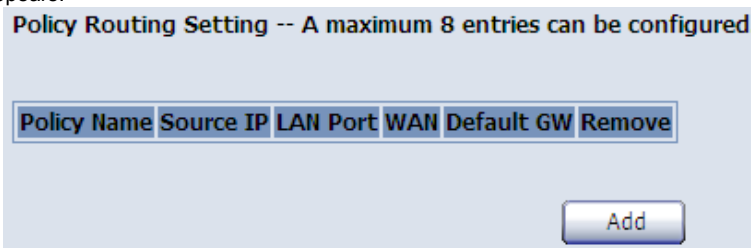


- **IP Version:** Select the IP version to be IPv4.
- **Destination IP address/prefix length:** Enter the destination IP address.
- **Interface:** select the proper interface for the rule.
- **Gateway IP Address:** The next-hop IP address.
- **Metric:** The metric value of routing.

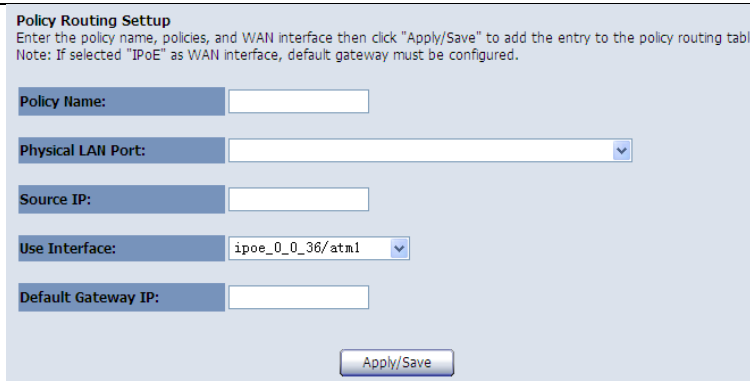
After finishing setting, click **Apply/Save** to save and apply the settings.

Policy Routing

Choose **Advanced Setup > Routing > Policy Routing** and the following page appears.



In this page, you can add or remove a static policy rule.
Click the **Add** button to display the following page.

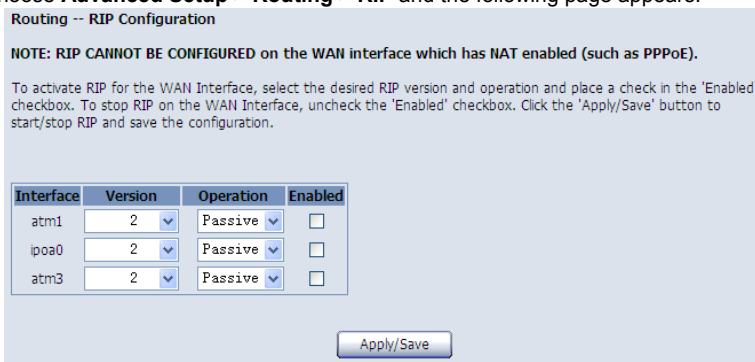


In this page, enter the policy name, source IP and default gateway, and select the physical LAN port and interface.

After finishing setting, click **Apply/Save** to save and apply the settings.

RIP

Choose **Advanced Setup > Routing > RIP** and the following page appears.



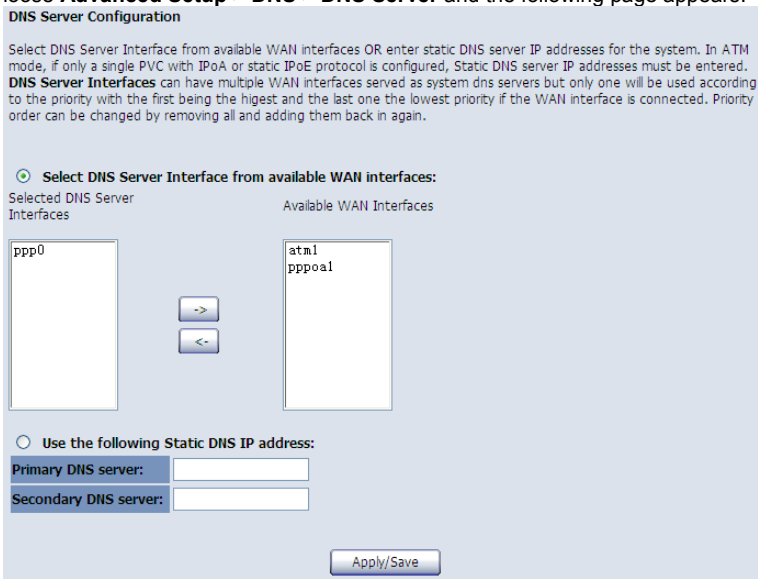
In this page, if you want to configure an individual interface, select the desired RIP version and operation, and then select the **Enabled** checkbox for the interface.

After finishing setting, click **Apply/Save** to save and apply the settings.

10.2.8 DNS

DNS Server

Choose **Advanced Setup > DNS > DNS Server** and the following page appears.

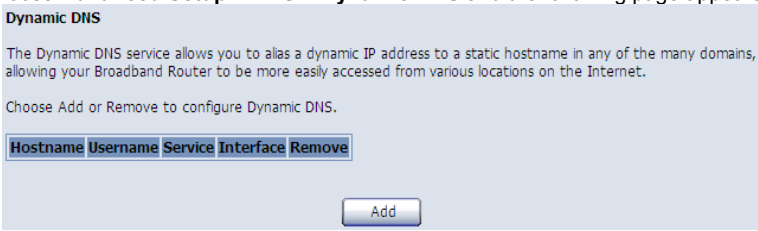


In this page, you can select a DNS server interface from the available interfaces, or manually enter the DNS server addresses.

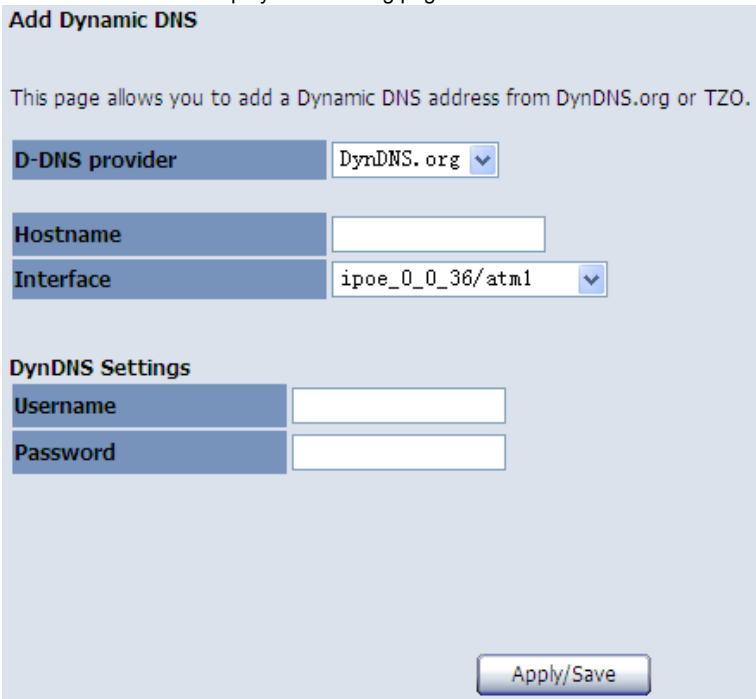
After finishing setting, click **Apply/Save** to save and apply the settings.

Dynamic DNS

Choose **Advanced Setup > DNS > Dynamic DNS** and the following page appears.



In this page, you are allowed to modify the DDNS settings.
Click the **Add** button to display the following page.

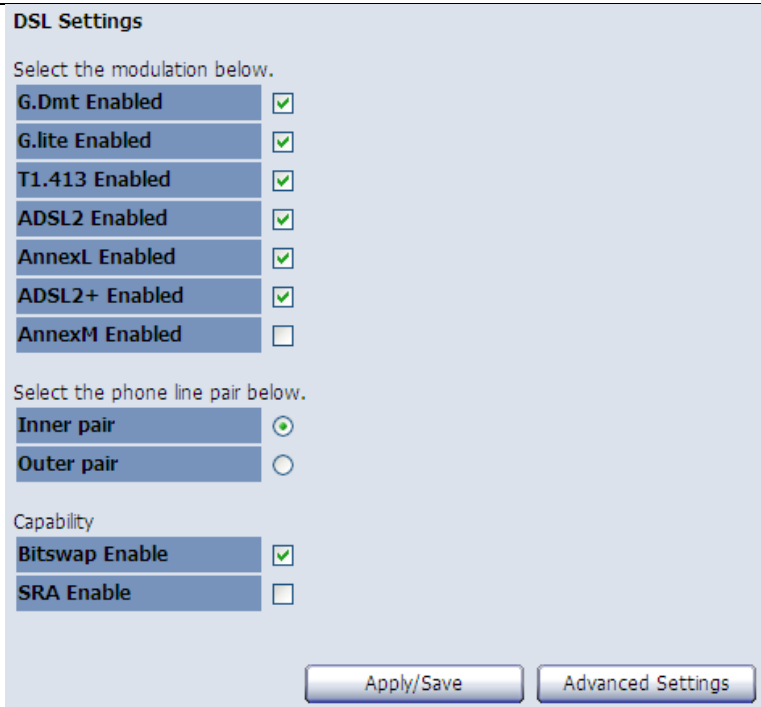


- **D-DNS provider:** Select a proper DDNS server in the drop-down list.
- **Hostname:** It is the domain name and it can be modified.
- **Interface:** The interface that the packets pass through on the DSL router.
- **Username:** Enter the username for accessing the DDNS management interface.
- **Password:** Enter the password for accessing the DDNS management interface.

After finishing setting, click **Apply/Save** to save and apply the settings.

10.2.9 DSL

Choose **Advanced Setup > DSL** and the following page appears.

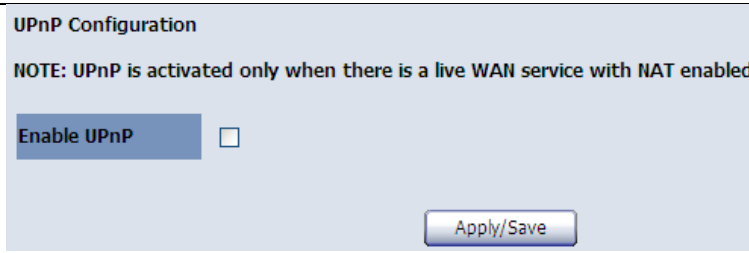


In this page, you can set the DSL settings. Usually, you do not need to modify the factory default settings.

After finishing setting, click **Apply/Save** to save and apply the settings.

10.2.10 UPnP

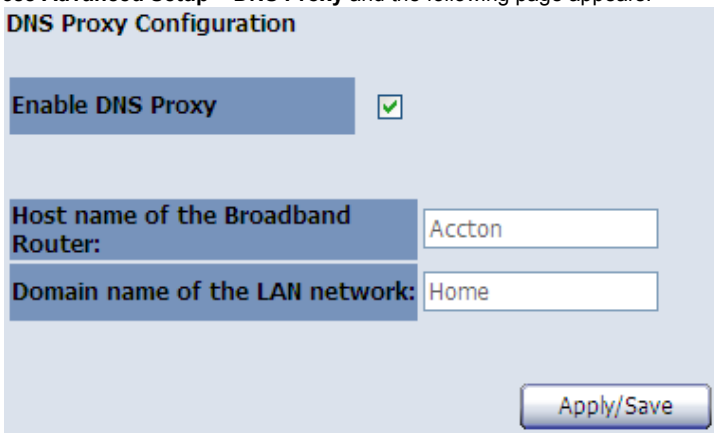
Choose **Advanced Setup > UPnP** and the following page appears.



In this page, you can enable or disable the UPnP function.
After finishing setting, click **Apply/Save** to save and apply the settings.

10.2.11 DNS Proxy

Choose **Advanced Setup > DNS Proxy** and the following page appears.



In this page, you can enable or disable the DNS proxy function.
After enabling the DNS proxy function, enter the host name of the broadband router and the domain name of the LAN network, and then click **Apply/Save** to save and apply the settings.

10.2.12 Storage Service

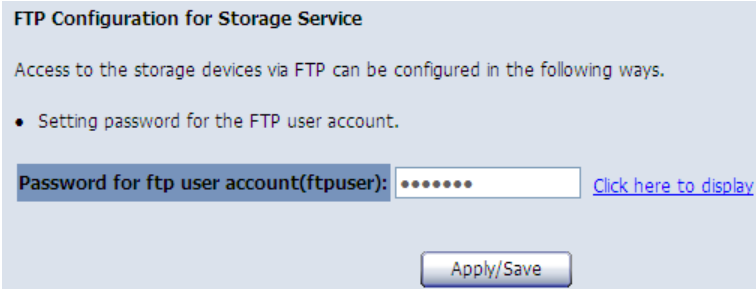
Storage Device Info

Choose **Advanced Setup > Storage Service > Storage Device Info** and the following page appears.

This page is used to display the information of the storage device that connects to the DSL router.

FTP Configuration

Choose **Advanced Setup > Storage Service > FTP Configuration** and the following page appears. In this page, you can set the password for the ftp user account.



Click **Click here to display** to view the password for ftp user account.

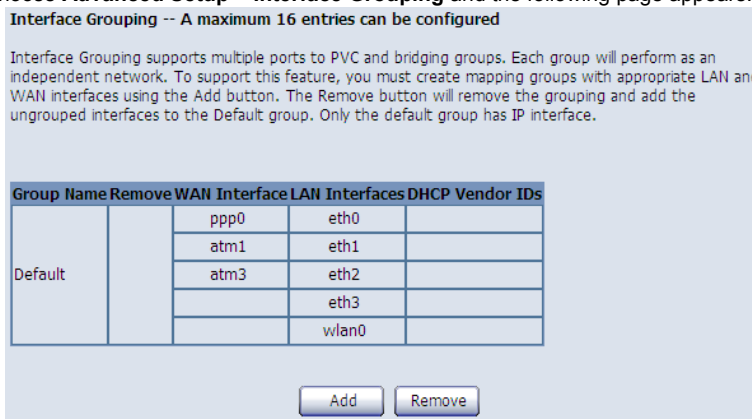
Samba Configuration

Choose **Advanced Setup > Storage Service > Samba Configuration** and the following page appears.

In this page, you can enable or disable writing operation from WAN or LAN side. After proper configuration, click **Apply/Save** to apply the settings.

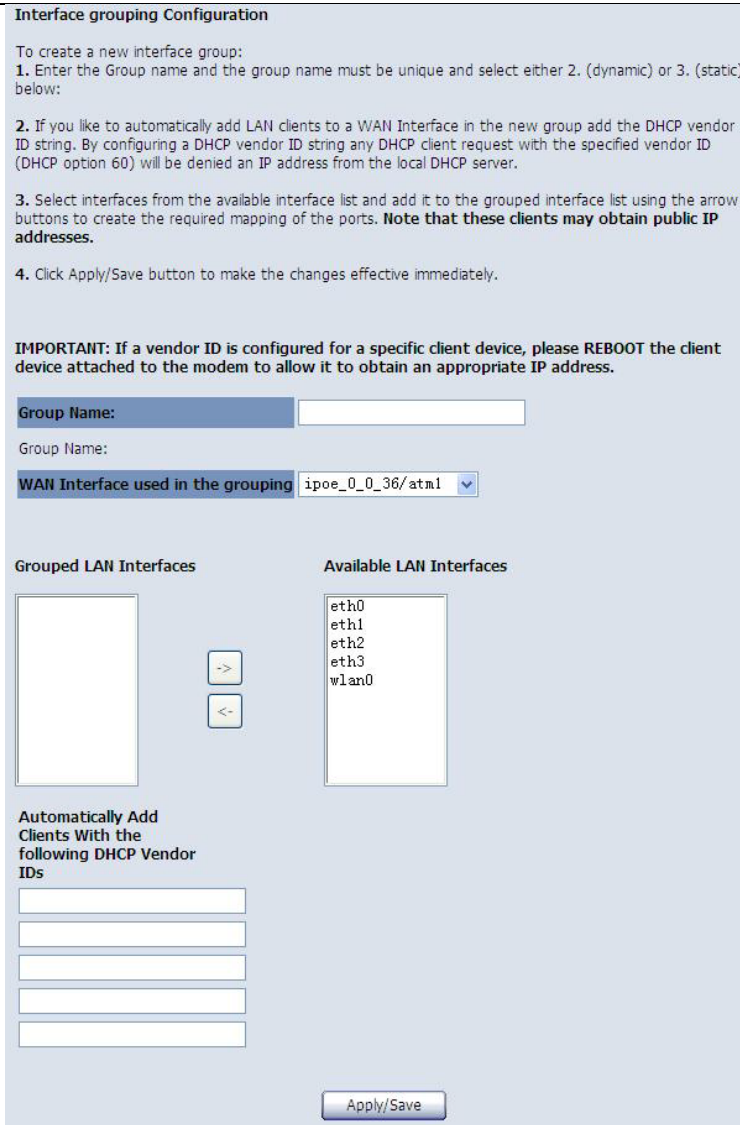
10.2.13 Interface Grouping

Choose **Advanced Setup > Interface Grouping** and the following page appears.



Interface grouping supports multiple ports to PVC and bridging groups. Each group will perform as an independent network. To support this feature, you must create mapping groups with the appropriate LAN and WAN interfaces using the **Add** button. The **Remove** button will remove the grouping and add the ungrouped interfaces to the default group. Only the default group has IP interface.

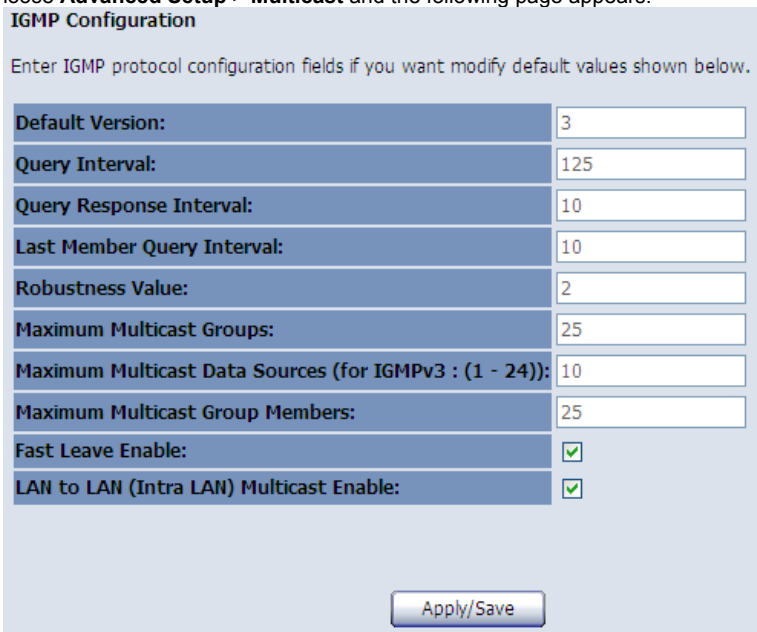
Click the **Add** button to display the following page.


Interface grouping Configuration
To create a new interface group:
1. Enter the Group name and the group name must be unique and select either 2. (dynamic) or 3. (static) below:
2. If you like to automatically add LAN clients to a WAN Interface in the new group add the DHCP vendor ID string. By configuring a DHCP vendor ID string any DHCP client request with the specified vendor ID (DHCP option 60) will be denied an IP address from the local DHCP server.
3. Select interfaces from the available interface list and add it to the grouped interface list using the arrow buttons to create the required mapping of the ports. Note that these clients may obtain public IP addresses.
4. Click Apply/Save button to make the changes effective immediately.
IMPORTANT: If a vendor ID is configured for a specific client device, please REBOOT the client device attached to the modem to allow it to obtain an appropriate IP address.
Group Name:
Group Name:
WAN Interface used in the grouping
ipoe_0_0_36/atm1
Grouped LAN Interfaces
Available LAN Interfaces
eth0
eth1
eth2
eth3
wlan0
->
<-
Automatically Add Clients With the following DHCP Vendor IDs
Apply/Save

In this page, please follow the on-screen configuration steps to configure the parameters of the interface grouping.
After finishing setting, click **Apply/Save** to save and apply the settings.

10.2.14 Multicast

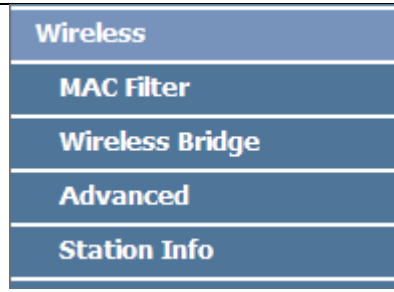
Choose **Advanced Setup > Multicast** and the following page appears.



In this page, you can configure the multicast parameters.
After finishing setting, click **Apply/Save** to save and apply the settings.

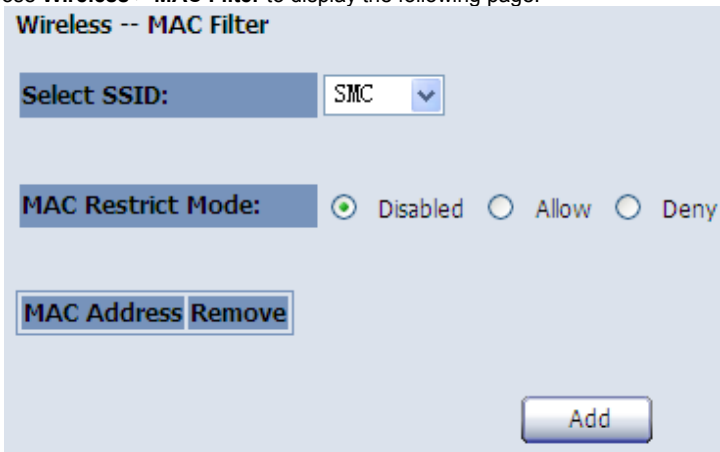
10.2.15 Wireless

Choose **Advanced Setup > Wireless** and the submenus of **Wireless** are shown as below:



10.2.15.1 MAC Filter

Choose **Wireless > MAC Filter** to display the following page.



This page is used to allow or reject the wireless clients to access the wireless network of the wireless router.

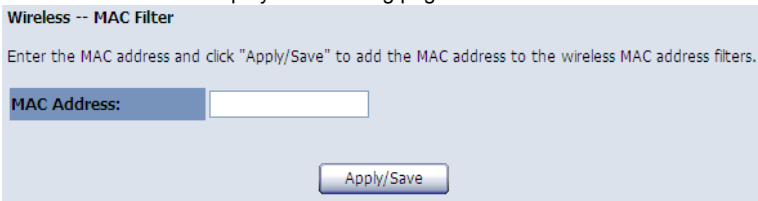
In this page, you can add or remove the MAC filters.

The MAC restrict modes include **Disabled**, **Allow**, and **Deny**.

- **Disabled**: Disable the wireless MAC address filtering function.
- **Allow**: Allow the wireless clients with the MAC addresses in the **MAC Address** list to access the wireless network of the wireless router.

- **Deny**: Reject the wireless clients with the MAC addresses in the **MAC Address** list to access the wireless network of the wireless router.

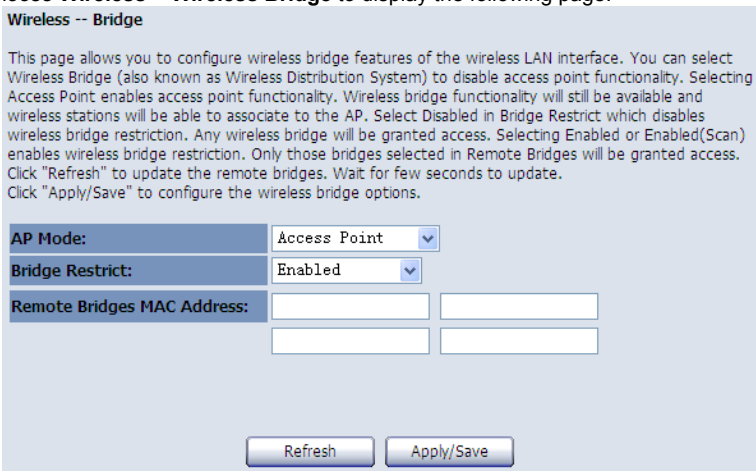
Click the **Add** button to display the following page.



In this page, enter the MAC address of the wireless client, and then click the **Apply/Save** button to add the MAC address to the MAC address list.

10.2.15.2 Wireless Bridge

Choose **Wireless > Wireless Bridge** to display the following page.



This page allows you to configure the wireless bridge features of the wireless LAN interface.

- **AP mode**: you may select Access Point or Wireless Bridge.
- **Bridge Restrict**: Enable or disable the bridge restrict function.
- **Remote Bridges MAC Address**: Enter the remote bridge MAC address.

After finishing setting, click the **Apply/Save** button to save and apply the settings.

10.2.15.3 Advanced Settings

Choose **Wireless** > **Advanced** to display the following page. This page allows you to configure the advanced features of the wireless LAN interface. Usually, you do not need to change the settings in this page.

Wireless -- Advanced

This page allows you to configure advanced features of the wireless LAN interface. You can select a particular channel on which to operate, force the transmission rate to a particular speed, set the fragmentation threshold, set the RTS threshold, set the wakeup interval for clients in power-save mode, set the beacon interval for the access point, set XPress mode and set whether short or long preambles are used.
Click "Apply/Save" to configure the advanced wireless options.

Band:	2.4GHz	
Channel:	Auto	Current: 1 (interference: acceptable)
Auto Channel Timer(min)	0	
802.11n/EWC:	Auto	
Bandwidth:	20MHz in Both Bands	Current: 20MHz
Control Sideband:	Lower	Current: None
802.11n Rate:	Auto	
802.11n Protection:	Auto	
Support 802.11n Client Only:	Off	
RIFS Advertisement:	Off	
OBSS Co-Existance:	Enable	
RX Chain Power Save:	Disable	
RX Chain Power Save Quiet Time:	10	
RX Chain Power Save PPS:	10	
54g™ Rate:	1 Mbps	
Multicast Rate:	Auto	
Basic Rate:	Default	
Fragmentation Threshold:	2346	
RTS Threshold:	2347	
DTIM Interval:	1	
Beacon Interval:	100	
Global Max Clients:	16	
XPress™ Technology:	Disabled	
Transmit Power:	100%	
WMM(Wi-Fi Multimedia):	Disabled	
WMM No Acknowledgement:	Disabled	
WMM APSD:	Enabled	

Apply/Save

- **Band:** The radio frequency remains at 2.4GHz.
- **Channel:** Fill in the appropriate channel to correspond with your network settings. All devices in your wireless network must use the same channel in order to work correctly. This router supports auto channeling functionality.
- **Auto Channel Timer(min):** Specifies the timer of auto channelling.
- **802.11n/EWC:** Select **disable** 802.11n or **Auto**.
- **Bandwidth:** Select the bandwidth for the network. You can select **20MHz in Both Bands** or **40MHz in Both Bands.**
- **Control Sideband:** If you select **20MHz in Both Bands** the service of control sideband does not work. When you select **40MHz in Both Bands** as the bandwidth, you can select **Lower** or **Upper** as the value of sideband.
- **802.11n Rate/54g Rate:** Select the transmission rate for the network. The rate of data transmission should be set depending on the speed of your wireless network. You can select from a range of transmission speeds, or you can select **Auto** to have the Router automatically use the fastest possible data rate and enable the Auto-Fallback feature. Auto-Fallback will negotiate the best possible connection speed between the Router and a wireless client. The default value is **Auto**.
- **802.11n Protection:** The 802.11n standards provide a protection method so 802.11b/g and 802.11n devices can co-exist in the same network without “speaking” at the same time.
- **Support 802.11n Client Only:** Only stations that are configured in 802.11n mode can associate.
- **Multicast Rate:** Select the multicast transmission rate for the network. The rate of data transmission should be set depending on the speed of your wireless network. You can select from a range of transmission speeds, or you can select **Auto** to have the Router automatically use the fastest possible data rate and enable the Auto-Fallback feature. Auto-Fallback will negotiate the best possible connection speed between the Router and a wireless client. The default value is **Auto**.
- **Basic Rate:** Select the basic transmission rate ability for the AP.
- **Fragmentation Threshold:** Packets that are larger than this threshold are fragmented into multiple packets. Try to increase the fragmentation threshold if you encounter high packet error rates. Do not set the threshold too low, since this can result in reduced networking performance.
- **RTS Threshold:** This value should remain at its default setting of 2347.Should you encounter inconsistent data flow, only minor reductions are recommended. Should you encounter inconsistent data flow, only minor reduction of the default value, 2347, is recommended. If a network packet is smaller than the preset RTS threshold size, the RTS/CTS mechanism will not be enabled. The Router sends Request to Send (RTS) frames to a particular receiving station and negotiates the sending of a data frame. After receiving

an RTS, the wireless station responds with a Clear to Send (CTS) frame to acknowledge the right to begin transmission. The RTS Threshold value should remain at its default value of 2347.

- **DTIM Interval:** (Delivery Traffic Indication Message) Enter a value between 1 and 255 for the Delivery Traffic Indication Message (DTIM.) A DTIM is a countdown informing clients of the next window for listening to broadcast and multicast messages.
- **Beacon Interval:** A beacon is a packet of information that is sent from a connected device to all other devices where it announces its availability and readiness. A beacon interval is a period of time (sent with the beacon) before sending the beacon again. The beacon interval may be adjusted in milliseconds (ms). Default (100) is recommended.
- **XPress Technology:** Select Enable or Disable. This is a special accelerating technology for IEEE802.11g. The defaule is Disabled.
- **Transmit Power:** Adjust the transmission range here. This tool can be helpful for security purposes if you wish to limit the transmission range.
- **WMM (Wi-Fi Multimedia):** Select whether WMM is enable or disabled. Before you disable WMM, you should understand that all QoS queues or traffic classes relate to wireless do not take effects.
- **WMM No Acknowledgement:** Select whether ACK in WMM packet. By default, the 'Ack Policy' for each access category is set to Disable, meaning that an acknowledge packet is returned for every packet received. This provides a more reliable transmission but increases traffic load, which decreases performance. To disable the acknowledgement can be useful for Voice, for example, where speed of transmission is important and packet loss is tolerable to a certain degree.
- **WMM APSD:** APSD is short for automatic power save delivery, Selecting enable will make it has very low power consumption. WMM Power Save is an improvement to the 802.11e amendment adding advanced power management functionality to WMM.

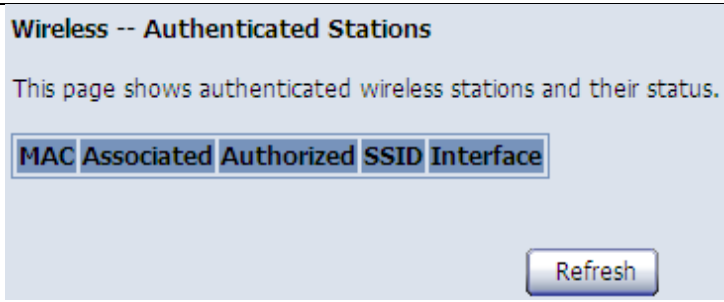
Click **Apply/Save** to configure the advanced wireless options and make the changes take effect.

Note:

The advanced wireless setting is only for the advanced user. For the common user, do not change any settings in this page.

10.2.15.4 Station Info

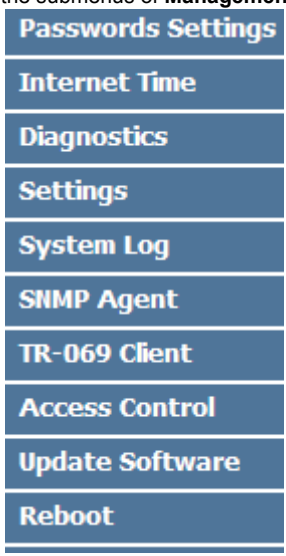
Choose **Wireless** > **Station Info** to display the following page.



This page shows the authenticated wireless stations and their status.

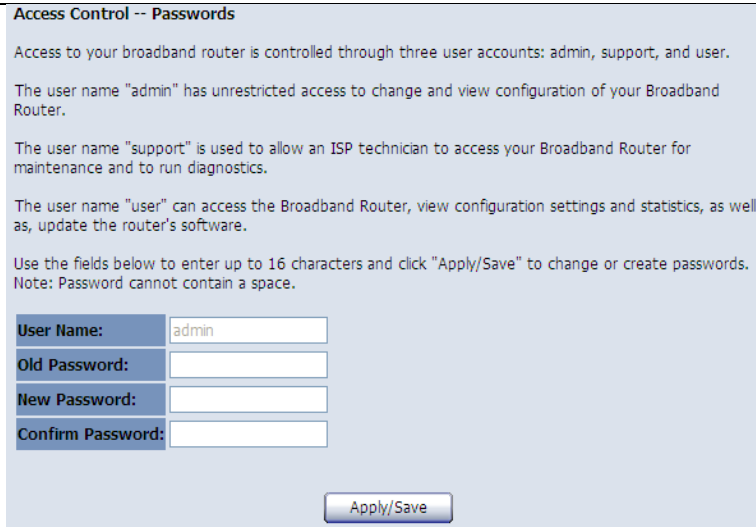
10.3 Management

Choose **Management** and the submenus of **Management** are shown as below:



10.3.1 Passwords Settings

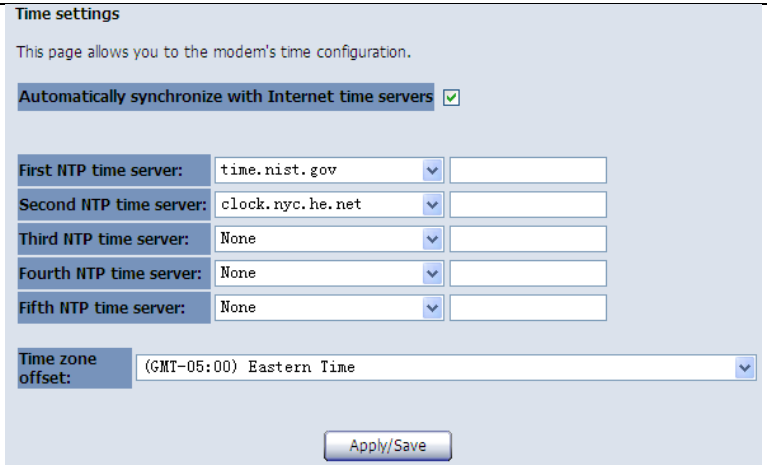
Choose **Management > Passwords Settings**, and the following page appears.



In the page, you can modify the password of different users. The default password of the admin user is **smcadmin**. After finishing setting, click the **Apply/Save** button to save and apply the settings.

10.3.2 Internet Time

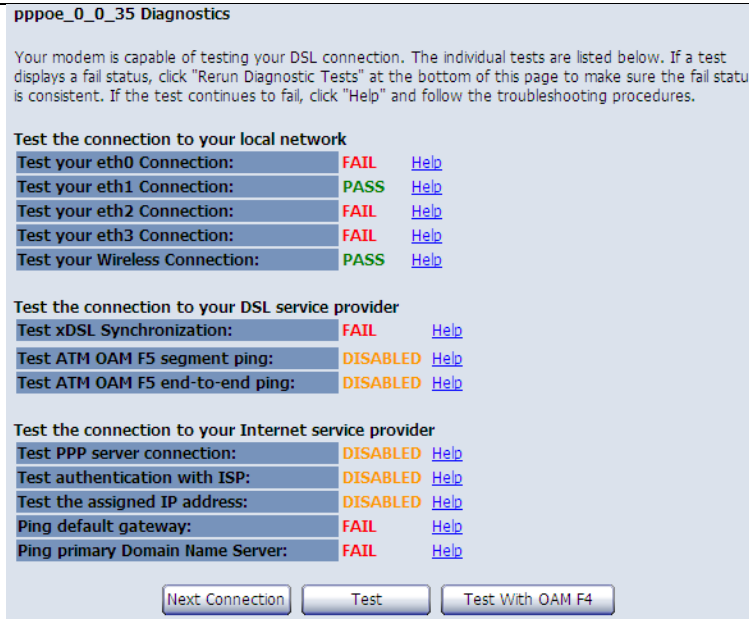
Choose **Management > Internet Time** to display the following page.



In this page, you may configure the router to synchronize its time with the Internet time servers, and then click the **Apply/Save** button to save and apply the settings.

10.3.3 Diagnostics

Choose **Management > Diagnostics**, and the following page appears.



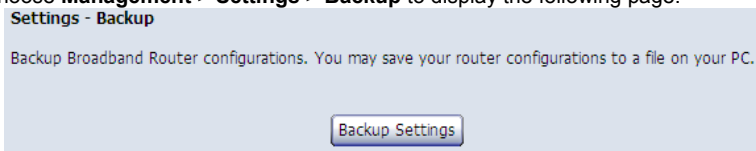
This page is used to test the connection to your local network, the connection to your DSL service provider, and the connection to your Internet service provider.

You may diagnose the connection by clicking the **Test** button or click the **Test With OAM F4** button.

10.3.4 Settings

Backup

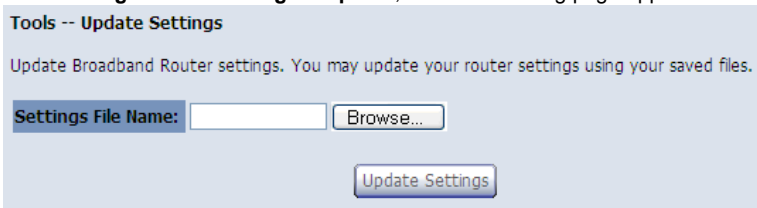
Choose **Management > Settings > Backup** to display the following page.



In this page, click the **Backup Settings** button to save your router's settings to your local PC.

Update

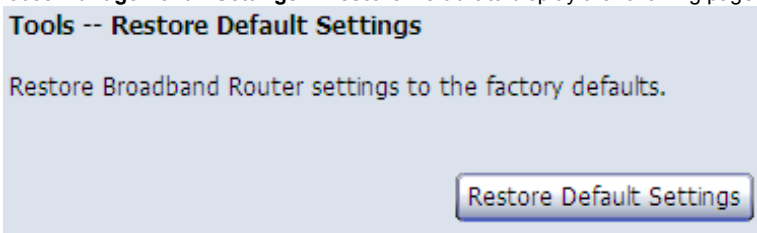
Choose **Management > Settings > Update**, and the following page appears.



In this page, click the **Browse…** button to select the correct new settings file, and then click the **Update Settings** button to update the router's settings.

Restore Default

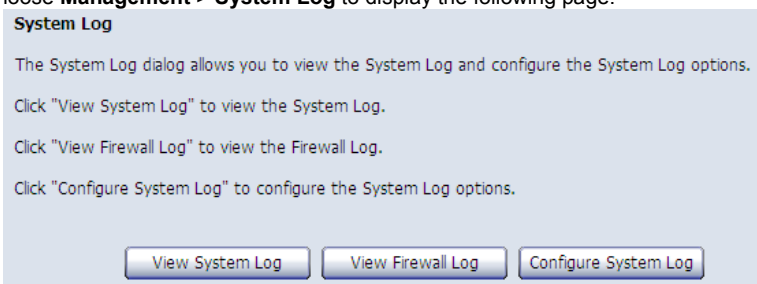
Choose **Management > Settings > Restore Default** to display the following page.



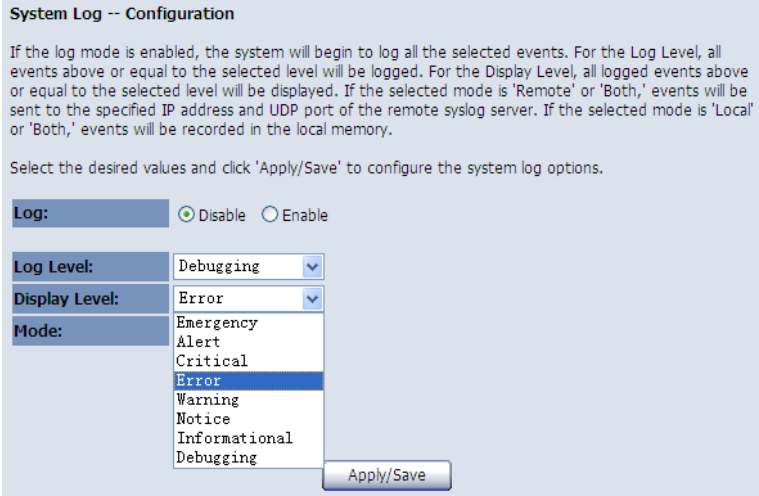
In this page, click the **Restore default settings** button, and then system returns to the default settings.

10.3.5 System Log

Choose **Management > System Log** to display the following page.



- **View System Log**: Click this button to view the system log.
- **View Firewall Log**: Click this button to view the firewall log.
- **Configuring the System Log**: Click this button to display the following page.



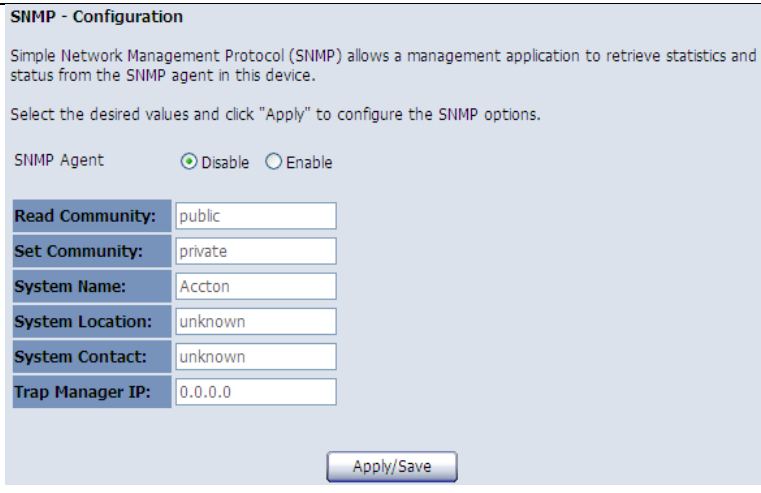
In this page, you can set 3 types of system log modes, including **Local**, **Remote**, and **Both**.

- **Local:** When selecting **Local**, the events are recorded in the local memory.
- **Remote:** When selecting **Remote**, the events are sent to the specified IP address and UDP port of the remote system log server.
- **Both:** When selecting **Both**, the events are recorded in the local memory or sent to the specified IP address and UDP port of the remote system log server.

After finishing setting, click the **Apply/Save** button to save and apply the settings.
Note:
*If you want to log all the events, you need to select the **Debugging** log level.*

10.3.6 SNMP Agent

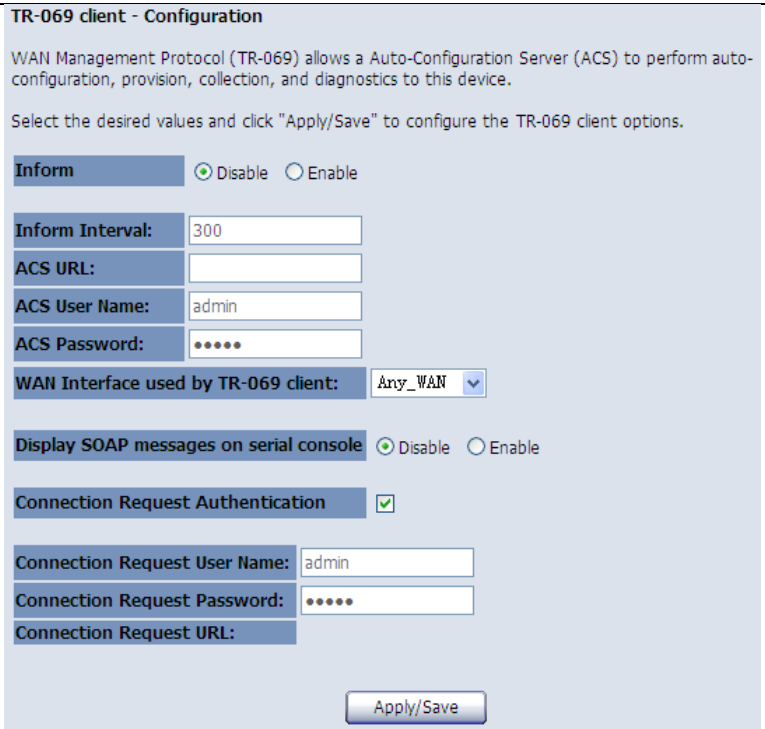
Choose **Management > SNMP Agent**, and the following page appears.



Simple Network Management Protocol (SNMP) allows a management application to retrieve statistics and status from the SNMP agent in this device.
In this page, you may enable or disable the SNMP agent and set the parameters such as the read community, system name and trap manager IP.
After finishing setting, click the **Save/Apply** button to save and apply the settings.

10.3.7 TR-69 Client

Choose **Management > TR-069Client** to display the following page.



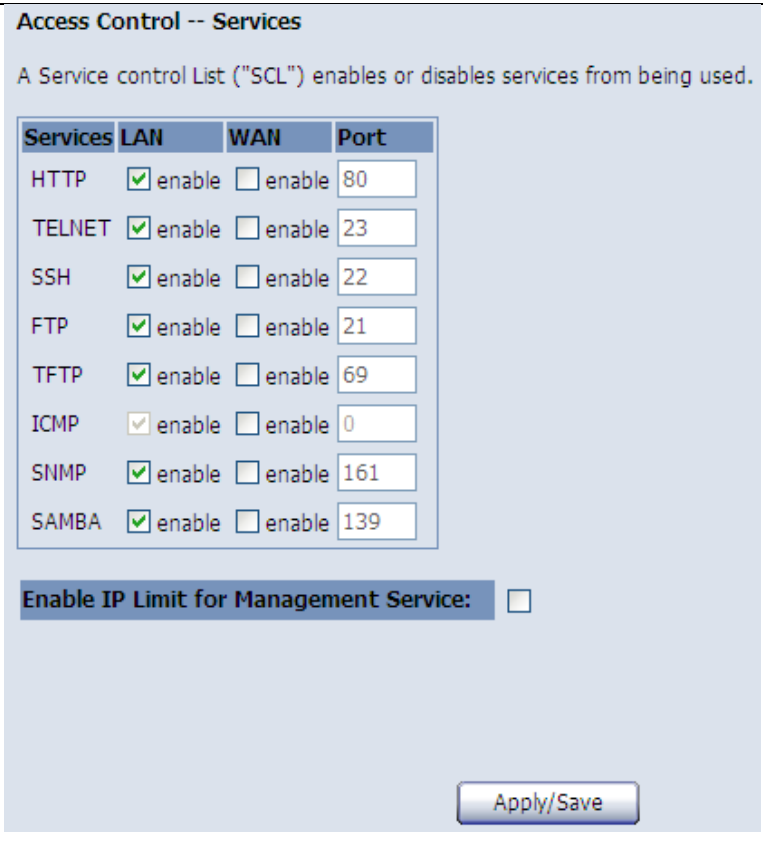
WAN Management Protocol (TR-069) allows a Auto-Configuration Server (ACS) to perform auto-configuration, provision, collection, and diagnostics to this device.

In this page, you may configure the parameters such as the ACS URL, ACS password, and connection request user name.

After finishing setting, click the **Apply/Save** button to save and apply the settings.

10.3.8 Access Control- Services

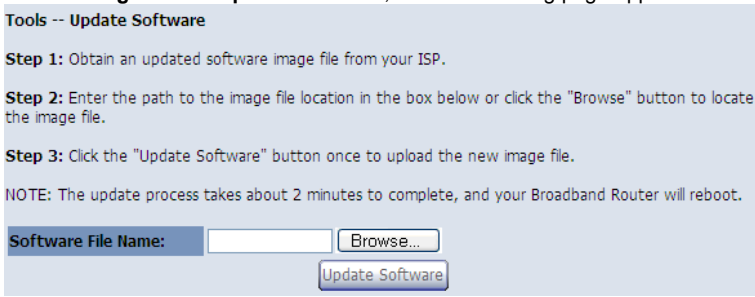
Choose **Management > Access Control** and the following page appears.



In this page, you can enable or disable the different types of services.
After finishing setting, click the **Apply/Save** button to save and apply the settings.

10.3.9 Update Software

Choose **Management > Update Software**, and the following page appears.



If you want to upload the software, click the **Browse…** button to choose the new software, and then click the **Update Software** button.

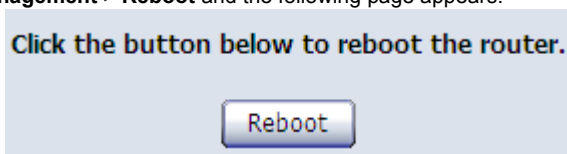
Note:

When software update is in progress, do not shut down the router. After software update completes, the router automatically reboots.

Please make sure that the new software for updating is correct, and do not use other software to update the router.

10.3.10 Reboot

Choose **Management > Reboot** and the following page appears.



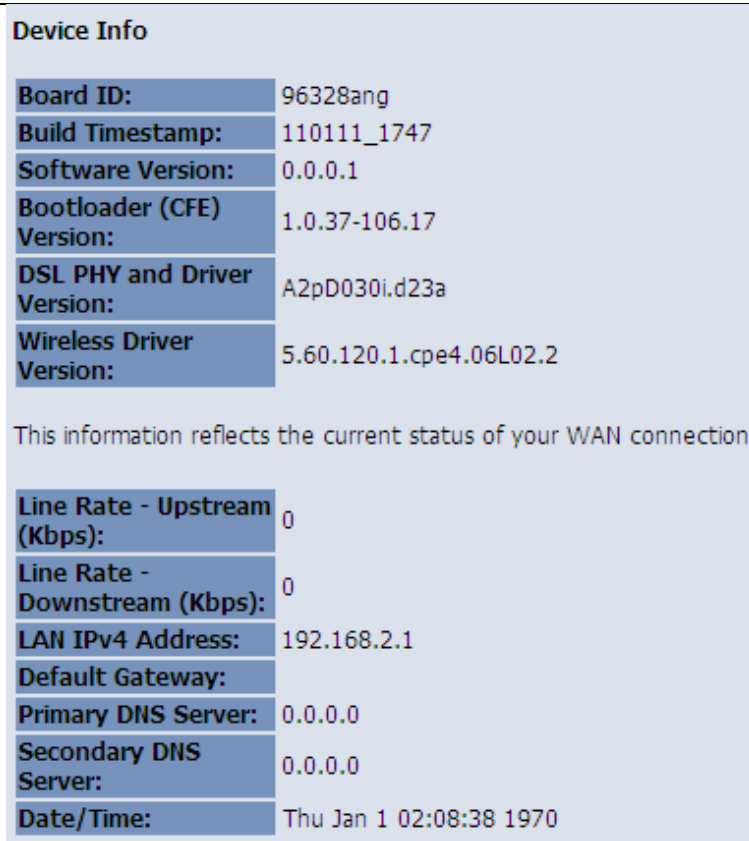
In this page, click the **Reboot** button, and then the router reboots.

10.4 Device Information

Choose **Device Info**, and the submenus of **Device Info** are shown as below:

10.4.1 Summary

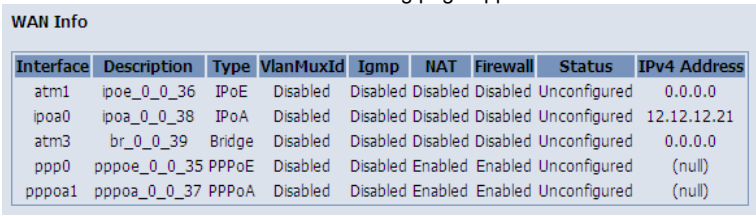
Choose **Device Info > Summary**, and the following page appears.



This page displays the device information such as the board ID, software version, and the information of your WAN connection such as the upstream rate and the LAN IPv4 address.

10.4.2 WAN

Choose **Device Info > WAN** and the following page appears.



WAN Info

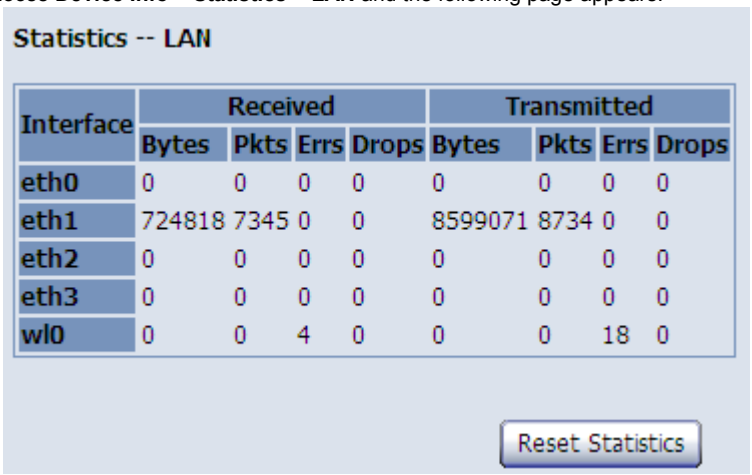
Interface	Description	Type	VlanMuxId	Igmp	NAT	Firewall	Status	IPv4 Address
atm1	ipoe_0_0_36	IPoE	Disabled	Disabled	Disabled	Disabled	Unconfigured	0.0.0.0
ipoa0	ipoa_0_0_38	IPoA	Disabled	Disabled	Disabled	Disabled	Unconfigured	12.12.12.21
atm3	br_0_0_39	Bridge	Disabled	Disabled	Disabled	Disabled	Unconfigured	0.0.0.0
ppp0	pppoe_0_0_35	PPPoE	Disabled	Disabled	Enabled	Enabled	Unconfigured	(null)
pppoa1	pppoa_0_0_37	PPPoA	Disabled	Disabled	Enabled	Enabled	Unconfigured	(null)

This page displays the information of the WAN interface, such as the connection status, and IPv4 address.

10.4.3 Statistics

10.4.4 LAN

Choose **Device Info > Statistics > LAN** and the following page appears.



Statistics -- LAN

Interface	Received				Transmitted			
	Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops
eth0	0	0	0	0	0	0	0	0
eth1	724818	7345	0	0	8599071	8734	0	0
eth2	0	0	0	0	0	0	0	0
eth3	0	0	0	0	0	0	0	0
wl0	0	0	4	0	0	0	18	0

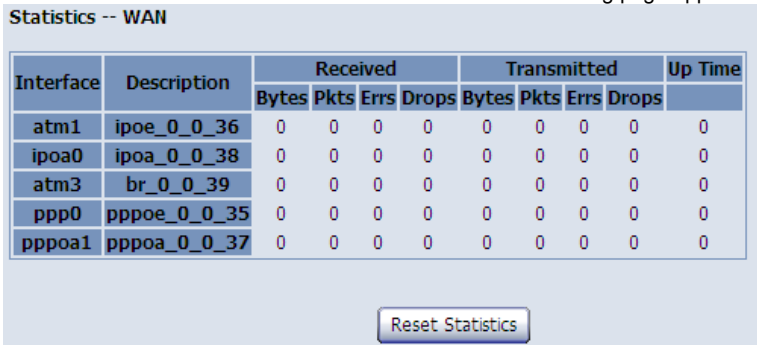
Reset Statistics

In this page, you can view the statistical information about the recevied and transmitted data packets of the Ethernet and wireless interfaces.

Click **Reset Statistics** to restore the values to zero and recount them.

10.4.5 WAN Service

Choose **Device Info > Statistics > WAN Service** and the following page appears.


Statistics -- WAN

Interface	Description	Received				Transmitted				Up Time
		Bytes	Pkts	Errs	Drops	Bytes	Pkts	Errs	Drops	
atm1	ipoe_0_0_36	0	0	0	0	0	0	0	0	0
ipoa0	ipoa_0_0_38	0	0	0	0	0	0	0	0	0
atm3	br_0_0_39	0	0	0	0	0	0	0	0	0
ppp0	pppoe_0_0_35	0	0	0	0	0	0	0	0	0
pppoa1	pppoa_0_0_37	0	0	0	0	0	0	0	0	0

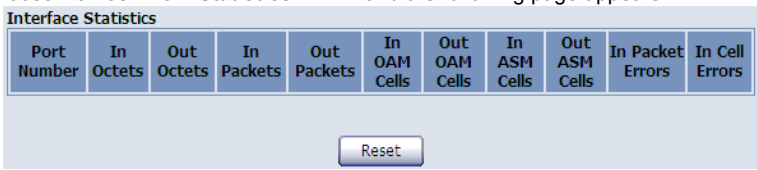
Reset Statistics

In this page, you can view the statistical information about the recevied and transmitted data packets of the WAN interface.

Click **Reset Statistics** to restore the values to zero and recount them.

10.4.6 xTM

Choose **Device Info > Statistics > xTM** and the following page appears.


Interface Statistics

Port Number	In Octets	Out Octets	In Packets	Out Packets	In OAM Cells	Out OAM Cells	In ASM Cells	Out ASM Cells	In Packet Errors	In Cell Errors

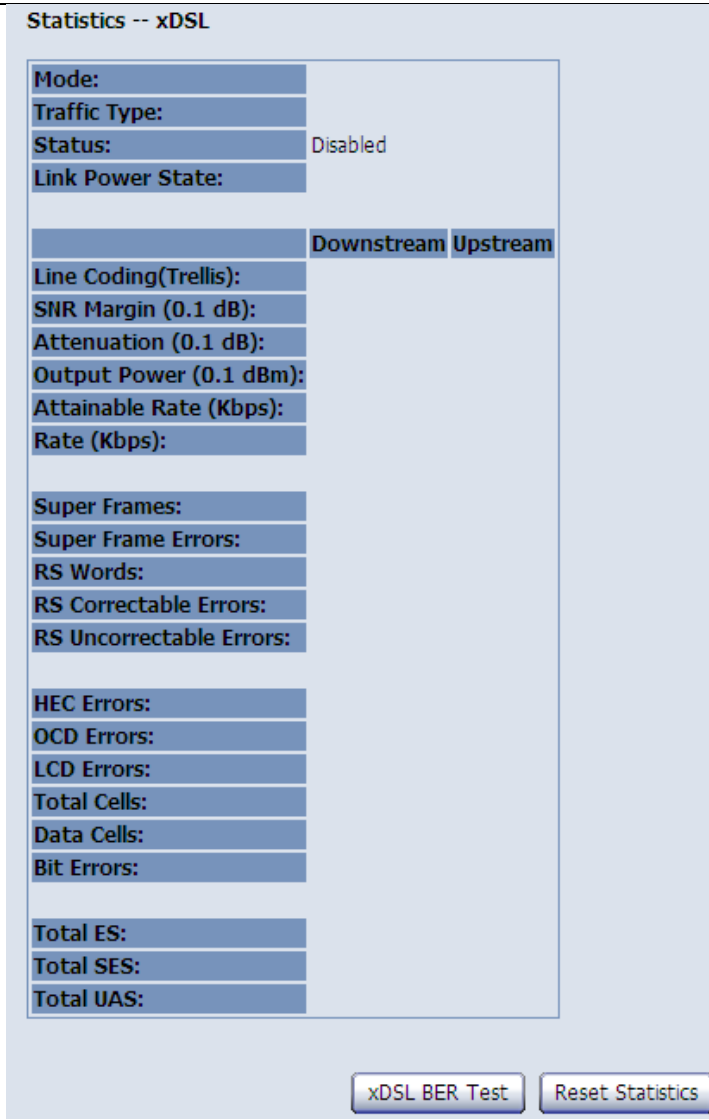
Reset

In this page, you can view the statistical information about the recevied and transmitted data packets at the xTM interfaces.

Click the **Reset** button to restore the values to zero and recount them.

10.4.7 xDSL

Choose **Device Info > Statistics** > **xDSL** and the following page appears.


Statistics -- xDSL
Mode:
Traffic Type:
Status:
Disabled
Link Power State:
Downstream
Upstream
Line Coding(Trellis):
SNR Margin (0.1 dB):
Attenuation (0.1 dB):
Output Power (0.1 dBm):
Attainable Rate (Kbps):
Rate (Kbps):
Super Frames:
Super Frame Errors:
RS Words:
RS Correctable Errors:
RS Uncorrectable Errors:
HEC Errors:
OCD Errors:
LCD Errors:
Total Cells:
Data Cells:
Bit Errors:
Total ES:
Total SES:
Total UAS:
xDSL BER Test
Reset Statistics

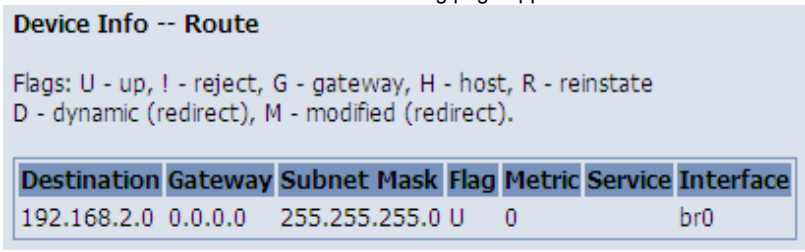
In this page, you can view the statistical information about the recevied and transmitted data packets of the xDSL interfaces.

Click **xDSL BER Test** to test the xDSL Bit Error Rate.

Click **Reset Statistics** to restore the values to zero and recount them.

10.4.8 Route

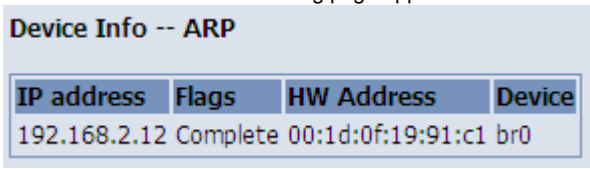
Choose **Device Info > Route** and the following page appears.



In this page, you can view the route table information.

10.4.9 ARP

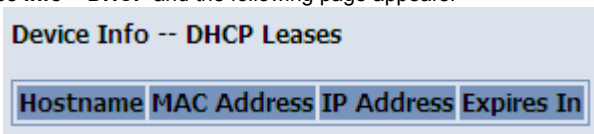
Choose **Device Info > ARP** and the following page appears.



In this page, you can view the MAC address and IP address information of the device connected to the router.

10.4.10 DHCP

Choose **Device Info > DHCP** and the following page appears.



In this page, you can view the host name, the IP address assigned by the DHCP server, the MAC address which is corresponding to the IP address, and the DHCP lease time.

11 Q&A

(1) **Q**: Why all the indicators are off?

A: Check the following:

- The connection between the power adaptor and the power socket.
- The status of the power switch.

(2) **Q**: Why the **LAN** indicator is off?

A: Check the following:

- The connection between the ADSL router and your computer, hub, or switch.
- The running status of your PC, hub, or switch.

(3) **Q**: Why the **DSL** indicator is off?

A: Check the connection between the “Line” port of router and the wall jack.

(4) **Q**: Why Internet access fails while the **DSL** indicator is on?

A: Check whether the VPI, VCI, user name, and password are correctly entered.

(5) **Q**: Why I fail to access the web configuration page of the DSL router?

A: Choose **Start** > **Run** from the desktop, and ping ***192.168.2.1*** (IP address of the DSL router). If the DSL router is not reachable, check the type of the network cable, the connection between the DSL router and the PC, and the TCP/IP configuration of the PC.

(6) **Q**: How to load the default settings after incorrect configuration?

A: To restore the factory default settings, turn on the device, and press the reset button for about 1 second, and then release it. The default IP address and the subnet mask of the DSL router are **192.168.2.1** and **255.255.255.0**, respectively.

- User/password of super user: **admin**/**smcadmin**

SMC®
Networks

U.S.A Office
20 Mason
Irvine CA 92618
Phn: (949) 679-8000

European Office
C/Fructuós Gelabert 6-8, 2º, 2ª
Edificio Conata II
08970 Sant Joan Despí
Barcelona – SPAIN
Phn: +34 93 477 4920

TECHNICAL SUPPORT
From U.S.A. and Canada (24 hours a day, 7 days a week)
Phn: (800) SMC-4-YOU / (949) 679-8000
Fax: (949) 679-1481

English: Technical Support information available at www.smc.com

English (For Asia Pacific): Technical Support information available at www.smc-asia.com

Deutsch: Technischer Support und weitere Information unter www.smc.com

Español: En www.smc.com Ud. podrá encontrar la información relativa a servicios de soporte técnico

Français: Informations Support Technique sur www.smc.com

Português: Informações sobre Suporte Técnico em www.smc.com

Italiano: Le informazioni di supporto tecnico sono disponibili su www.smc.com

Svenska: Information om Teknisk Support finns tillgängligt på www.smc.com

Nederlands: Technische ondersteuningsinformatie beschikbaar op www.smc.com

Polski: Informacje o wsparciu technicznym sa dostepne na www.smc.com

Čeština: Technicka podpora je dostupna na www.smc.com

Magyar: Műszaki tamogat informacio elerhető -on www.smc.com

简体中文：技术支持讯息可通过www.smc-prc.com查询

繁體中文：產品技術支援與服務請上 www.smcnetworks.com.tw

ไทย: สามารถหาข้อมูลทางด้านเทคนิคได้ที่ www.smc-asia.com

한국어: 기술지원관련 정보는 www.smc-asia.com을 참고하시기 바랍니다

INTERNET
E-mail address: www.smc.com→ Support→ By email
Driver updates: www.smc.com→ Support→ Downloads

World Wide Web: http://www.smc.com/