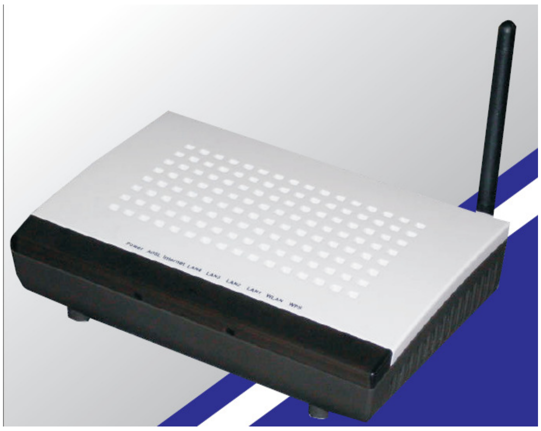
Baytec

RTA04W

ADSL2+ 11b/g HOME GATEWAY



User Manual

CONTENT TABLE

1. Introduction

The RTA04W is a router with wireless local area network (WLAN) function. It is a high integrated residential broadband access device, which provides one ADSL2+ RJ11 interface, four built-in Ethernet interfaces, and one wireless access point. The RTA04W is fully compliant with ADSL/2/2+ standards. The Ethernet interface complies with IEEE802.3/802.3u standards, and the WLAN interface complies with IEEE802.11b/g standards. This device provides high performance access to Internet, downstream up to 24Mbps and upstream up to 1Mbps.

Computers on the LAN side can share the Internet access through the Ethernet interface or wireless access point. These local computers can communicate and share resources and files with each other when the RTA04W is connected to the Internet with DSL line.

- Support up to 8 permanent virtual circuits (PVCs)
- Provide one RJ11 interface and four built-in RJ45 interfaces
- IGMP Snooping and IGMP Proxy
- General IP: NAT, PAT, DHCP server, DHCP relay, and DNS relay
- Routing: Static routing, RIP V1 and V2
- Security: NAT, IP filtering, password authentication, and denial of service (DoS)
- Compatible with IEEE 802.11b and IEEE 802.11g

2. Application

This device can provide high access performance applications for individual users, SOHOs, and small enterprises. Specific applications can be:

- Broadband Internet access sharing
- Higher data rate broadband sharing
- Audio, video streaming, and transfer
- PC file and application sharing
- Network and online gaming

3. Technical Specifications and features

Product Specification of RTA04W			
Model	RTA04W		
Product Name	54M Wireless 802.11b/g ADSL2+ Router		
Physical Specifications	User Interface	RJ45	4
		RJ11	1
		Reset button	1
		Power Jack	1
		On/Off Switch	1
		WPS/WiFi button	1
	Dimensions (W×D×H)	170 * 120 * 33 mm	
Features	Protocol Feature	RFC 1483 Bridge IEEE 802.1D transparent bridging Bridge Filtering RFC 1483 Router RIP 1 & 2 supported DHCP (RFC1541) Server, Relay Network Address Translation (NAT)/ Network Address Port Translation (NAPT) DNS relay IGMP v1 and v2	
	ADSL Feature	Support ANSI T1.413 Issue2 Support ITU G.992.1 (G.dmt) Annex A Support ITU G.992.2 (G.lite) Annex A Support ITU G.992.3 ADSL2 (G.dmt.bis) Annexs A, L, M	

		Support ITU G.992.4 ADSL2 (G.lite.bis) Support ITU G.992.5 ADSL2 plus
	Ethernet Feature	Fully compliant with IEEE802.3/802.3u auto-negotiation function Support 10 base-T and 100 base-TX Support half duplex and full duplex Support back pressure flow control for half duplex, IEEE802.3x flow control for full duplex Support MDI/MDIX auto cross
	Security	Support firewall function Support revised passwords of two-level users Support electronic signature (preventing different types of versions from upgrading each other) Support denial of service (DoS) which detects and protects against a number of attacks (such as SYN/FIN/RST Flood, Smurf, WinNuke, Echo Scan, Xmas Tree Scan)
	Management	Support Web and TFTP modes for local and long-distance version upgrade Support test estate of circuitry connect (diagnostics) Support settings in the Web interface Support Telnet CLI command line Support user setting the reset function: hardware reset or Web interface mode Support configuration files backup and restoration Support modifying IP address of the LAN interface Support system log Support SNMP V1/V2C local and long-distance

		control (MIB II RFC1213/ADSL line MIB RFC 2662 ATM MIB RFC 2515) Support SNTP enactment Support TR069
Wireless	**Standards**	IEEE 802.11g, 802.11b
	Frequency range	2.400-2.4835GHz (ISM frequency bands)
	Wireless signal rates	802.11b compliant: 11, 5.5, 2, 1 Mbps (DSSS/CCK); 802.11g compliant: 54, 48, 36, 24, 18, 12, 9, 6 Mbps (OFDM)
	Wireless operating range	Transmission Distance: 300 meters outdoors, 100 meters indoors coverage area (varying depending on the actual environment.)
	Wireless security	64/128-bit WEP, AES, TKIP, WPA, WPA2, 802.1x
	Antenna	Single external antenna
Power	**Input/Output**	Input power: 100-240 V DC, 50/60Hz Output power: 12 V DC/800mA(min)
Environment	**Operating Temperature**	0℃~50℃
	Storage Temperature	-20ºC~70ºC
	Operating Humidity	5%~95%, non-condensing
	Storage Humidity	5%~95%, non-condensing

4. Packing List

The content of the packaging is as follows:

- 1 x RTA04W
- 1 x power adapter
- 2 x Micro filter
- 1 x Double Micro filter
- 1 x telephone cables (RJ11)
- 1 x Ethernet cable (RJ45)
- 1 x QSG
- 1 x GVT service guide

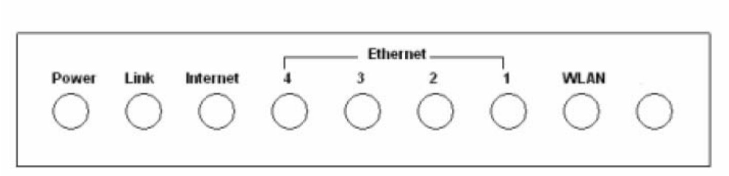
5. Safety Precautions

Follow the following instructions to prevent the device from risks and damage caused by fire or electric power:

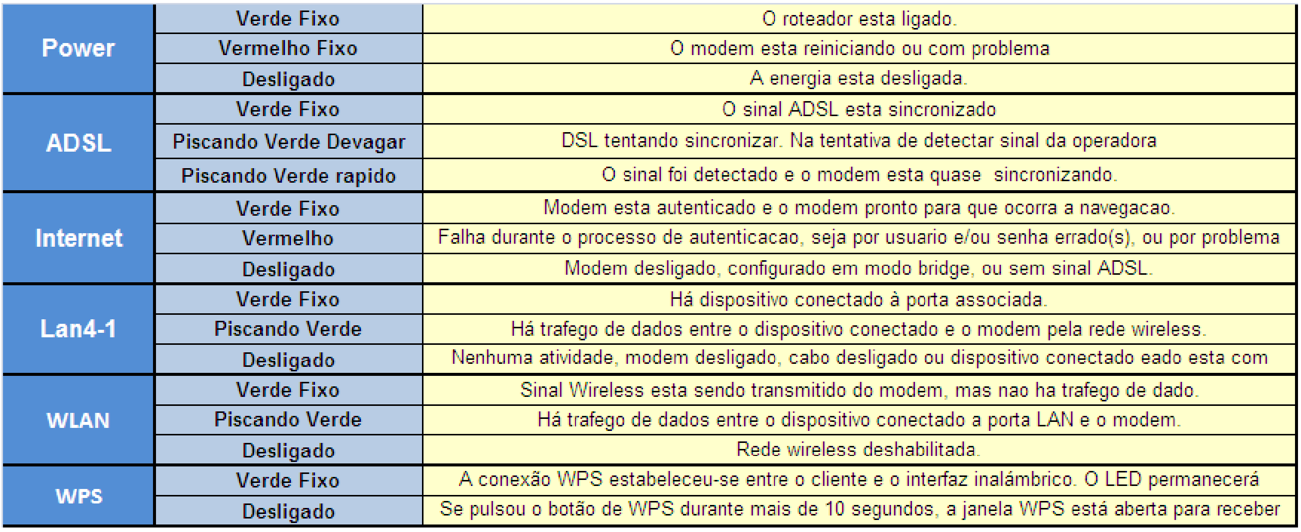
- Use volume labels to mark the type of power.
- Use the power adapter packed within the device package.
- Pay attention to the power load of the outlet or prolonged lines. An overburden power outlet or damaged lines and plugs may cause electric shock or fire accident. Check the power cords regularly. If you find any damage, replace it at once.
- Proper space left for heat dissipation is necessary to avoid damage caused by overheating to the device. The long and thin holes on the device are designed for heat dissipation to ensure that the device works normally. Do not cover these heat dissipation holes.
- Do not put this device close to a place where a heat source exists or high temperature occurs. Avoid the device from direct sunshine.
- Do not put this device close to a place where it is over damp or watery. Do not spill any fluid on this device.
- Do not connect this device to any PCs or electronic products, unless our customer engineer or your broadband provider instructs you to do this, because any wrong connection may cause power or fire risk.
- Do not place this device on an unstable surface or support.

6. LEDs and Interfaces

Front Panel

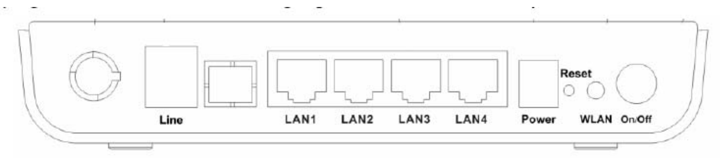


The following table describes the LEDs of the device:



Power	Verde Fixo	O roteador esta ligado.
	Vermelho Fixo	O modem esta reiniciando ou com problema
	Desligado	A energia esta desligada.
ADSL	Verde Fixo	O sinal ADSL esta sincronizado
	Piscando Verde Devagar	DSL tentando sincronizar. Na tentativa de detectar sinal da operadora
	Piscando Verde rapido	O sinal foi detectado e o modem esta quase sincronizando.
Internet	Verde Fixo	Modem esta autenticado e o modem pronto para que ocorra a navegacao.
	Vermelho	Falha durante o processo de autenticacao, seja por usuario e/ou senha errado(s), ou por problema
	Desligado	Modem desligado, configurado em modo bridge, ou sem sinal ADSL.
Lan4-1	Verde Fixo	Há dispositivo conectado à porta associada.
	Piscando Verde	Há trafego de dados entre o dispositivo conectado e o modem pela rede wireless.
	Desligado	Nenhuma atividade, modem desligado, cabo desligado ou dispositivo conectado eado esta com
WLAN	Verde Fixo	Sinal Wireless esta sendo transmitido do modem, mas nao ha trafego de dado.
	Piscando Verde	Há trafego de dados entre o dispositivo conectado a porta LAN e o modem.
	Desligado	Rede wireless deshabilitada.
WPS	Verde Fixo	A conexão WPS estabeleceu-se entre o cliente e o interfaz inalámbrico. O LED permanecerá
	Desligado	Se pulsou o botão de WPS durante mais de 10 segundos, a janela WPS está aberta para receber

Rear Panel

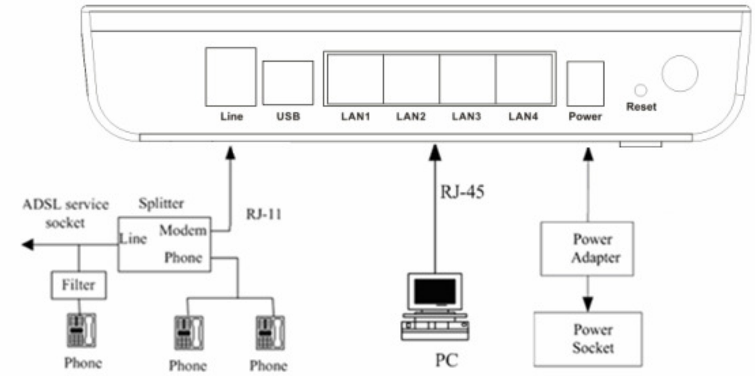


The following table describes the interfaces of the device:

Items	Description
Line	RJ-11 interface, for connecting to the ADSL interface or a splitter through the telephone cable.
LAN1, LAN2, LAN3, LAN4	RJ-45 interface, for connecting to the Ethernet interface of PC Or other Ethernet devices through the Ethernet cable.
Power	Power interface, for connecting to the power adapter.
Reset	Reset to the factory defaults. To reset to the factory defaults, keep the device powered on and push a paper clip in to the hole for over 3 seconds. Then release it, the configuration is reset to the factory defaults.
WLAN/WPS	Button to enable and disable Wireless interface and establish WPS connection
○	Power switch, power on or power off the device.

7. Hardware Installation

Following figure shows the connection of the router to the different elements of the network.



Connection diagram (Connecting a telephone set before the splitter)

Note:

The filter must be installed close to the telephone cable. See Figure2. Do not use the splitter to replace the filter.

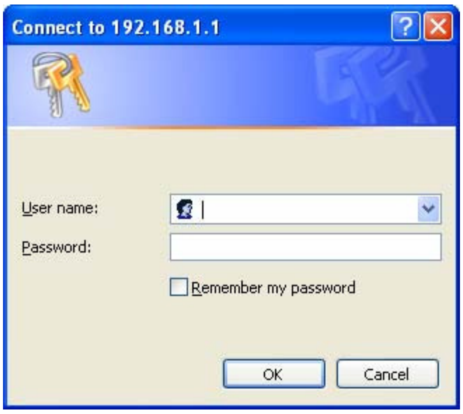
Installing a telephone directly before the splitter may lead to failure of connection between the device and the central office, or failure of Internet access, or slow connection speed. If you really need to add a telephone set before the splitter, you must add a micro filter before a telephone set.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

8. Access the Router

The following is the detailed description of accessing the router for the first time.

Step 1 Open the Internet Explorer (IE) browser and enter http://192.168.1.1.

Step 2 In the Login page that is displayed, enter the username and password. The username and password of the equipment are **admin** and **gvt12345** respectively.



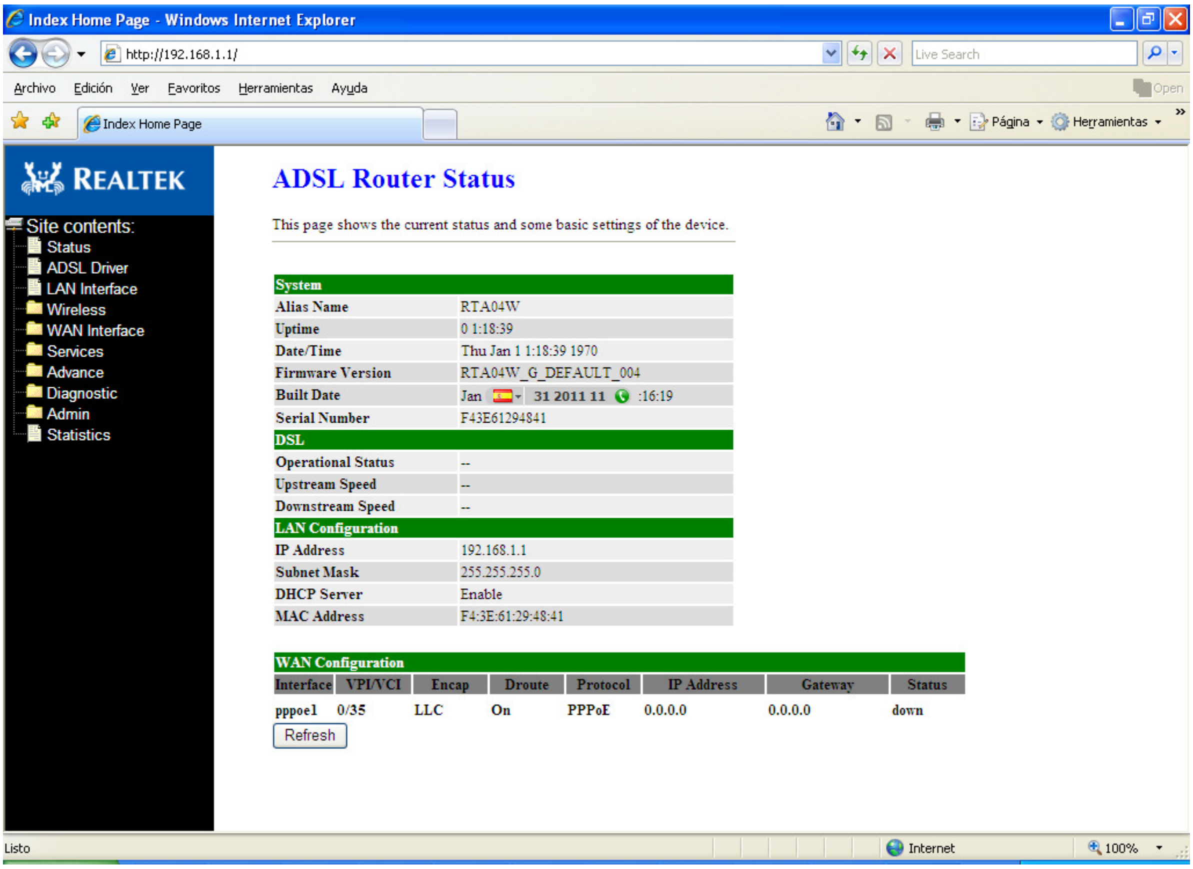
Connect to 192.168.1.1

User name:

Password:

□ Remember my password

The following page will be shown after correct username and password enter.



ADSL Router Status

This page shows the current status and some basic settings of the device.

System	
Alias Name	RTA04W
Uptime	0 1:18:39
Date/Time	Thu Jan 1 1:18:39 1970
Firmware Version	RTA04W_G_DEFAULT_004
Built Date	Jan 31 2011 11 :16:19
Serial Number	F43E61294841
DSL	
Operational Status	--
Upstream Speed	--
Downstream Speed	--
LAN Configuration	
IP Address	192.168.1.1
Subnet Mask	255.255.255.0
DHCP Server	Enable
MAC Address	F4:3E:61:29:48:41

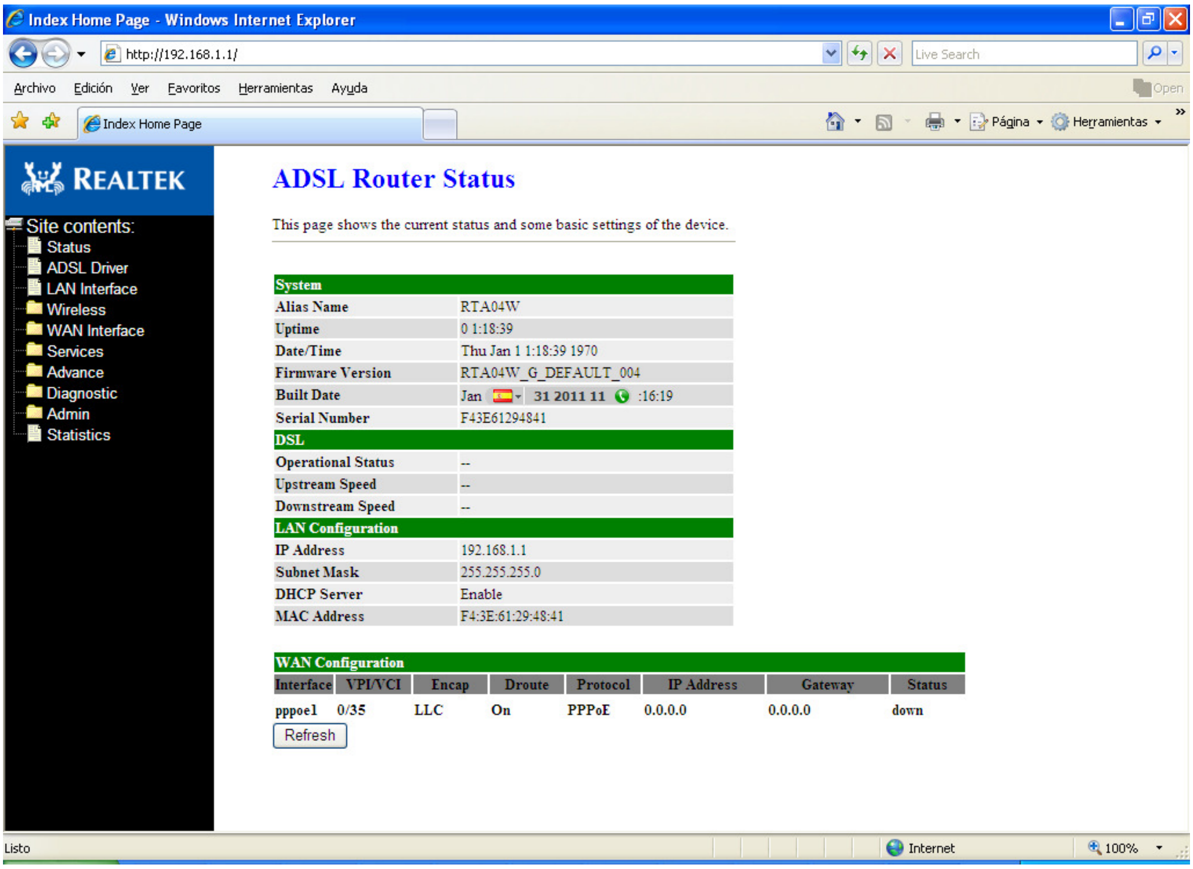
WAN Configuration

Interface	VPI/VCI	Encap	Droute	Protocol	IP Address	Gateway	Status
pppoe1	0/35	LLC	On	PPPoE	0.0.0.0	0.0.0.0	down

Refresh

9. Status

Status page shows the current status and some basic settings of the router, such as uptime, software version, upstream speed, downstream speed, and other information



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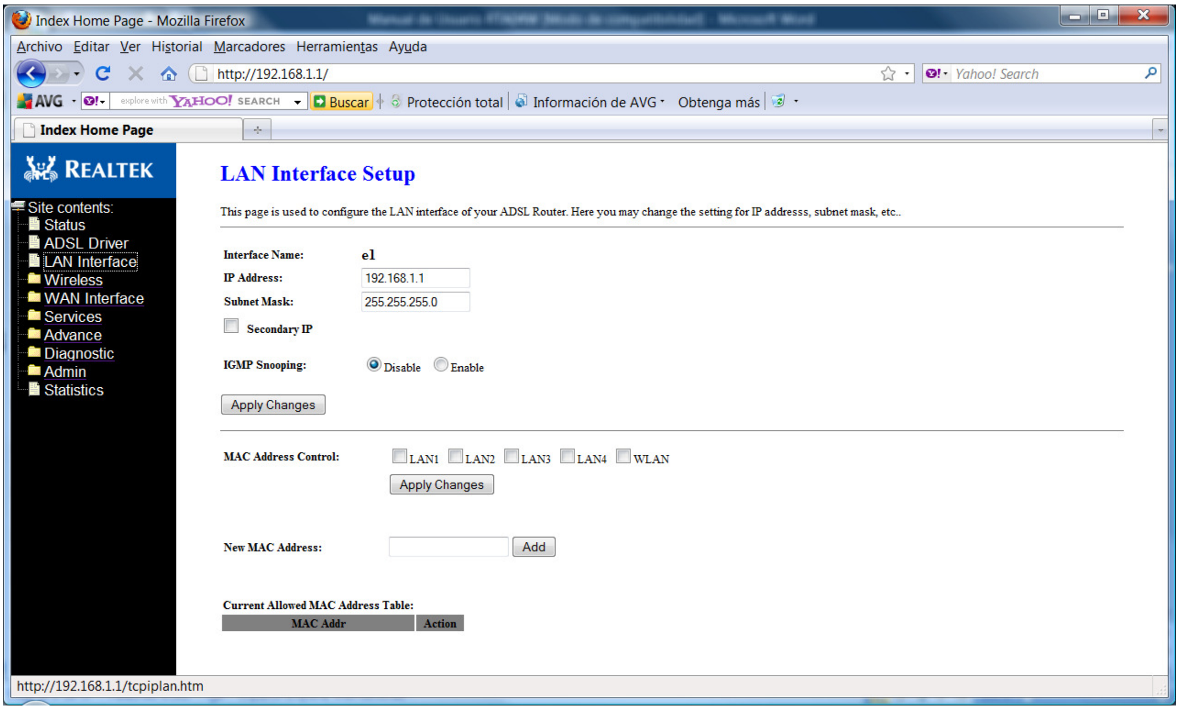
Interface	VPI/VCI	Encap	Droute	Protocol	IP Address	Gateway	Status
pppoe1	0/35	LLC	On	PPPoE	0.0.0.0	0.0.0.0	down

Refresh

10. LAN Configuration

This page shows current LAN configuration. You can configure IP address, network mask and secondary IP address:



LAN Interface Setup

This page is used to configure the LAN interface of your ADSL Router. Here you may change the setting for IP addresss, subnet mask, etc..

Interface Name: el

IP Address: 192.168.1.1

Subnet Mask: 255.255.255.0

□ Secondary IP

IGMP Snooping: ● Disable ○ Enable

Apply Changes

MAC Address Control: □ LAN1 □ LAN2 □ LAN3 □ LAN4 □ WLAN

Apply Changes

New MAC Address: Add

Current Allowed MAC Address Table:

MAC Addr	Action

Fields in this screen are the following:

Field	Description
IP Address	IP address the LAN hosts can use to identify the LAN port of its device.
Subnet Mask	LAN sub network mask.
Secondary IP	Secondary IP (or emergency) and mask.
MAC Address Control	Access control based in MAC address at LAN level. If selected, one MAC included in the list will have access.
Apply Changes	Click here to keep settings temporarily.
Add	Enter MAC addresses and click Add

Note:

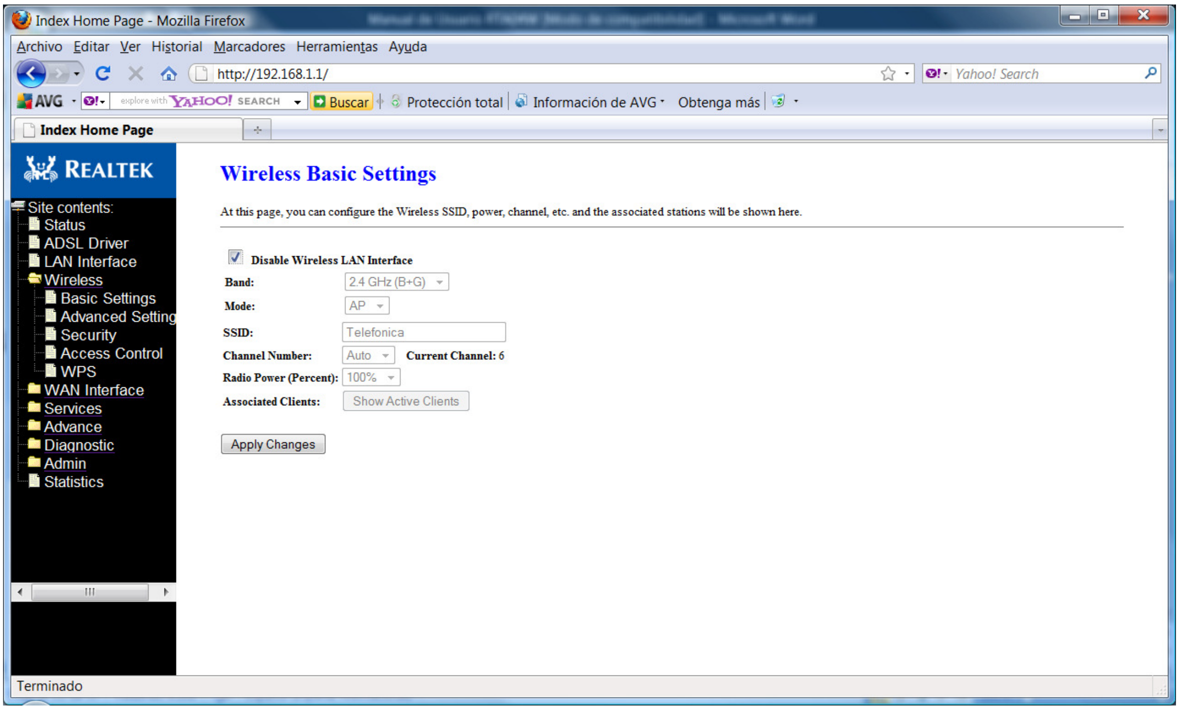
Secondary LAN IP and LAN IP must be in different network segments; otherwise the page will report a configuration error message.

11. Wireless Configuration

There are five sub-menus for Wireless configuration: [Basic Settings], [Advance Settings], [Security], [Access Control] and [WPS].

11.1. Basic Settings

This page is used to configure the parameters for wireless LAN clients who may connect to your Access Point. Please refer to the section – **Basic settings** for details.



Wireless Basic Settings

At this page, you can configure the Wireless SSID, power, channel, etc. and the associated stations will be shown here.

☑ Disable Wireless LAN Interface

Band: 2.4 GHz (B+G)

Mode: AP

SSID: Telefonica

Channel Number: Auto Current Channel: 6

Radio Power (Percent): 100%

Associated Clients: Show Active Clients

Apply Changes

Fields in this page:

Field	Description
Disable Wireless LAN Interface	Check it to disable the wireless function for ADSL modem.
Band	Select the appropriate band from the list provided to correspond with your network setting.
Mode	**Access Point**—The gateway communicates with both clients and bridges.
SSID	Enter a name for your wireless network here. SSID stands for Service Set

	Identifier.
Channel Number	Drop-down menu that allows selection of specific channel.
Radio Power	The maximum output power: 15mW, 30mW or 60mW.

Function buttons in this page:

Associated Clients

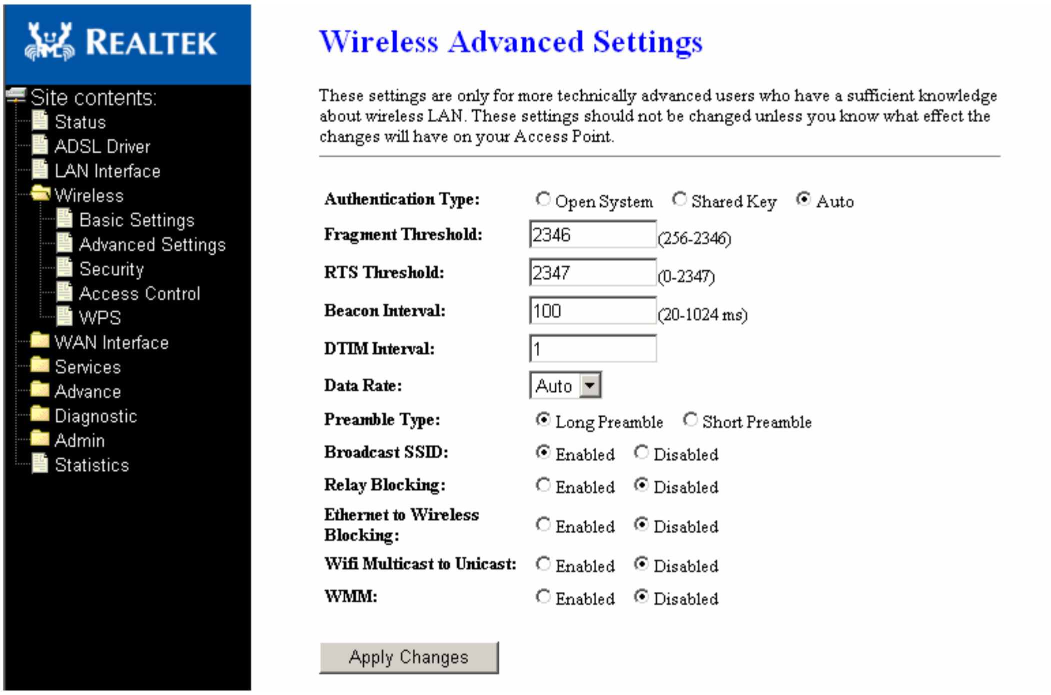
Click it will show the clients currently associated with the ADSL modem.

Apply Changes

Change the settings. New parameters will take effect after save into flash memory and reboot the system

11.2. Advanced Settings

This page allows advanced users who have sufficient knowledge of wireless LAN. These setting shall not be changed unless you know exactly what will happen for the changes you made on your DSL device. Please refer to the section – **Advance settings** for details.



Wireless Advanced Settings

These settings are only for more technically advanced users who have a sufficient knowledge about wireless LAN. These settings should not be changed unless you know what effect the changes will have on your Access Point.

Authentication Type:	○ Open System ○ Shared Key ● Auto
Fragment Threshold:	2346 (256-2346)
RTS Threshold:	2347 (0-2347)
Beacon Interval:	100 (20-1024 ms)
DTIM Interval:	1
Data Rate:	Auto
Preamble Type:	● Long Preamble ○ Short Preamble
Broadcast SSID:	● Enabled ○ Disabled
Relay Blocking:	○ Enabled ● Disabled
Ethernet to Wireless Blocking:	○ Enabled ● Disabled
Wifi Multicast to Unicast:	○ Enabled ● Disabled
WMM:	○ Enabled ● Disabled

Fields in this page:

Field	Description
Authentication Type	**Open System:** Open System authentication is not required to be successful while a client may decline to authenticate with any particular other client. **Shared Key:** Shared Key is only available if the WEP option is implemented. Shared Key authentication supports authentication of clients as either a member of those who know a shared secret key or a member of those who do not. IEEE 802.11 Shared Key authentication accomplishes this without the need to transmit the secret key in clear. Requiring the use of the WEP privacy mechanism. **Auto:** Auto is the default authentication algorithm. It will change its authentication type automatically to fulfill client's requirement.
Fragment Threshold	This value should remain at its default setting of 2346. It specifies the maximum size for a packet before data is fragmented into multiple packets. If you experience a high packet error rate, you may slightly increases the "Fragment Threshold" value within the value range of 256 to 2346. Setting this value too low may result in poor network performance. Only minor modifications of this value are recommended.
RTS Threshold	This value should remain at its default setting of 2347. Should you encounter inconsistent data flow, only minor modifications are recommended. If a network packet is smaller than the preset "RTS threshold" size, the RTS/CTS mechanism will not be enabled. The ADSL modem (or AP) 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.
Beacon Interval	The Beacon Interval value indicates the frequency interval of the beacon. Enter a value between 20 and 1024. A beacon is a packet broadcast by the ADSL modem (Or AP) to synchronize the wireless network. The default is 100.
Data Rate	The rate of data transmission should be set depending on the speed of your wireless network. You should select from a range of transmission speeds, or you can select *Auto* to have the ADSL modem (or AP) automatically use the fastest possible data rate and enable the Auto-Fallback feature. Auto-Fallback will negotiate the best possible connection speed between the AP and a wireless client. The default setting is *Auto*.

Preamble Type	The Preamble Type defines the length of the CRC (Cyclic Redundancy Check) block for communication between the AP and mobile wireless stations. Make sure to select the appropriate preamble type. Note that high network traffic areas should use the *short preamble* type. CRC is a common technique for detecting data transmission errors.
Broadcast SSID	If this option is enabled, the device will automatically transmit their network name (SSID) into open air at regular interval. This feature is intended to allow clients to dynamically discover and roam between WLANs; if this option is disabled, the device will hide its SSID. When this is done, the station cannot directly discover its WLAN and MUST be configure with the SSID. Note that in a home Wi-Fi network, roaming is largely unnecessary and the SSID broadcast feature serves no useful purpose. You should disable this feature to improve the security of your WLAN.
Relay Blocking	When **Relay Blocking** is enabled, wireless clients will not be able to directly access other wireless clients.
VMM support	WMM is a QoS solution with industry-wide support that offers strong interoperability, meets the requirements of all market segments, and has global reach. It is available now and will be interoperable with 802.11e. The Wi-Fi Alliance has launched a WMM certification program that establishes a solid foundation for the growth of the Wi-Fi multimedia market, and that facilitates the development of interoperable devices and applications with QoS capabilities. At the same time, WMM greatly improves the end-user experience and enables a wider, more efficient use of Wi-Fi networks everywhere.

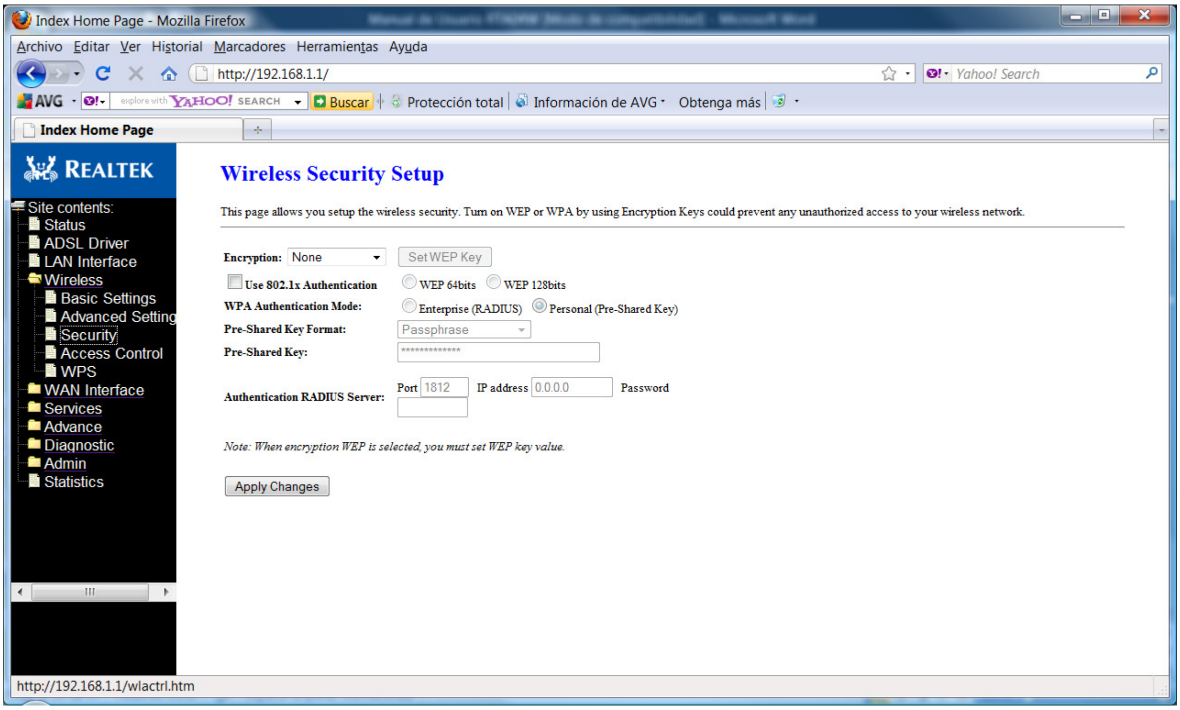
Function buttons in this page:

Apply Changes

Click to commit changes.

11.3. Security

This screen allows you to setup the wireless security. Turn on WEP or WPA by using encryption keys could prevent any unauthorized access to your WLAN. Please refer to the section – **Security** for details.



Wireless Security Setup

This page allows you setup the wireless security. Turn on WEP or WPA by using Encryption Keys could prevent any unauthorized access to your wireless network.

Encryption: None [Set WEP Key]

□ Use 802.1x Authentication ○ WEP 64bits ○ WEP 128bits

WPA Authentication Mode: ○ Enterprise (RADIUS) ● Personal (Pre-Shared Key)

Pre-Shared Key Format: Passphrase

Pre-Shared Key: *************

Authentication RADIUS Server: Port 1812 IP address 0.0.0.0 Password

Note: When encryption WEP is selected, you must set WEP key value.

[Apply Changes]

Fields in this page:

Field	**Description**
Encryption	There are 4 types of security to be selected. To secure your WLAN, it's strongly recommended to enable this feature. **WEP:** Make sure that all wireless devices on your network are using the same encryption level and key. Click *Set WEP Key* button to set the encryption key. **WPA (TKIP):** WPA uses Temporal Key Integrity Protocol (TKIP) for data encryption. TKIP utilized a stronger encryption method and incorporates Message Integrity Code (MIC) to provide protection against hackers. **WPA2 (AES):** WPA2, also known as 802.11i, uses Advanced Encryption Standard (AES) for data encryption. AES utilized a symmetric 128-bit block data encryption. **WAP2 Mixed**: The AP supports WPA (TKIP) and WPA2 (AES) for data encryption. The actual selection of the encryption methods will depend on the clients.
Use 802.1x Authentication	Check it to enable 802.1x authentication. This option is selectable only when the "Encryption" is choose to either *None* or *WEP.* If the "Encryption" is *WEP*, you need to further select the WEP key length to be either *WEP 64bits* or *WEP 128bits.*

WPA Authentication code	There are 2 types of authentication mode for WPA. **WPA-RADIUS:** WPA RADIUS uses an external RADIUS server to perform user authentication. To use WPA RADIUS, enter the IP address of the RADIUS server, he RADIUS port (default is 1812) and the shared secret from the RADIUS server. Please refer to "Authentication RADIUS Server" setting below for RADIUS setting. The WPA algorithm is selected between TKIP and AES, please refer to "WPA cipher Suite" below. **Pre-Shared Key:** Pre-Shared Key authentication is based on a shared secret that is known only by the parties involved. To use WPA Pre-Shared Key, select key format and enter a password in the "Pre-Shared Key Format" and "Pre-Shared Key" setting respectively. Please refer to "Pre-Shared Key Format" and "Pre-Shared Key" setting below.
Pre-Shared Key Format	**Passphrase:** Select this to enter the Pre-Shared Key secret as user-friendly textual secret. **Hex (64 characters):** Select this to enter the Pre-Shared Key secret as hexadecimal secret.
Pre-Shared Key	Specify the shared secret used by this Pre-Shared Key. If the "Pre-Shared Key Format" is specified as *Passphrase*, then it indicates a passphrase of 8 to 63 bytes long; or if the "Pre-Shared Key Format" is specified as *Passphrase*, then it indicates a 64-hexadecimal number.
Authentication RADIUS Server	If the *WPA-RADIUS* is selected at "WPA Authentication Mode", the port (default is 1812), IP address and password of external RADIUS server are specified here.

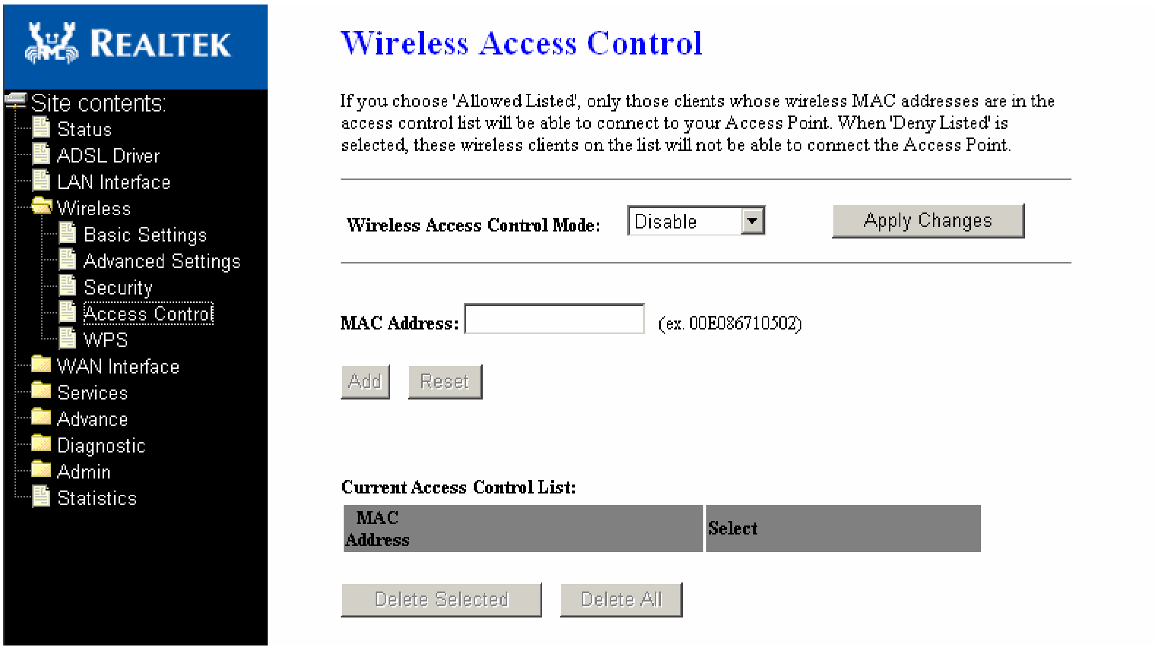
Function buttons in this page:

Apply Changes

Click to commit changes.

11.4. Access Control

This page allows administrator to have access control by enter MAC address of client stations. When Enable this function, MAC address can be added into access control list and only those clients whose wireless MAC address are in the access control list will be able to connect to your DSL device (or AP). Please refer to the section – **Access control** for details.



Wireless Access Control

If you choose 'Allowed Listed', only those clients whose wireless MAC addresses are in the access control list will be able to connect to your Access Point. When 'Deny Listed' is selected, these wireless clients on the list will not be able to connect the Access Point.

Wireless Access Control Mode: Disable

MAC Address: (ex. 00E086710502)

Current Access Control List:

MAC Address	Select

Fields in this page:

Field	Description
Wireless Access Control Mode	The Selections are: **Disable** Disable the wireless ACL feature. **Allow Listed** When this option is selected, no wireless clients except those whose MAC addresses are in the current access control list will be able to connect (to this device). **Deny Listed** When this option is selected, all wireless clients except those whose MAC addresses are in the current access control list will be able to connect (to this device).
MAC Address	Enter client MAC address and press “Apply Changes” button to add client MAC address into current access control list.

Function buttons in this page:

Apply Changes

Click to commit changes.

Add

Click to add this entry into the **Current Access Control List**.

Reset

It restores the original values

The **Current Access Control List** lists the client MAC addresses. Any wireless client with its MAC address listed in this access control list will be able to connect to the device. You can select the entries at the Select column and apply to the following function buttons.

Function buttons for the **Current Access Control List**:

Delete Selected

Delete the selected entries from the list.

Delete All

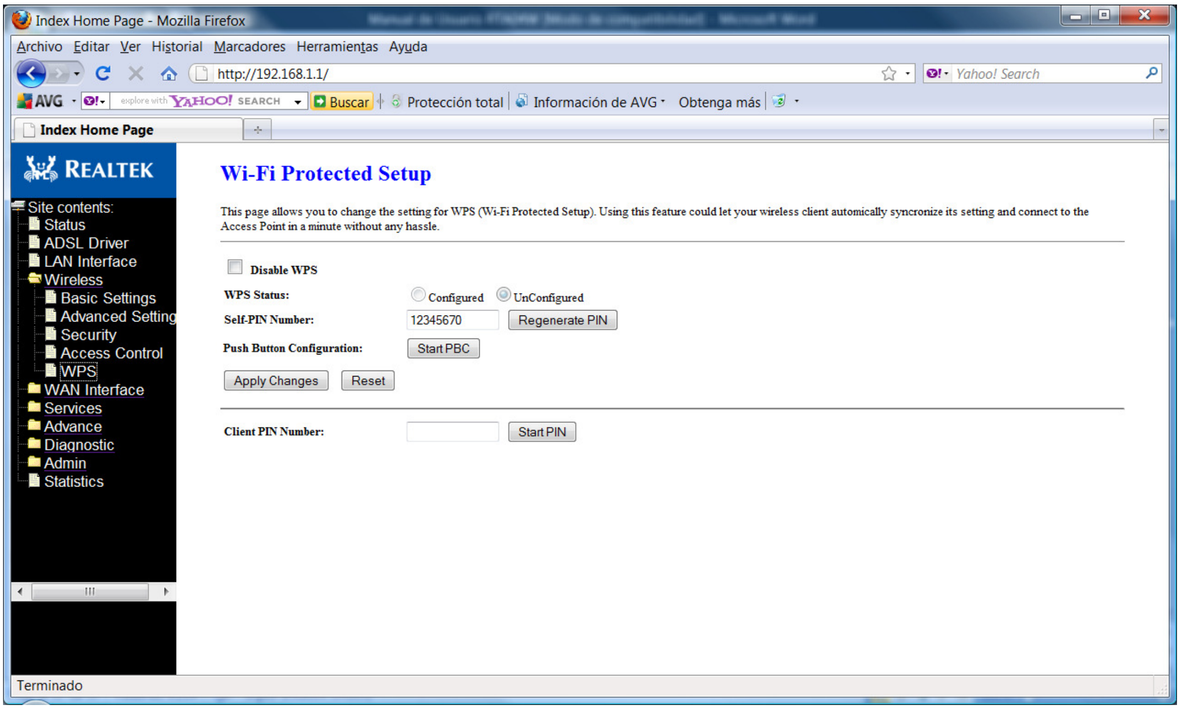
Flush the list.

11.5. WPS

Although home Wi-Fi networks have become more and more popular, users still have trouble with the initial set up of network. This obstacle forces users to use the open security and increases the risk of eavesdropping. Therefore, The Wi-Fi Protected Setup (WPS) is designed to ease set up of security-enabled Wi-Fi networks and subsequently network management (Wi-Fi Protected Setup Specification 1.0h.pdf, p. 8).

The largest difference between WPS-enabled devices and legacy devices is that users do not need the knowledge about SSID, channel and security settings, but they could still surf in a security-enabled Wi-Fi network.

This device supports Push Button method and PIN method for WPS. The following sub-paragraphs will describe the function of each item. The webpage is as below.



Wi-Fi Protected Setup

This page allows you to change the setting for WPS (Wi-Fi Protected Setup). Using this feature could let your wireless client automically syncronize its setting and connect to the Access Point in a minute without any hassle.

□ Disable WPS

WPS Status: ○ Configured ● UnConfigured

Self-PIN Number: 12345670 [Regenerate PIN]

Push Button Configuration: [Start PBC]

[Apply Changes] [Reset]

Client PIN Number: [Start PIN]

Fields in this page:

Field	Description
Disable WPS	Check to disable the Wi-Fi protected Setup.
WPS Status	When AP's settings are factory default (out of box), it is set to open security and un-configured state. "WPS Status" will display it as "UnConfigured". If it already shows "Configured", some registrars such as Vista WCN will not configure AP. Users will need to go to the "Backup/Restore" page and click "Reset" to reload factory default settings.
Self-PIN Number	"Self-PIN Number" is AP's PIN. Whenever users want to change AP's PIN, they could click "Regenerate PIN" and then click "Apply Changes". Moreover, if users want to make their own PIN, they could enter four-digit PIN without checksum and then click "Apply Changes". However, this would not be recommended since the registrar side needs to be supported with four-digit PIN.
Push Button Configuration	Clicking this button will invoke the PBC method of WPS. It is only used when AP acts as a registrar.
Client PIN Number	It is only used when users want their station to join AP's network. The length of PIN is limited to four or eight numeric digits. If users enter eight-digit PIN with checksum error, there will be a warning message popping up. If users insist on this PIN, AP will take it.

Function buttons in this page:

Regenerate PIN

Click to regenerate the Self-PIN Number.

Start PBC

Click to start the Push Button method of WPS.

Apply Changes

Click to commit changes.

Reset

It restores the original values.

Start PIN

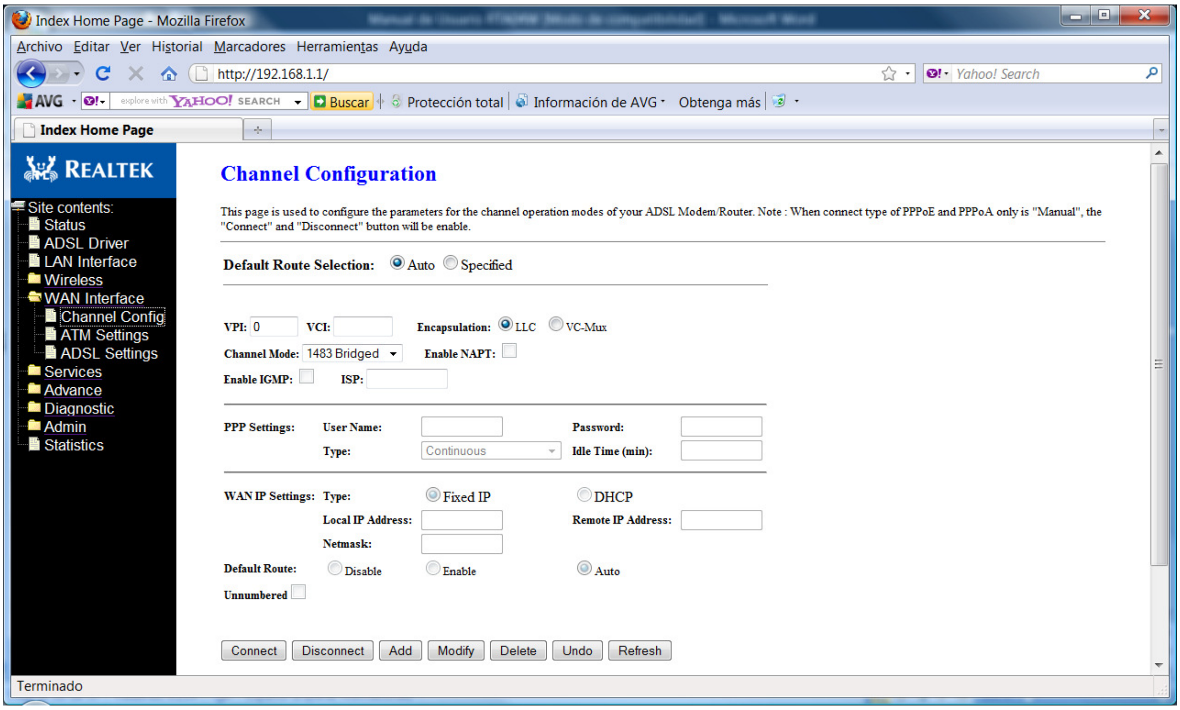
Click to start the PIN method of WPS.

12. WAN Configuration

There are three sub-menus for WAN configuration: [Channel Comfit], [ATM Settings], and [ADSL Settings].

12.1. Channel Configuration

ADSL modem/router comes with 8 ATM Permanent Virtual Channels (PVCs) at the most. There are mainly three operations for each of the PVC channels: add, delete and modify. And there are several channel modes to be selected for each PVC channel. For each of the channel modes, the setting is quite different accordingly.



Channel Configuration

This page is used to configure the parameters for the channel operation modes of your ADSL Modem/Router. Note : When connect type of PPPoE and PPPoA only is "Manual", the "Connect" and "Disconnect" button will be enable.

Default Route Selection: ● Auto ○ Specified

VPI: 0 **VCI:** **Encapsulation:** ● LLC ○ VC-Mux

Channel Mode: 1483 Bridged **Enable NAPT:** □

Enable IGMP: □ **ISP:**

PPP Settings: **User Name:** **Password:**

Type: Continuous **Idle Time (min):**

WAN IP Settings: **Type:** ○ Fixed IP ○ DHCP

Local IP Address: **Remote IP Address:**

Netmask:

Default Route: ○ Disable ○ Enable ○ Auto

Unnumbered □

Connect | Disconnect | Add | Modify | Delete | Undo | Refresh

Function buttons in this page:

Add

Click **Add** to complete the channel setup and add this PVC channel into configuration.

Modify

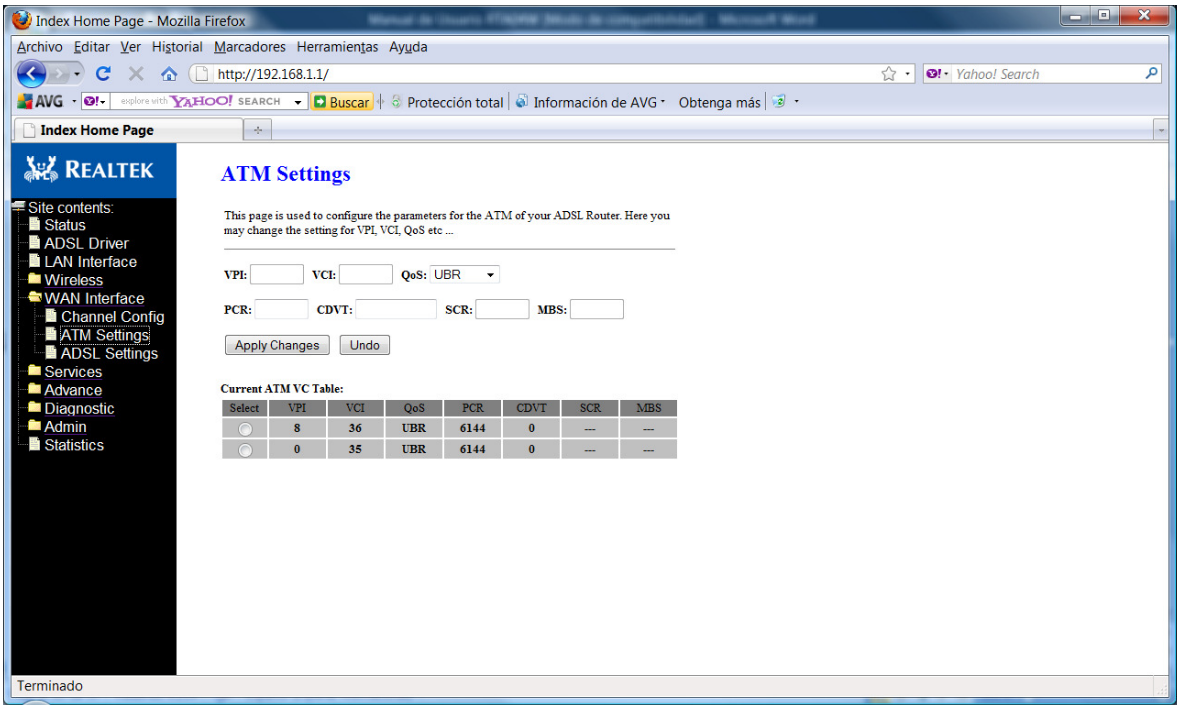
Select an existing PVC channel by clicking the radio button at the **Select** column of the **Current ATM VC Table** before we can modify the PVC channel. After selecting a PVC channel, we can modify the channel configuration at this page. Click **Modify** to complete the channel modification and apply to the configuration.

Delete

Select an existing PVC channel to be deleted by clicking the radio button at the **Select** column of the **Current ATM VC Table**. Click **Delete** to delete this PVC channel from configuration.

12.2. ATM Setting

The page is for ATM PVC QoS parameters setting. The DSL device support 4 QoS mode —UBR/CBR/rt-VBR/nrt-VBR.



ATM Settings

This page is used to configure the parameters for the ATM of your ADSL Router. Here you may change the setting for VPI, VCI, QoS etc ...

VPI: ____ VCI: ____ QoS: UBR

PCR: ____ CDVT: ____ SCR: ____ MBS: ____

Apply Changes | Undo

Current ATM VC Table:

Select	VPI	VCI	QoS	PCR	CDVT	SCR	MBS
○	8	36	UBR	6144	0	---	---
○	0	35	UBR	6144	0	---	---

Fields in this page:

Field	**Description**
VPI	Virtual Path Identifier. This is read-only field and is selected on the **Select** column in the Current ATM VC Table.
VCI	Virtual Channel Identifier. This is read-only field and is selected on the **Select** column in the Current ATM VC Table. The VCI, together with VPI, is used to identify the next destination of a cell as it passes through to the ATM switch.
QoS	Quality of Server, a characteristic of data transmission that measures how accurately and how quickly a message or data is transferred from a source host to a destination host over a network. The four QoS options are: – UBR (Unspecified Bit Rate): When UBR is selected; the SCR and MBS fields are disabled. – CBR (Constant Bit Rate): When CBR is selected, the SCR and MBS fields are disabled. – nrt-VBR (non-real-time Variable Bit Rate): When nrt-VBR is selected, the SCR and MBS fields are enabled. – rt-VBR (real-time Variable Bit Rate): When rt-VBR is selected, the SCR and MBS fields are enabled.
PCR	Peak Cell Rate, measured in cells/sec., is the cell rate which the source may never exceed.

SCR	Sustained Cell Rate, measured in cells/sec., is the average cell rate over the duration of the connection.
MBS	Maximum Burst Size, a traffic parameter that specifies the maximum number of cells that can be transmitted at the peak cell rate.

Function buttons in this page:

Apply Changes

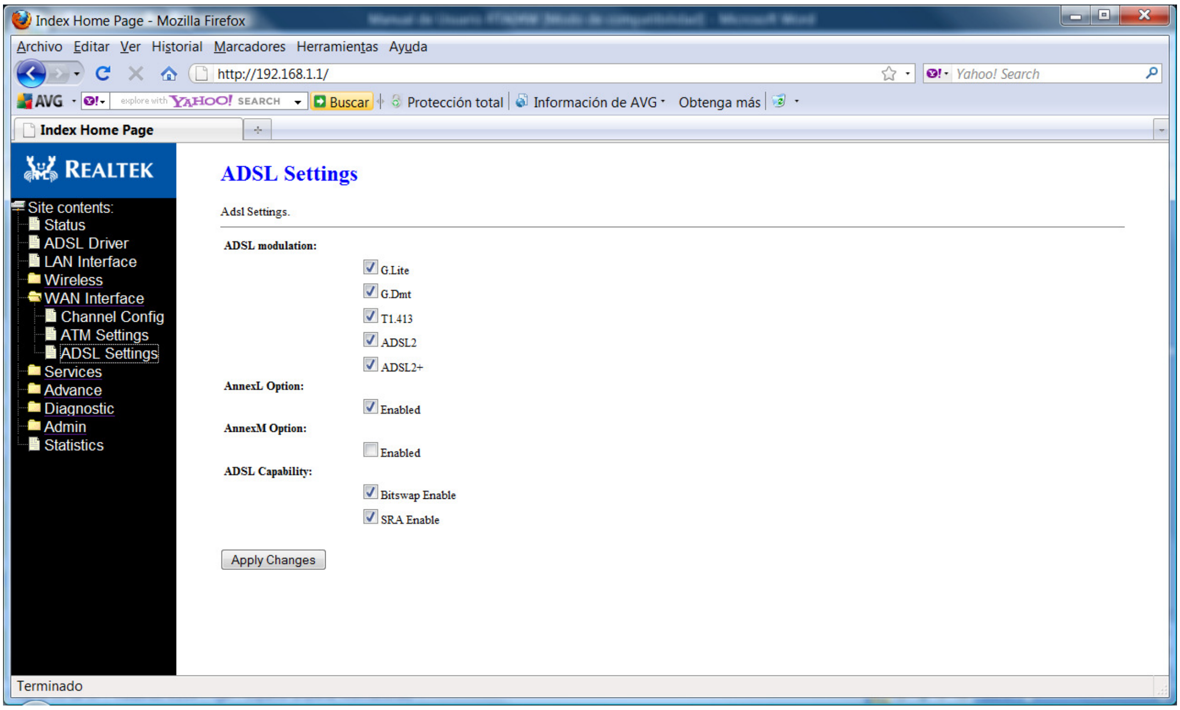
Set new PVC QoS mode for the selected PVC. New parameters will take effect after save into flash memory and reboot the system. See section “Admin” for save details.

Undo

Discard your settings.

12.3. ADSL Setting

The ADSL setting page allows you to select any combination of DSL training modes.



ADSL Settings

Adsl Settings.

ADSL modulation:
☑ G.Lite
☑ G.Dmt
☑ T1.413
☑ ADSL2
☑ ADSL2+

AnnexL Option:
☑ Enabled

AnnexM Option:
☐ Enabled

ADSL Capability:
☑ Bitswap Enable
☑ SRA Enable

Fields in this page:

Field	Description
ADSL modulation	Choose preferred xDSL standard protocols.

	G.lite : G.992.2 Annex A G.dmt : G.992.1 Annex A T1.413 : T1.413 issue #2 ADSL2 : G.992.3 Annex A ADSL2+ : G.992.5 Annex A
AnnexL Option	Enable/Disable ADSL2/ADSL2+ Annex L capability.
AnnexM Option	Enable/Disable ADSL2/ADSL2+ Annex M capability.
ADSL Capability	“Bit-swap Enable” : Enable/Disable bit-swap capability. “SRA Enable” : Enable/Disable SRA (seamless rate adaptation) capability.

Function buttons in this page:

Apply Changes

Click to save the setting to the configuration and the modem will be retrained.

13. Services

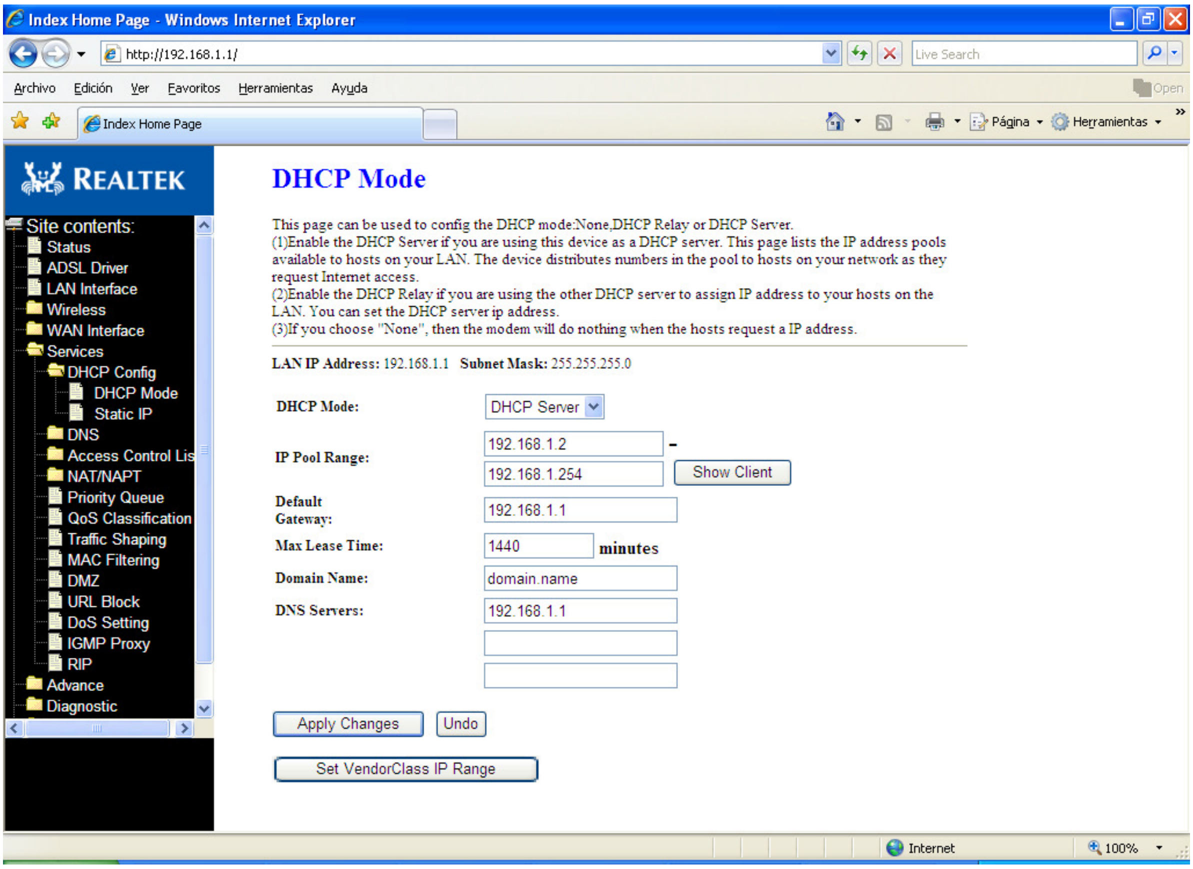
There are thirteen sub-menus for Services: [DHCP Config], [DNS], [Acess Control List], [NAT/NAPT], [Priority Queue], [QoS], [Traffic Shaping], [MAC Filtering], [DMZ], [URL Block], [DOS Setting], [IGMP Proxy] and [RIP].

13.1. DHCP Config

You can configure your network and DSL device to use the Dynamic Host Configuration Protocol (DHCP). This page provides DHCP instructions for implementing it on your network by selecting the role of DHCP protocol that this device wants to play. There are two different DHCP roles that this device can act as: DHCP Serve and DHCP Relay. When acting as DHCP server, you can setup the server parameters at the **DHCP Server** page; while acting as DHCP Relay, you can setup the relay at the **DHCP Relay** page.

13.1.1. DHCP Mode

By default, the device is configured as a DHCP server, with a predefined IP address pool of 192.168.1.2 through 192.168.1.254 (subnet mask 255.255.255.0).



DHCP Mode

This page can be used to config the DHCP mode:None,DHCP Relay or DHCP Server.
(1)Enable the DHCP Server if you are using this device as a DHCP server. This page lists the IP address pools available to hosts on your LAN. The device distributes numbers in the pool to hosts on your network as they request Internet access.
(2)Enable the DHCP Relay if you are using the other DHCP server to assign IP address to your hosts on the LAN. You can set the DHCP server ip address.
(3)If you choose "None", then the modem will do nothing when the hosts request a IP address.

LAN IP Address: 192.168.1.1 **Subnet Mask:** 255.255.255.0

DHCP Mode:	DHCP Server
IP Pool Range:	192.168.1.2 - 192.168.1.254
Default Gateway:	192.168.1.1
Max Lease Time:	1440 minutes
Domain Name:	domain.name
DNS Servers:	192.168.1.1

Fields in this page:

Field	**Description**
IP Pool Range	Specify the lowest and highest addresses in the pool.
Max Lease Time	The Lease Time is the amount of time that a network user is allowed to maintain a network connection to the device using the current dynamic IP address. At the end of the Lease Time, the lease is either renewed or a new IP is issued by the DHCP server. The amount of time is in units of seconds. The default value is 86400 seconds (1 day). The value –1 stands for the infinite lease.
Domain Name	A user-friendly name that refers to the group of hosts (subnet) that will be assigned addresses from this pool.

Function buttons in this page:

Apply Changes

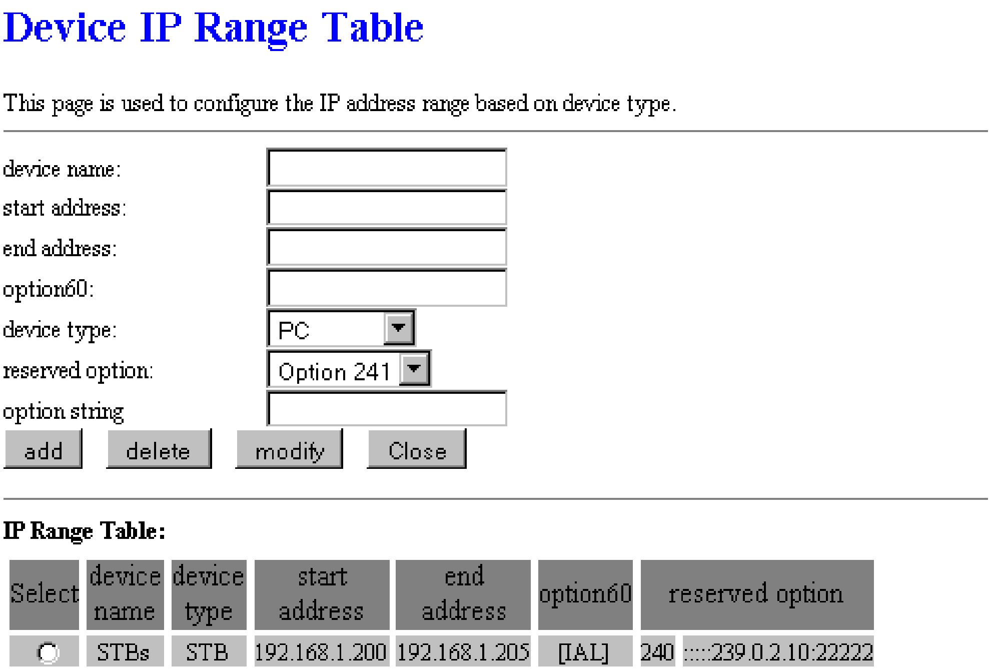
Set new DHCP server configuration. New parameters will take effect after save into flash memory and reboot the system. See section "Admin" for save details.

Show Client

Shows clients associated by DHCP to LAN

Set Vendor ClassIP Range

Use this page to set DHCP sub ranges to the different type of devices connected to the network (STB, IP Cameras, …):



Device IP Range Table

This page is used to configure the IP address range based on device type.

device name:	
start address:	
end address:	
option60:	
device type:	PC
reserved option:	Option 241
option string	

IP Range Table:

Select	device name	device type	start address	end address	option60	reserved option	
○	STBs	STB	192.168.1.200	192.168.1.205	[IAL]	240	:::::239.0.2.10:22222

Fields in this page:

Field	Description
Option 60	To identify the vendor and functionality of a DHCP client. The information is a variable-length string of characters or octets which has a meaning specified by the vendor of the DHCP client. One method that a DHCP client can utilize to communicate to the server that it is using a certain type of hardware or firmware is to set a value in its DHCP requests called the Vendor Class Identifier
Device type	User can define the client type such as PC, Camera, HGW, STB, Phone and Unknown device.
Reserved Option	It includes Option 241, 242, 243, 244, 245, which will be used to send information to the DHCP client.

Function buttons in this page:

Add

Click to save the rule entry to the configuration.

Delete

Delete selected setting from the IP range table. You can click the checkbox at the **Select** column to select the filtering rule.

Modify

Change selected setting from the IP range table. You can click the checkbox at the **Select** column to select the filtering rule.

Close

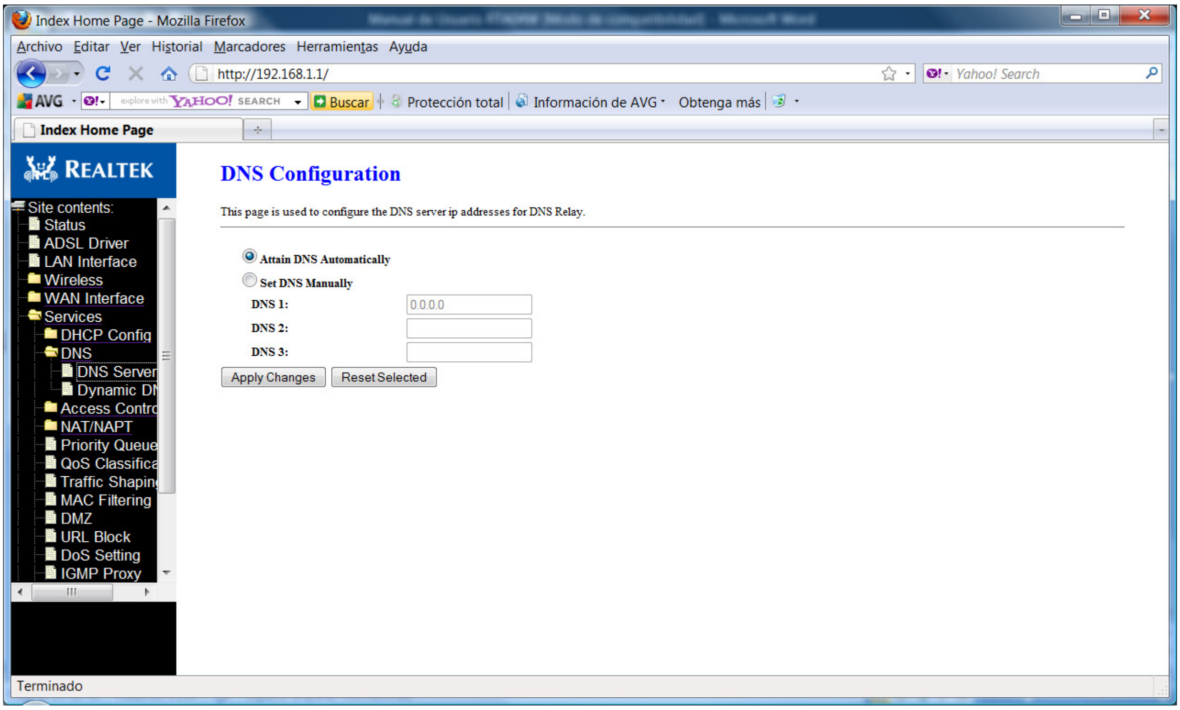
Closes this configuration page.

13.2. DNS

There are two submenus for the DNS Configuration: [DNS Server] and [Dynamic DNS]

13.2.1. DNS Server

This page is used to select the way to obtain the IP addresses of the DNS servers.



DNS Configuration

This page is used to configure the DNS server ip addresses for DNS Relay.

● Attain DNS Automatically

○ Set DNS Manually

DNS 1: 0.0.0.0

DNS 2:

DNS 3:

Fields in this page:

Field	Description
Attain DNS Automatically	Select this item if you want to use the DNS servers obtained by the WAN interface via the auto-configuration mechanism.
Set DNS Manually	Select this item to configure up to three DNS IP addresses.

Function buttons in this page:

Apply Changes

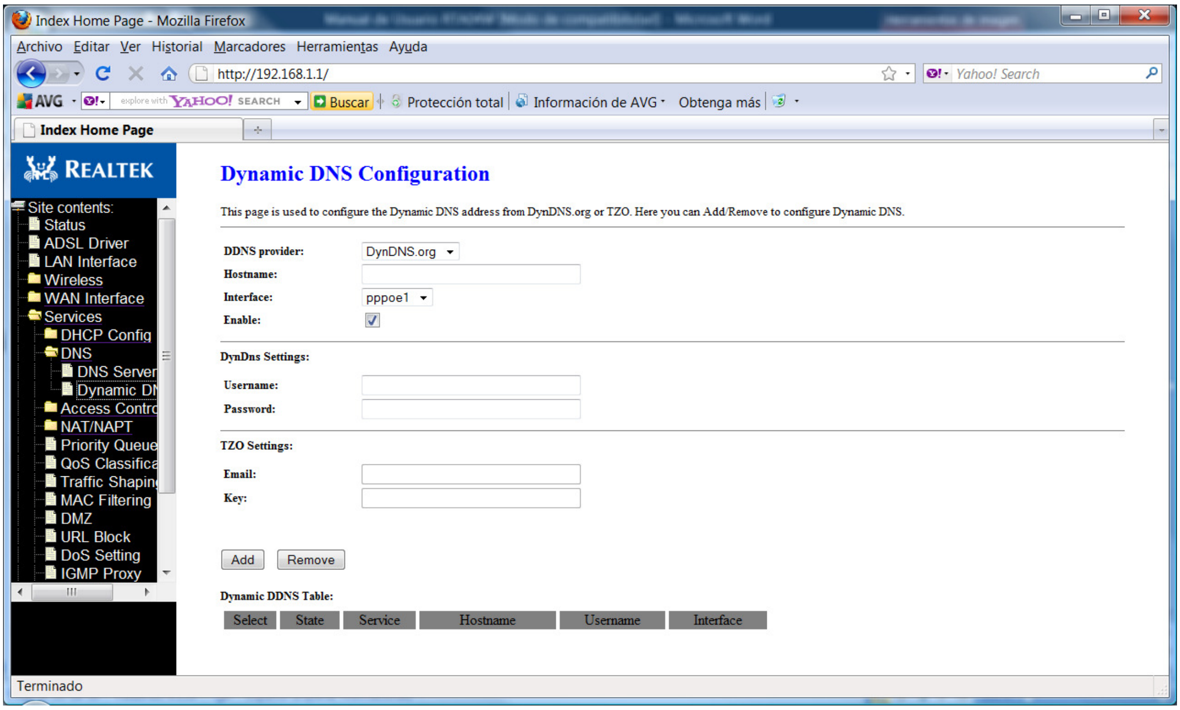
Set new DNS relay configuration. New parameters will take effect after save into flash memory and reboot the system. See section “Admin” for save details.

Reset Selected

Discard your changes.

13.2.2. Dynamic DNS

Each time your device connects to the Internet, your ISP assigns a different IP address to your device. In order for you or other users to access your device from the WAN-side, you need to manually track the IP that is currently used. The Dynamic DNS feature allows you to register your device with a DNS server and access your device each time using the same host name. The **Dynamic DNS** page allows you to enable/disable the Dynamic DNS feature.



Dynamic DNS Configuration

This page is used to configure the Dynamic DNS address from DynDNS.org or TZO. Here you can Add/Remove to configure Dynamic DNS.

DDNS provider:	DynDNS.org
Hostname:	
Interface:	pppoe1
Enable:	☑

DynDns Settings:

Username:	
Password:	

TZO Settings:

Email:	
Key:	

Add   Remove

Dynamic DDNS Table:

Select	State	Service	Hostname	Username	Interface

On the **Dynamic DNS** page, configure the following fields:

Field	Description
Enable	Check this item to enable this registration account for the DNS server.
DDNS provider	There are two DDNS providers to be selected in order to register your device with: DynDNS and TZO. A charge may occur depends on the service you select.
Hostname	Domain name to be registered with the DDNS server.
Interface	This field defaults to your device's WAN interface over which your device will be accessed.
Username	User-name assigned by the DDNS service provider.
Password	Password assigned by the DDNS service provider.

Function buttons in this page:

Add

Click Add to add this registration into the configuration.

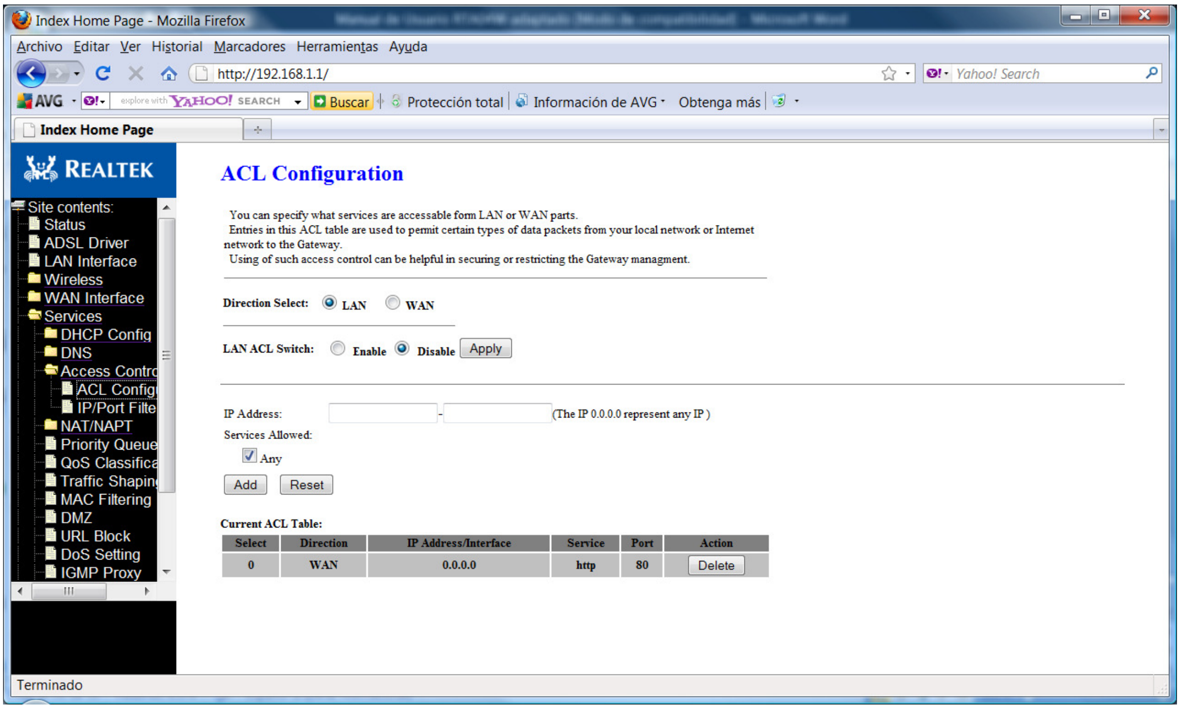
Remove

Select an existing DDNS registration by clicking the radio button at the **Select** column of the **Dynamic DNS Table**. Click **Remove** button to remove the selected registration from the configuration.

13.3. Access Control

13.3.1. ACL

The Access Control List (ACL) is a list of permissions attached to the DSL device. The list specifies who is allowed to access this device. If ACL is enabled, all hosts cannot access this device except for the hosts with IP address in the ACL table.



ACL Configuration

You can specify what services are accessable form LAN or WAN parts.
Entries in this ACL table are used to permit certain types of data packets from your local network or Internet network to the Gateway.
Using of such access control can be helpful in securing or restricting the Gateway managment.

Direction Select: ● LAN ○ WAN

LAN ACL Switch: ○ Enable ● Disable Apply

IP Address: ___ - ___ (The IP 0.0.0.0 represent any IP)
Services Allowed:
☑ Any

Add Reset

Current ACL Table:

Select	Direction	IP Address/Interface	Service	Port	Action
0	WAN	0.0.0.0	http	80	Delete

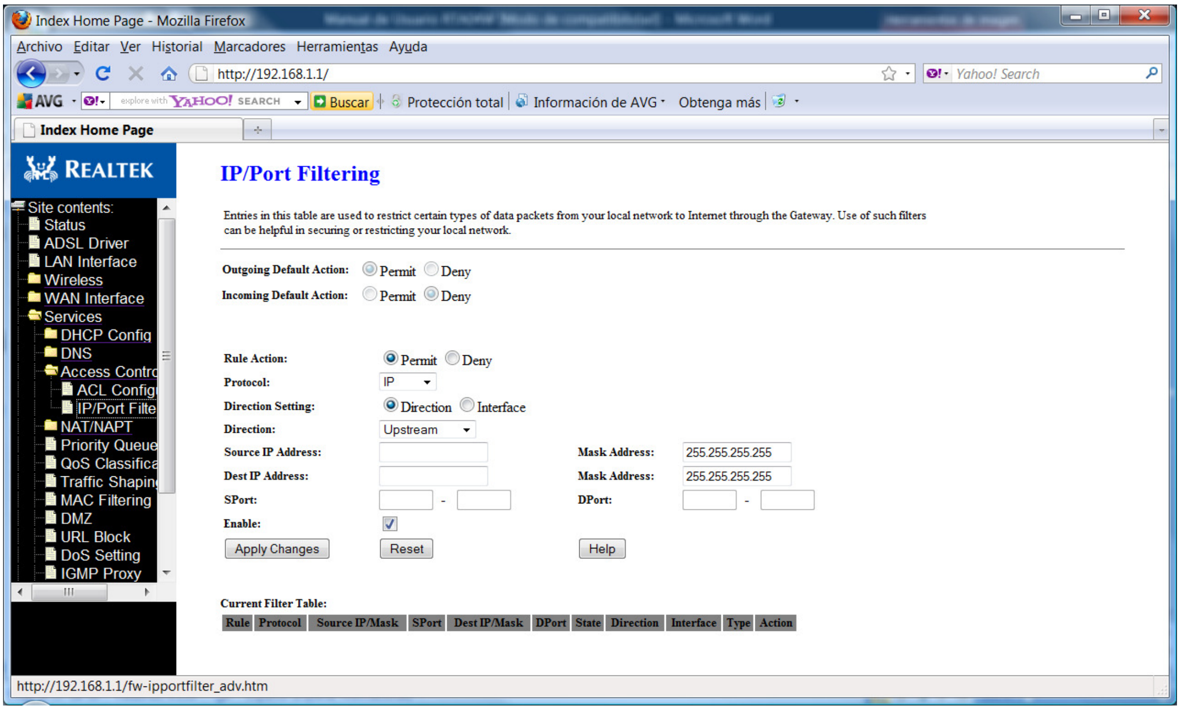
Fields in this page:

Field	Description
ACL Switch	Enable/disable the ACL function
Direction select	Select the interface domain: LAN or WAN

IP Address	Enter the IP address that allows access to this device.

13.3.2. IP/Port Filtering

Firewall contains several features that are used to deny or allow traffic from passing through the device.



IP/Port Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

Outgoing Default Action: ● Permit ○ Deny
Incoming Default Action: ○ Permit ● Deny

Rule Action: ● Permit ○ Deny
Protocol: IP
Direction Setting: ● Direction ○ Interface
Direction: Upstream
Source IP Address: Mask Address: 255.255.255.255
Dest IP Address: Mask Address: 255.255.255.255
SPort: - DPort: -
Enable: ☑

Apply Changes | Reset | Help

Current Filter Table:

Rule	Protocol	Source IP/Mask	SPort	Dest IP/Mask	DPort	State	Direction	Interface	Type	Action

Fields on the first setting block:

Field	Description
Outgoing Default Action	Specify the default action on the LAN to WAN forwarding path.
Incoming Default Action	Specify the default action on the WAN to LAN forwarding path.

Fields on the second setting block:

Field	Description
Rule Action	Deny or allow traffic when matching this rule.
Direction	Traffic forwarding direction.
Protocol	There are 3 options available: TCP, UDP and ICMP.

Src IP Address	The source IP address assigned to the traffic on which filtering is applied.
Src Subnet Mask	Subnet-mask of the source IP.
Src Port	Starting and ending source port numbers.
Dst IP Address	The destination IP address assigned to the traffic on which filtering is applied.
Dst Subnet Mask	Subnet-mask of the destination IP.
Dst Port	Starting and ending destination port numbers.

Function buttons for this second setting block:

Apply Changes

Click to save the rule entry to the configuration.

Function buttons for the **Current Filter Table**:

Delete Selected

Delete selected filtering rules from the filter table. You can click the checkbox at the **Select** column to select the filtering rule.

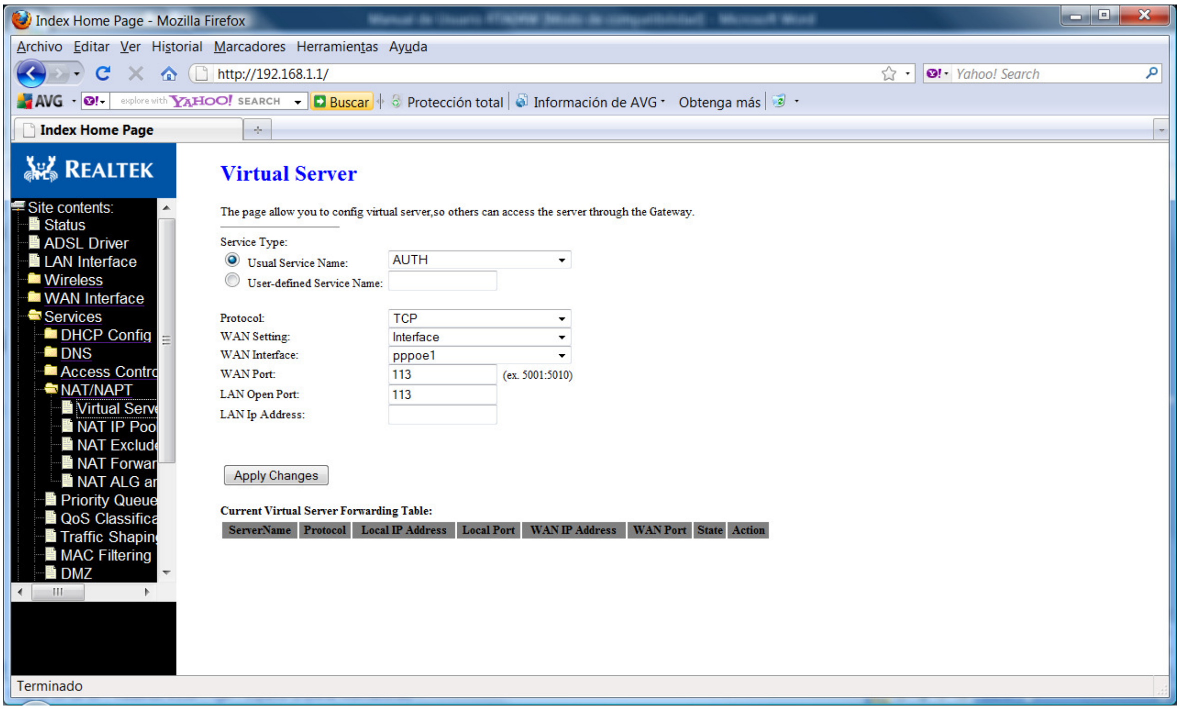
Delete All

Delete all filtering rules from the filter table

13.4. NAT/PAT

In this option, all possible NAT configurations can be entered.

13.4.1. Virtual Server



Virtual Server

The page allow you to config virtual server,so others can access the server through the Gateway.

Service Type:
● Usual Service Name: AUTH
○ User-defined Service Name:

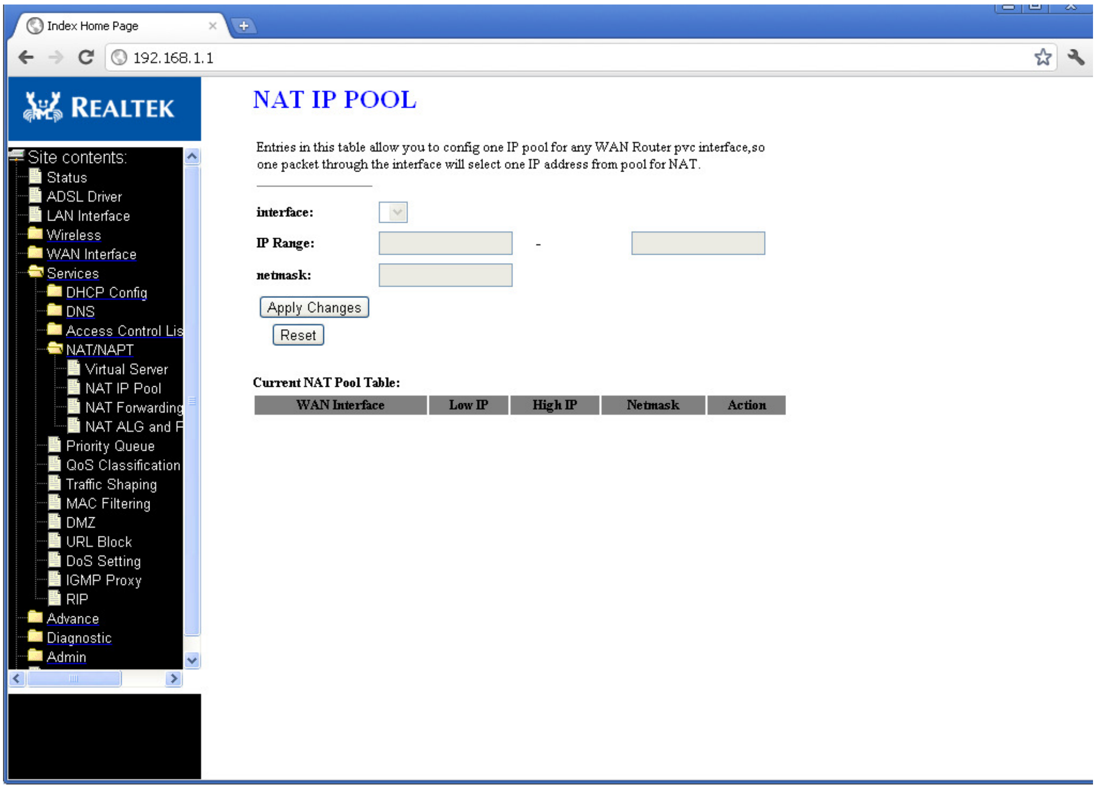
Protocol: TCP
WAN Setting: Interface
WAN Interface: pppoe1
WAN Port: 113 (ex. 5001:5010)
LAN Open Port: 113
LAN Ip Address:

Apply Changes

Current Virtual Server Forwarding Table:

ServerName	Protocol	Local IP Address	Local Port	WAN IP Address	WAN Port	State	Action

13.4.2. NAT IP Pool



NAT IP POOL

Entries in this table allow you to config one IP pool for any WAN Router pvc interface,so one packet through the interface will select one IP address from pool for NAT.

interface:

IP Range: -

netmask:

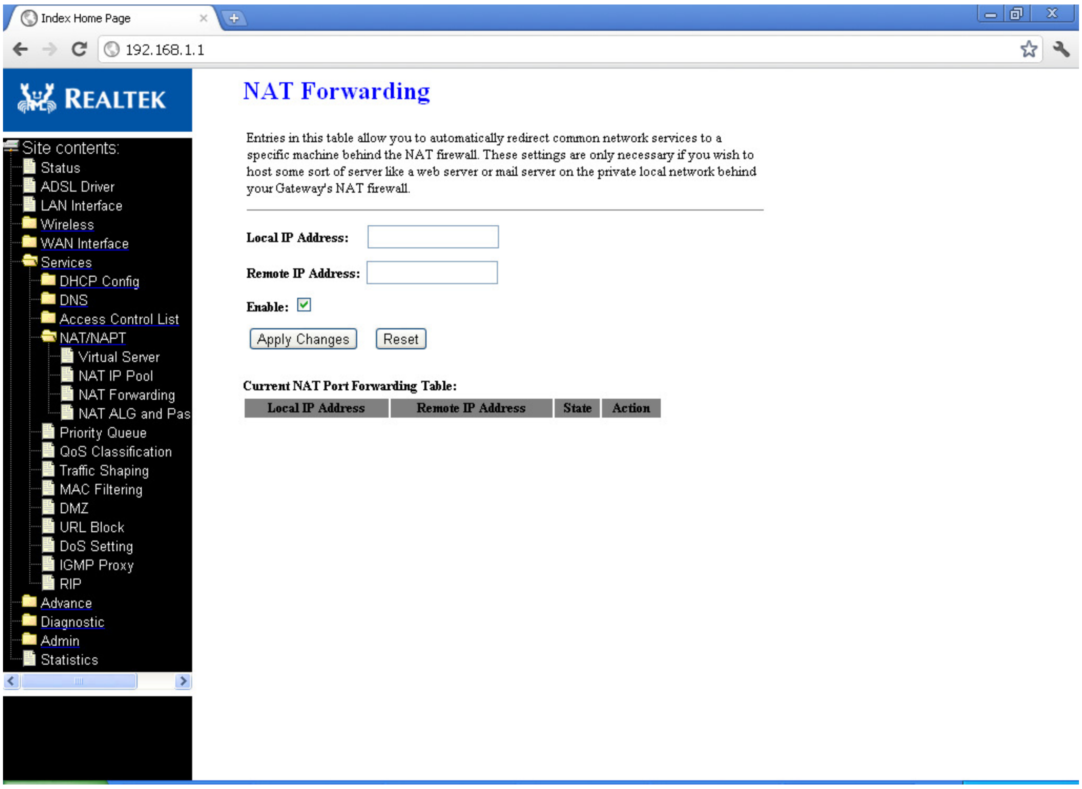
Apply Changes

Reset

Current NAT Pool Table:

WAN Interface	Low IP	High IP	Netmask	Action

13.4.3. NAT Forwarding



NAT Forwarding

Entries in this table allow you to automatically redirect common network services to a specific machine behind the NAT firewall. These settings are only necessary if you wish to host some sort of server like a web server or mail server on the private local network behind your Gateway's NAT firewall.

Local IP Address:

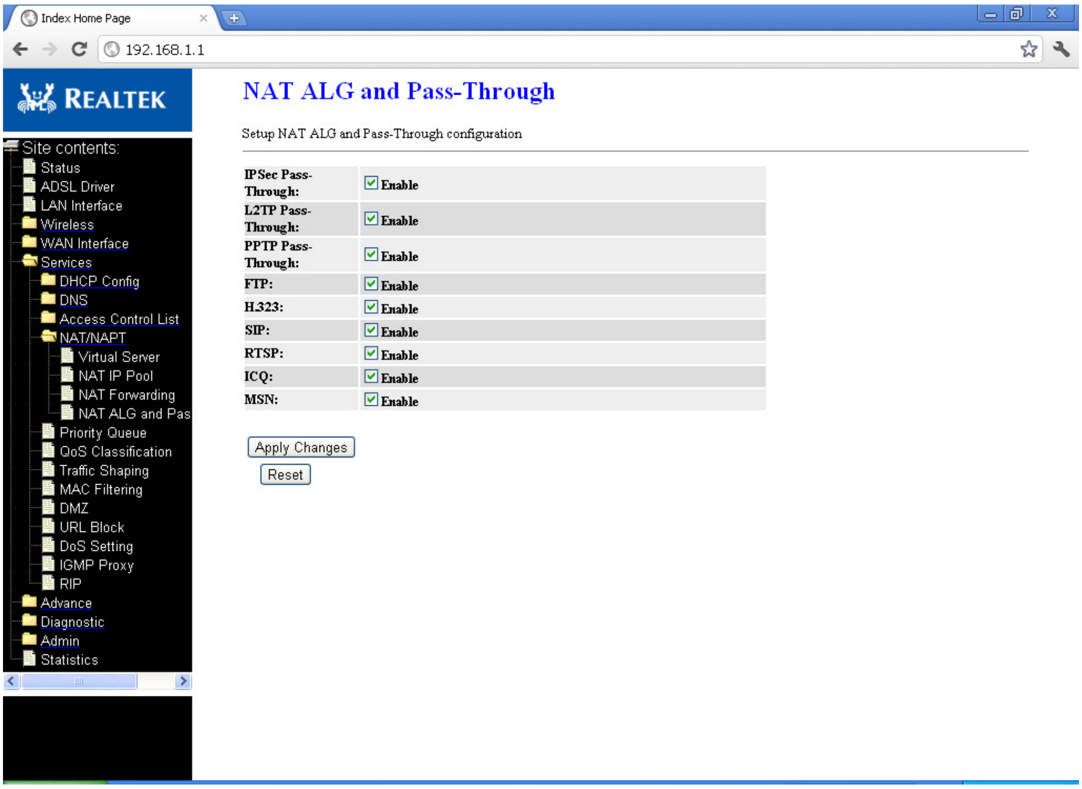
Remote IP Address:

Enable: ☑

Current NAT Port Forwarding Table:

Local IP Address	Remote IP Address	State	Action

13.4.4. NAT ALG and pass through



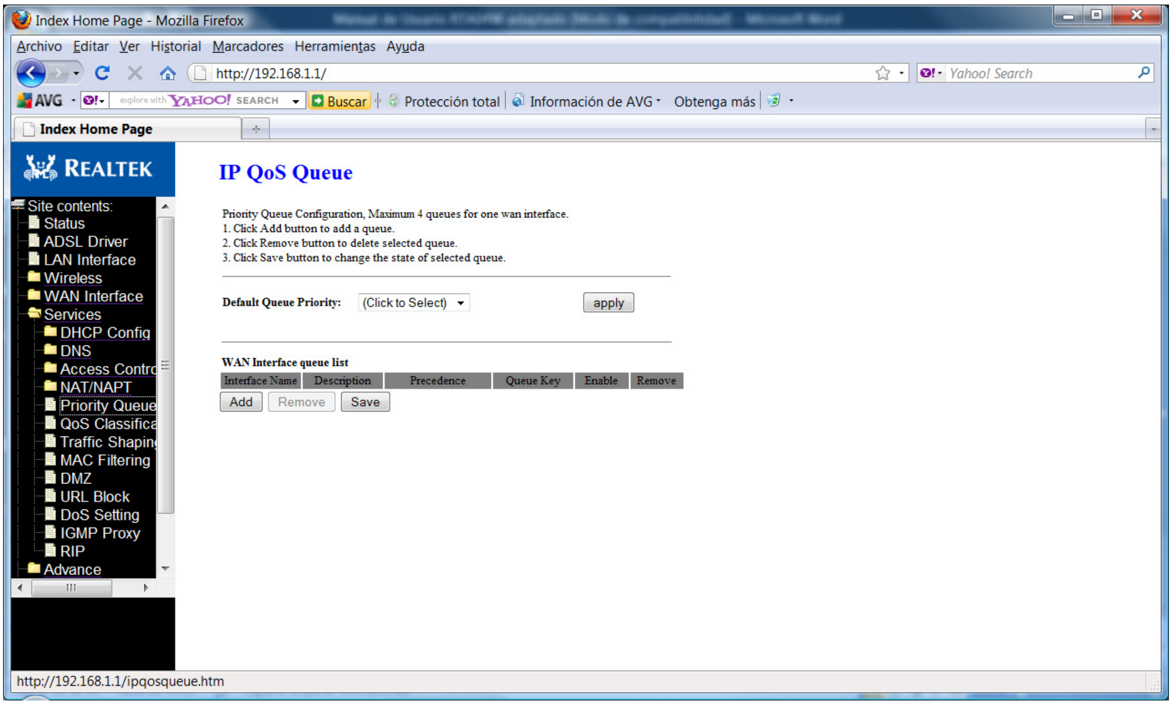
NAT ALG and Pass-Through

Setup NAT ALG and Pass-Through configuration

IPSec Pass-Through:	☑ **Enable**
L2TP Pass-Through:	☑ **Enable**
PPTP Pass-Through:	☑ **Enable**
FTP:	☑ **Enable**
H.323:	☑ **Enable**
SIP:	☑ **Enable**
RTSP:	☑ **Enable**
ICQ:	☑ **Enable**
MSN:	☑ **Enable**

13.5. Priority queue

In this page, you can configure the QoS preference list. Follow instructions in the page to configure.



IP QoS Queue

Priority Queue Configuration, Maximum 4 queues for one wan interface.
1. Click Add button to add a queue.
2. Click Remove button to delete selected queue.
3. Click Save button to change the state of selected queue.

Default Queue Priority: (Click to Select) apply

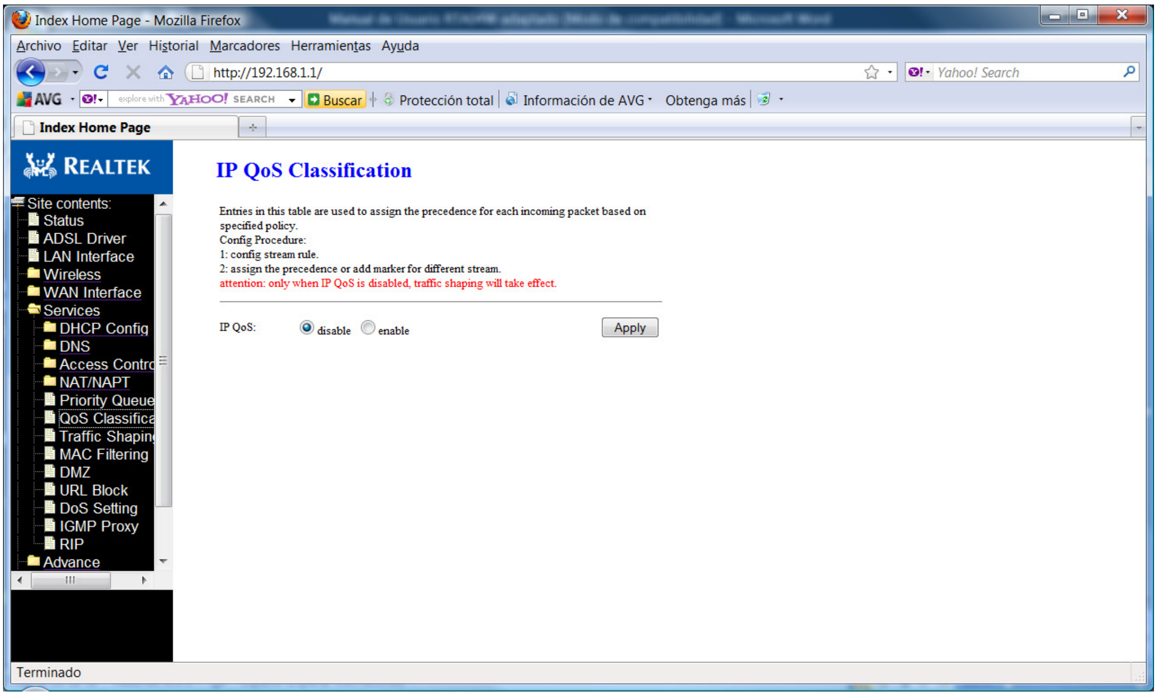
WAN Interface queue list

Interface Name	Description	Precedence	Queue Key	Enable	Remove

Add Remove Save

13.6. QoS Classification

In this page, you can define and assign the preferences and priorities to the incoming packets, and manage the Upstream packets queue according to the priorization set:



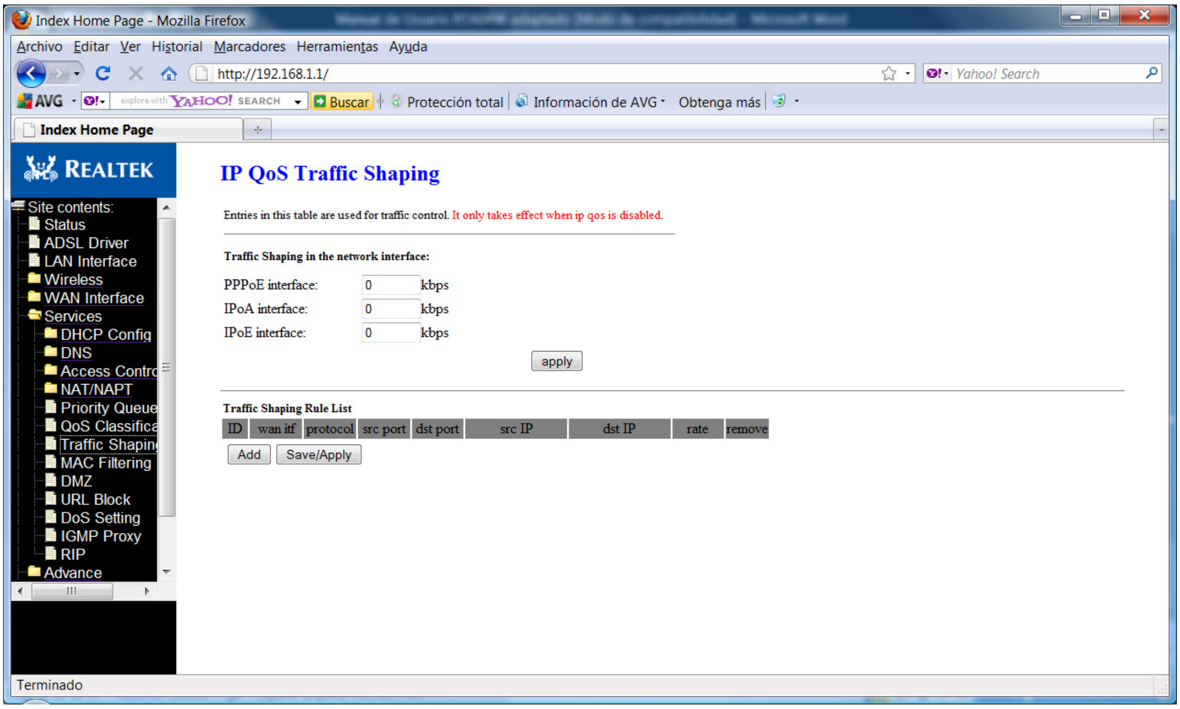
IP QoS Classification

Entries in this table are used to assign the precedence for each incoming packet based on specified policy.
Config Procedure:
1: config stream rule.
2: assign the precedence or add marker for different stream.
attention: only when IP QoS is disabled, traffic shaping will take effect.

IP QoS: ● disable ○ enable [Apply]

13.7. Traffic Shaping

In this page you can apply Traffic Shaping for the IP traffic control. It will only have effect if the IP QoS is disabled:



IP QoS Traffic Shaping

Entries in this table are used for traffic control. It only takes effect when ip qos is disabled.

Traffic Shaping in the network interface:

PPPoE interface: 0 kbps
IPoA interface: 0 kbps
IPoE interface: 0 kbps

[apply]

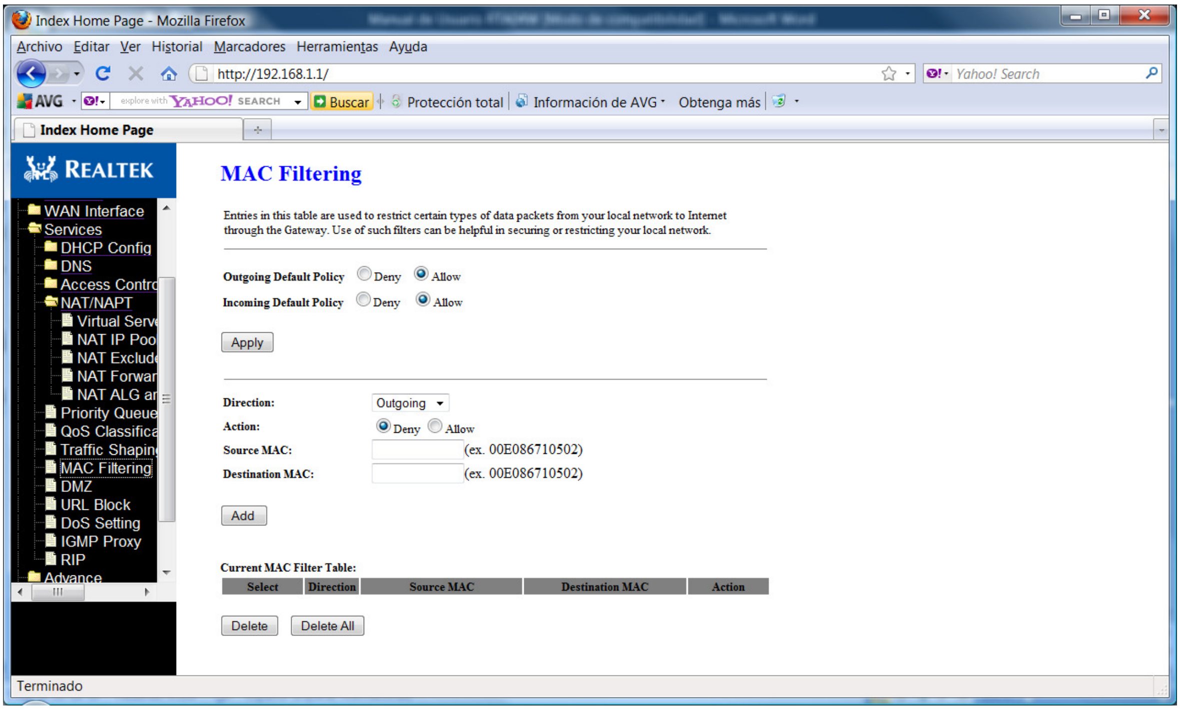
Traffic Shaping Rule List

ID	wan itf	protocol	src port	dst port	src IP	dst IP	rate	remove

[Add] [Save/Apply]

13.8. MAC Filtering

The MAC filtering feature allows you to define rules to allow or deny frames through the device based on source MAC address, destination MAC address, and traffic direction.



MAC Filtering

Entries in this table are used to restrict certain types of data packets from your local network to Internet through the Gateway. Use of such filters can be helpful in securing or restricting your local network.

Outgoing Default Policy ○ Deny ● Allow

Incoming Default Policy ○ Deny ● Allow

Apply

Direction: Outgoing

Action: ● Deny ○ Allow

Source MAC: (ex. 00E086710502)

Destination MAC: (ex. 00E086710502)

Add

Current MAC Filter Table:

Select	Direction	Source MAC	Destination MAC	Action

Delete Delete All

Fields on the first setting block:

Field	Description
Outgoing Default Policy	Specify the default action on the LAN to WAN bridging/forwarding path.
Incoming Default Policy	Specify the default action on the WAN to LAN bridging/forwarding path.

Function button for this first setting block:

Apply Changes

Click to save the setting of default actions to the configuration.

Fields on the second setting block:

Field	Description
Rule Action	Deny or allow traffic when matching this rule.

Direction	Traffic bridging/forwarding direction.
Src MAC Address	The source MAC address. It must be xxxxxxxxxxxx format. Blanks can be used in the MAC address space and are considered as don't care.
Dst MAC Address	The destination MAC address. It must be xxxxxxxxxxxx format. Blanks can be used in the MAC address space and are considered as don't care.

Function buttons for this second setting block:

Add

Click to save the rule entry to the configuration.

Function buttons for the **Current Filter Table**:

Delete

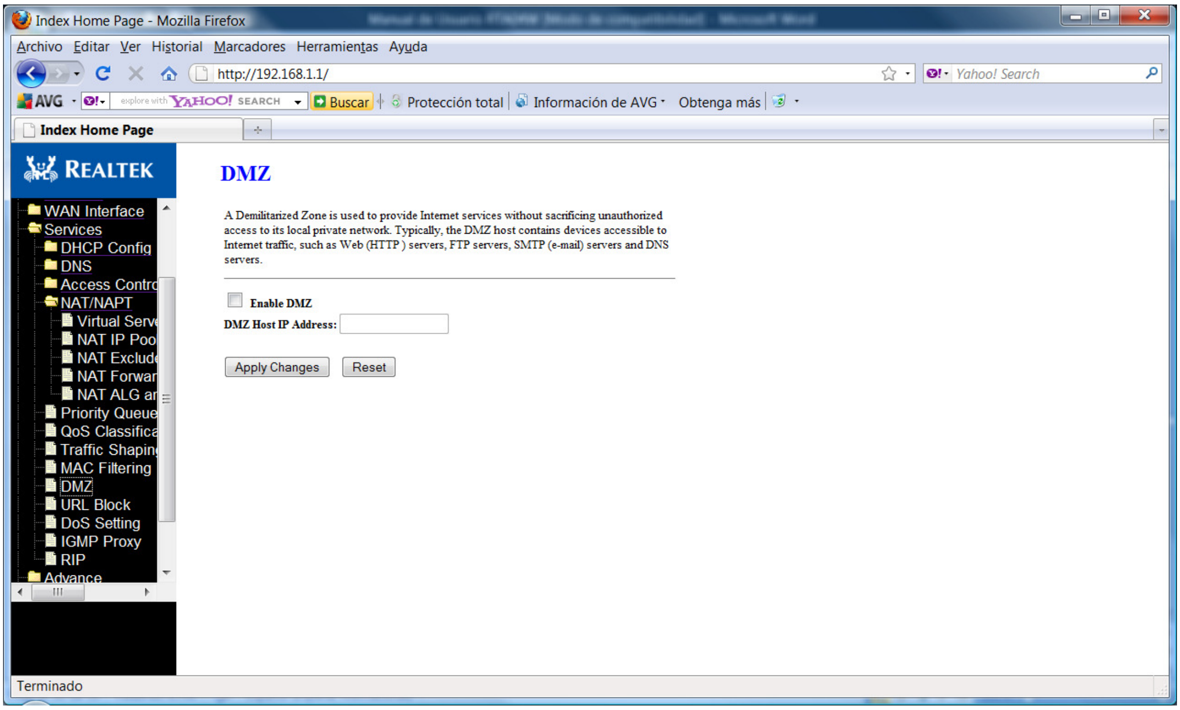
Delete selected filtering rules from the filter table. You can click the checkbox at the **Select** column to select the filtering rule.

Delete All

Delete all filtering rules from the filter table

13.9. DMZ

A DMZ (Demilitarized Zone) allows a single computer on your LAN to expose ALL of its ports to the Internet. Enter the IP address of that computer as a DMZ (Demilitarized Zone) host with unrestricted Internet access. When doing this, the DMZ host is no longer behind the firewall



DMZ

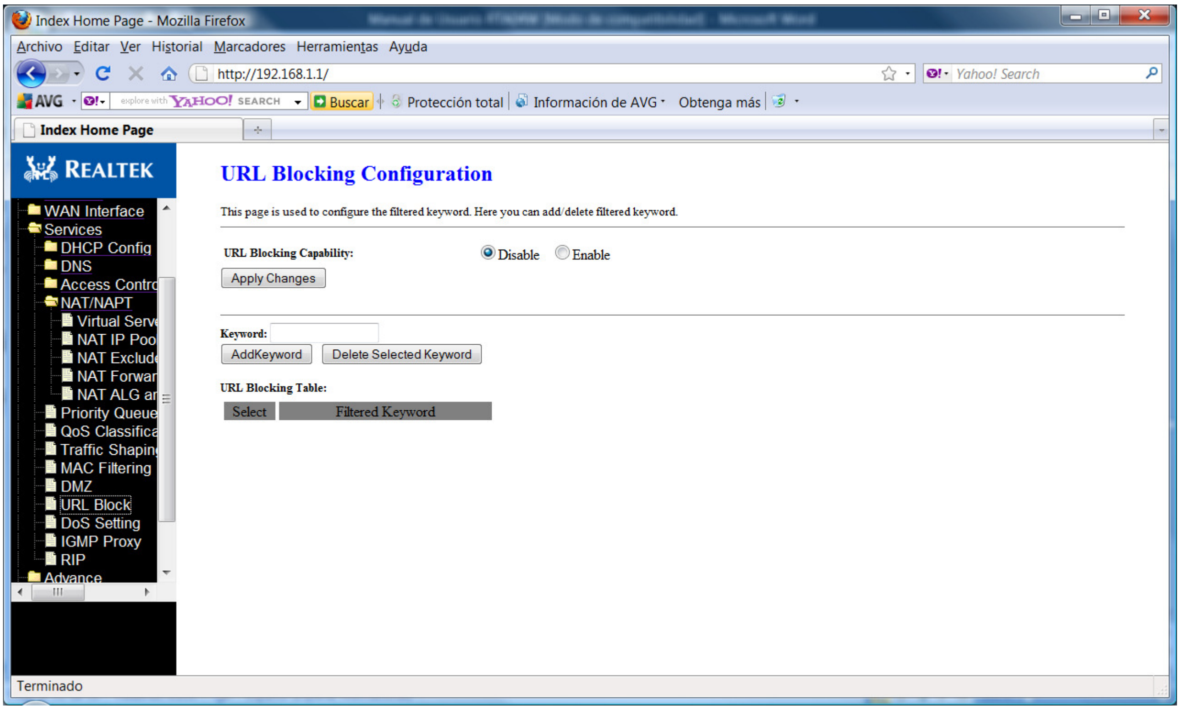
A Demilitarized Zone is used to provide Internet services without sacrificing unauthorized access to its local private network. Typically, the DMZ host contains devices accessible to Internet traffic, such as Web (HTTP) servers, FTP servers, SMTP (e-mail) servers and DNS servers.

☐ Enable DMZ

DMZ Host IP Address:

13.10. URL BLOCK

In this page you can configure the FQDN (Fully Qualified Domain Name) to which you want to block access. For instance, for the PC named “serv1”, and the domain “bar.com”, you can block access to URL “serv1.bar.com”. you can also block through key word .



URL Blocking Configuration

This page is used to configure the filtered keyword. Here you can add/delete filtered keyword.

URL Blocking Capability: ● Disable ○ Enable

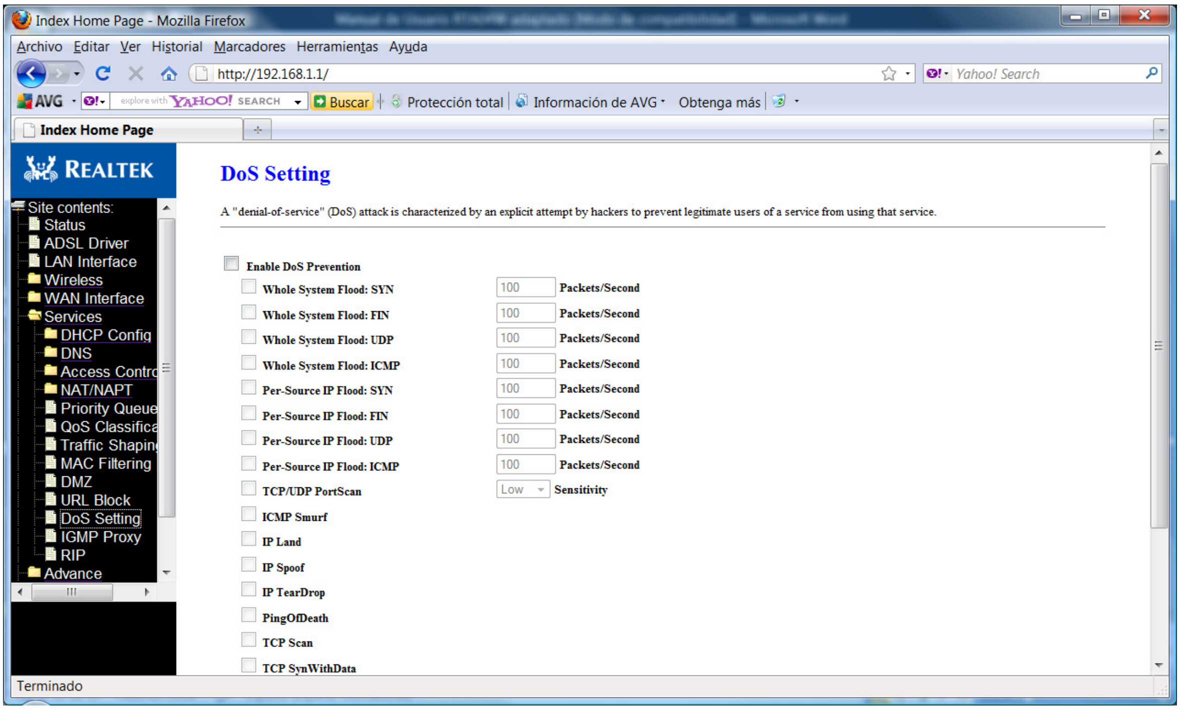
Keyword:

URL Blocking Table:

Select	Filtered Keyword

13.11. DoS Setting

This page allows you to prevent form external attacks.



DoS Setting

A "denial-of-service" (DoS) attack is characterized by an explicit attempt by hackers to prevent legitimate users of a service from using that service.

□ Enable DoS Prevention		
□ Whole System Flood: SYN	100	Packets/Second
□ Whole System Flood: FIN	100	Packets/Second
□ Whole System Flood: UDP	100	Packets/Second
□ Whole System Flood: ICMP	100	Packets/Second
□ Per-Source IP Flood: SYN	100	Packets/Second
□ Per-Source IP Flood: FIN	100	Packets/Second
□ Per-Source IP Flood: UDP	100	Packets/Second
□ Per-Source IP Flood: ICMP	100	Packets/Second
□ TCP/UDP PortScan	Low	Sensitivity
□ ICMP Smurf		
□ IP Land		
□ IP Spoof		
□ IP TearDrop		
□ PingOfDeath		
□ TCP Scan		
□ TCP SynWithData		

13.12. IGMP Proxy

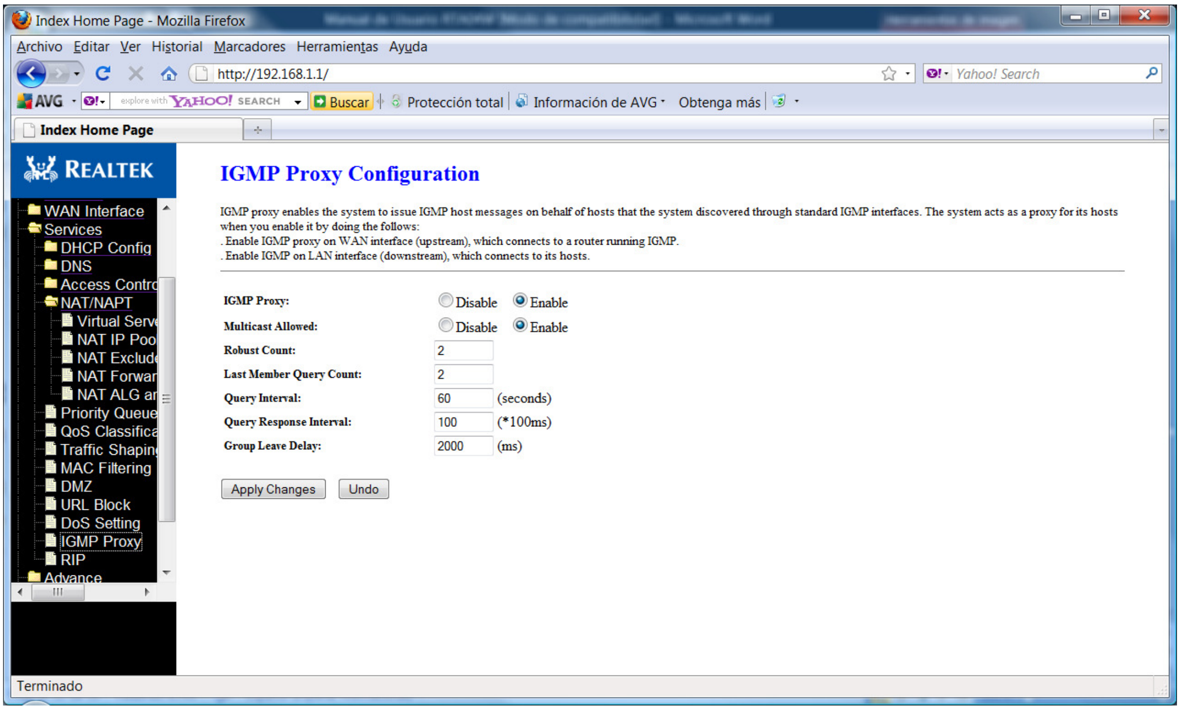
Multicasting is useful when the same data needs to be sent to more than one hosts. Using multicasting as opposed to sending the same data to the individual hosts uses less network bandwidth. The multicast feature also enables you to receive multicast video stream from multicast servers.

IP hosts use Internet Group Management Protocol (IGMP) to report their multicast group memberships to neighboring routers. Similarly, multicast routers use IGMP to discover which of their hosts belong to multicast groups. This device supports IGMP proxy that handles IGMP messages. When enabled, this device acts as a proxy for a LAN host making requests to join and leave multicast groups, or a multicast router sending multicast packets to multicast group on the WAN side.

When a host wishes to join a multicast group, it sends IGMP REPORT message to the device’s IGMP downstream interface. The proxy sets up a multicast route for the interface and host requesting the video content. It then forwards the Join to the upstream multicast router. The multicast IP traffic will then be forwarded to the requesting host. On a leave, the proxy removes the route and then forwards the leave to the upstream multicast router.

The IGMP Proxy page allows you to enable multicast on WAN and LAN interfaces. The LAN interface is always served as downstream IGMP proxy, and you can configure one of the available WAN interfaces as the upstream IGMP proxy.

- Upstream: The interface that IGMP requests from hosts is sent to the multicast router.
- Downstream: The interface data from the multicast router are sent to hosts in the multicast group database.



IGMP Proxy Configuration

IGMP proxy enables the system to issue IGMP host messages on behalf of hosts that the system discovered through standard IGMP interfaces. The system acts as a proxy for its hosts when you enable it by doing the follows:
. Enable IGMP proxy on WAN interface (upstream), which connects to a router running IGMP.
. Enable IGMP on LAN interface (downstream), which connects to its hosts.

IGMP Proxy:	○ Disable ● Enable	
Multicast Allowed:	○ Disable ● Enable	
Robust Count:	2	
Last Member Query Count:	2	
Query Interval:	60	(seconds)
Query Response Interval:	100	(*100ms)
Group Leave Delay:	2000	(ms)

Apply Changes Undo

Fields in this page:

Field	Description
IGMP Proxy	Enable/disable IGMP proxy feature
Proxy Interface	The upstream WAN interface is selected here.

Function buttons in this page:

Apply Changes

Click to save the setting to the configuration.

Undo

Discard your settings.

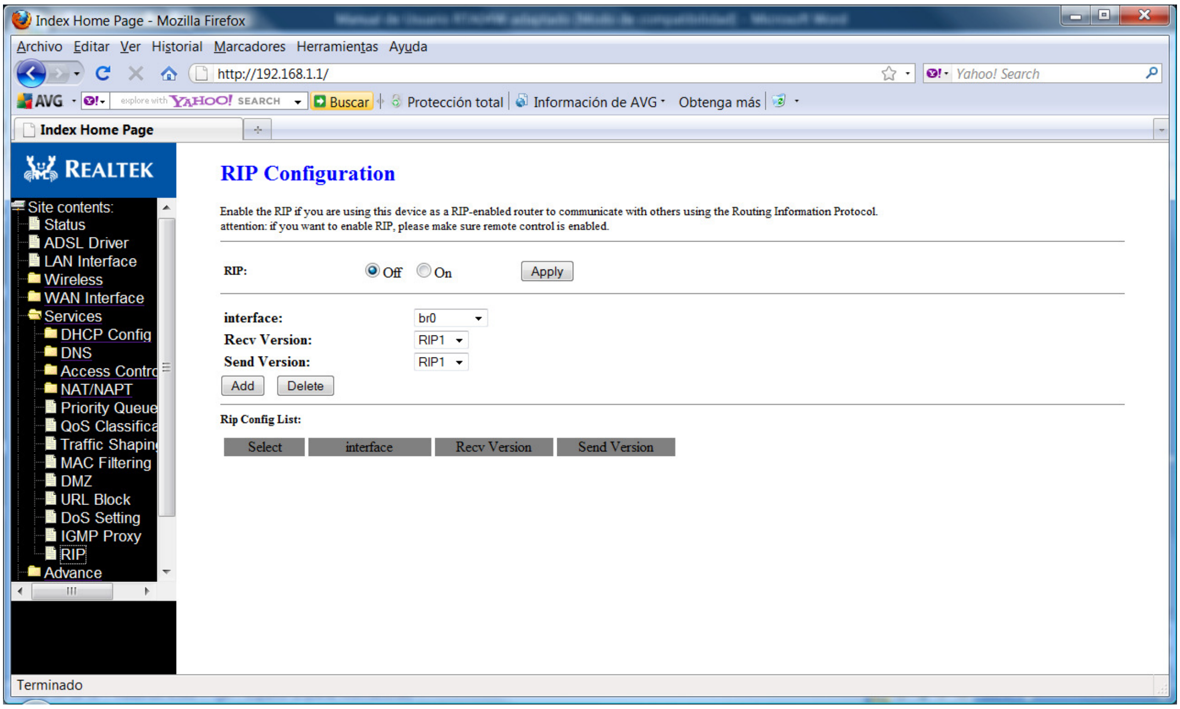
13.13. RIP

RIP is an Internet protocol you can set up to share routing table information with other routing devices on your LAN, at your ISP's location, or on remote networks connected to your network via the ADSL line.

Most small home or office networks do not need to use RIP; they have only one router, such as the ADSL Router, and one path to an ISP. In these cases, there is no need to share routes, because all Internet data from the network is sent to the same ISP gateway.

You may want to configure RIP if any of the following circumstances apply to your network:

- Your home network setup includes an additional router or RIP-enabled PC (other than the ADSL Router). The ADSL Router and the router will need to communicate via RIP to share their routing tables.
- Your network connects via the ADSL line to a remote network, such as a corporate network. In order for your LAN to learn the routes used within your corporate network, they should both be configured with RIP.
- Your ISP requests that you run RIP for communication with devices on their network.



RIP Configuration

Enable the RIP if you are using this device as a RIP-enabled router to communicate with others using the Routing Information Protocol.
attention: if you want to enable RIP, please make sure remote control is enabled.

RIP: ● Off ○ On [Apply]

interface: br0
Recv Version: RIP1
Send Version: RIP1
[Add] [Delete]

Rip Config List:

Select	interface	Recv Version	Send Version

Fields on the first setting block:

Field	Description
RIP	Enable/disable RIP feature.

Function buttons for the second setting block in this page:

Apply Changes

Click to save the setting of this setting block to the system configuration

Fields on the second setting block:

Field	**Description**
Interface	The name of the interface on which you want to enable RIP.
Receive Mode	Indicate the RIP version in which information must be passed to the DSL device in order for it to be accepted into its routing table.
Send Mode	Indicate the RIP version this interface will use when it sends its route information to other devices.

Function buttons for the second setting block in this page:

Add

Add a RIP entry and the new RIP entry will be display in the table

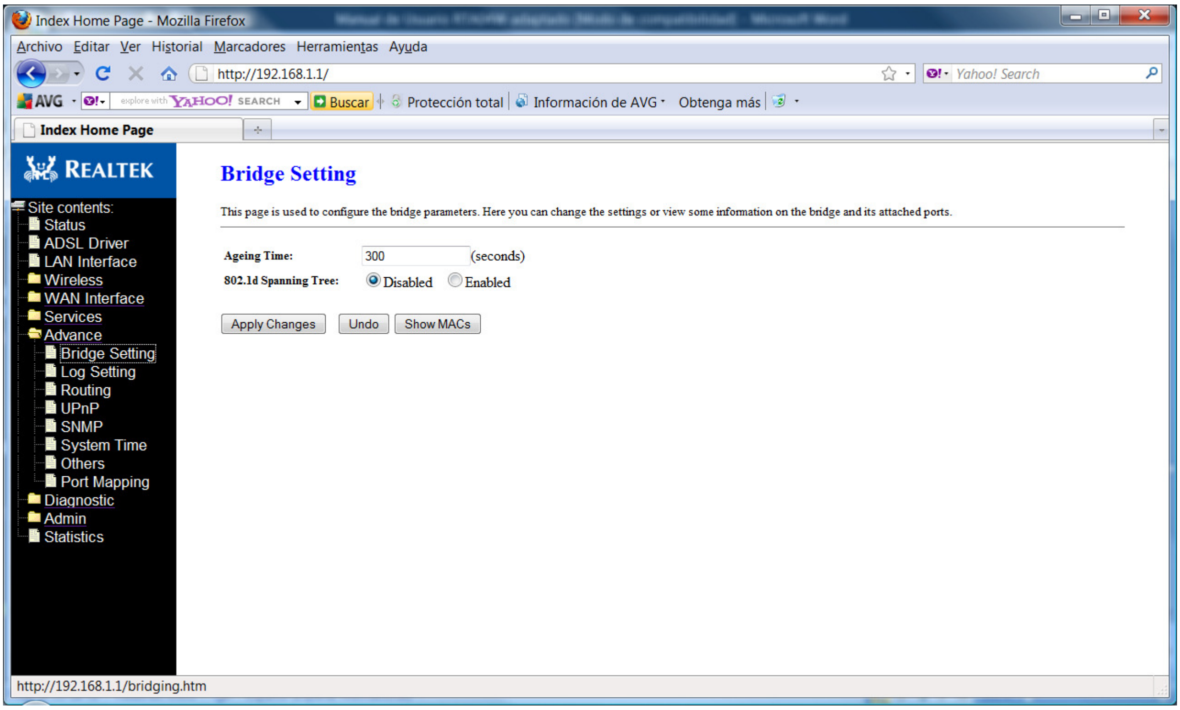
Delete Selected Entry

Delete a selected RIP entry. The RIP entry can be selected on the **Select** column of the **RIP Config Table**.

14. Advanced Configuration

14.1. Bridging

You can enable/disable Spanning Tree Protocol and set MAC address aging time in this page.



Bridge Setting

This page is used to configure the bridge parameters. Here you can change the settings or view some information on the bridge and its attached ports.

Ageing Time: 300 (seconds)

802.1d Spanning Tree: ● Disabled ○ Enabled

Apply Changes | Undo | Show MACs

Fields in this page:

Field	**Description**
Ageing Time	Set the Ethernet address ageing time, in seconds. After [Ageing Time] seconds of not having seen a frame coming from a certain address, the bridge will time out (delete) that address from Forwarding Database (fdb).
802.1d Spanning Tree	Enable/disable the spanning tree protocol

Function buttons in this page:

Apply Changes

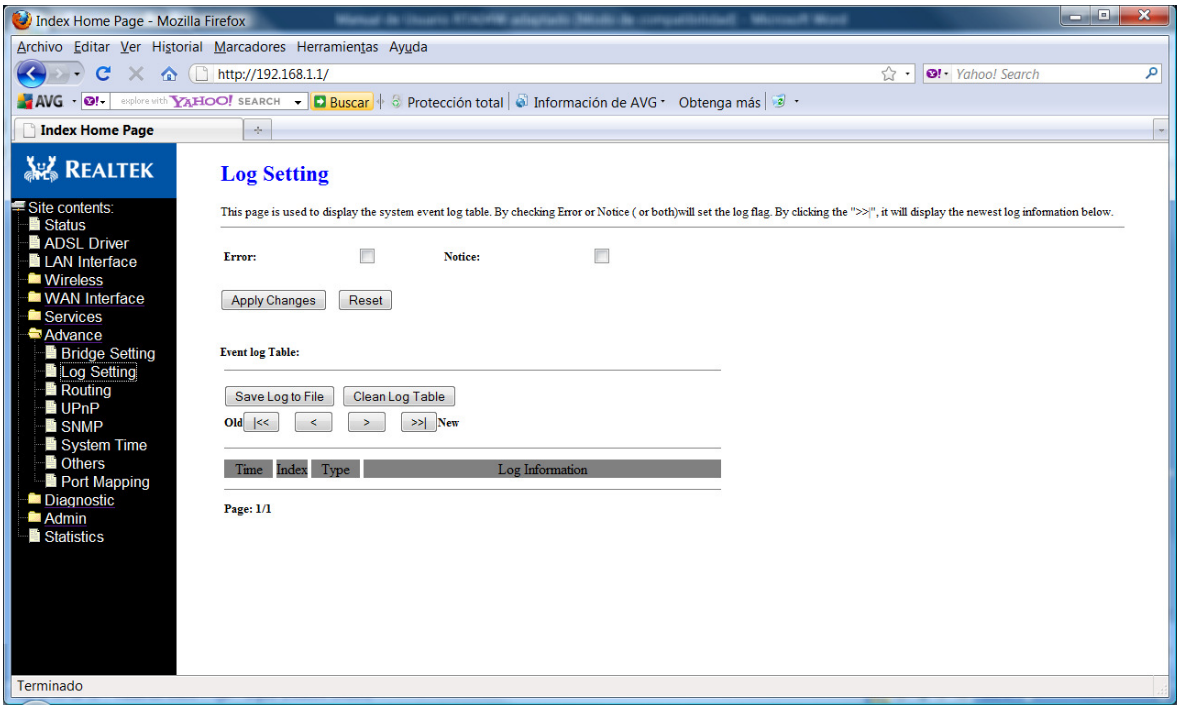
Save this bridge configuration. New configuration will take effect after saving into flash memory and rebooting the system. See section “Admin” for details.

Show MACs

List MAC address in forwarding table.

14.2. Log Setting

This page allows you to check the logs created by the system.



Log Setting

This page is used to display the system event log table. By checking Error or Notice (or both)will set the log flag. By clicking the ">>|", it will display the newest log infomation below.

Error: □ Notice: □

Apply Changes | Reset

Event log Table:

Save Log to File | Clean Log Table

Old |<< < > >>| New

Time	Index	Type	Log Information

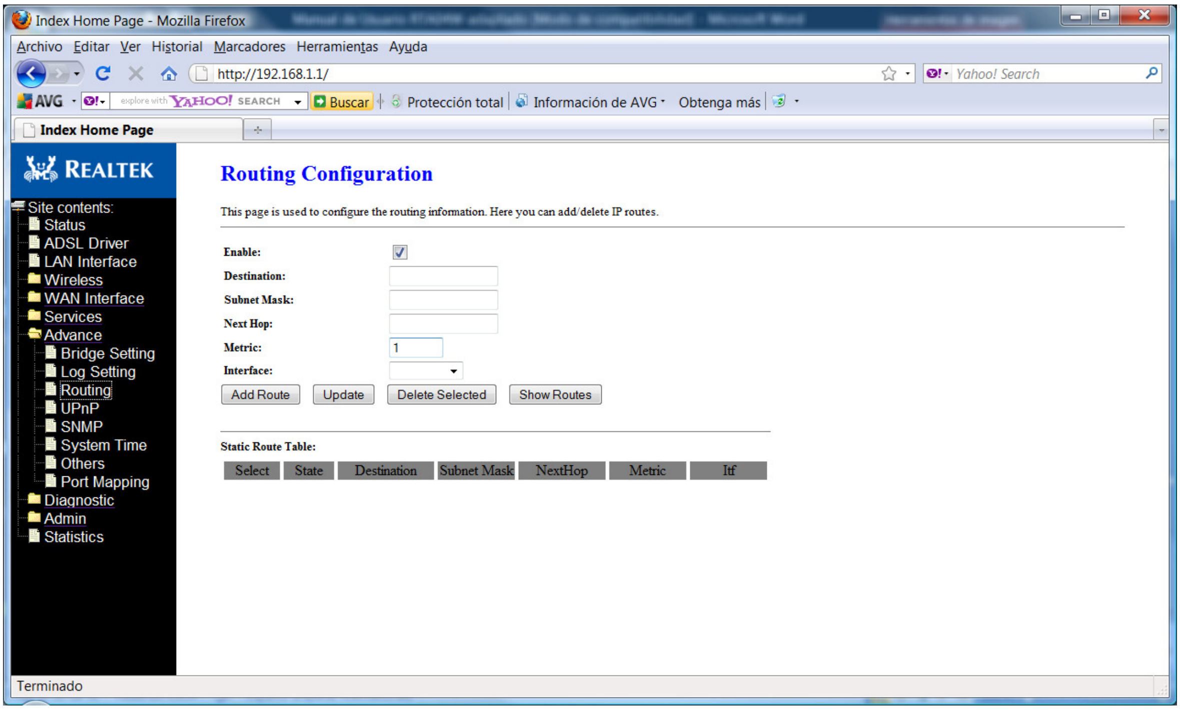
Page: 1/1

14.3. Routing

The Routing page enables you to define specific route for your Internet and network data. Most users do not need to define routes. On a typical small home or office LAN, the existing routes that set up the default gateways for your LAN hosts and for the DSL device provide the most appropriate path for all your Internet traffic.

- On your LAN hosts, a default gateway directs all Internet traffic to the LAN port(s) on the DSL device. Your LAN hosts know their default gateway either because you assigned it to them when you modified your TCP/IP properties, or because you configured them to receive the information dynamically from a server whenever they access the Internet.
- On the DSL device itself, a default gateway is defined to direct all outbound Internet traffic to a route at your ISP. The default gateway is assigned either automatically by your ISP whenever the device negotiates an Internet access, or manually by user to setup through the configuration.

You may need to define routes if your home setup includes two or more networks or subnets, if you connect to two or more ISP services, or if you connect to a remote corporate LAN.



Routing Configuration

This page is used to configure the routing information. Here you can add/delete IP routes.

Enable:	☑
Destination:	
Subnet Mask:	
Next Hop:	
Metric:	1
Interface:	

Static Route Table:

Select	State	Destination	Subnet Mask	NextHop	Metric	Itf

Fields in this page:

Field	Description
Enable	Check to enable the selected route or route to be added.
Destination	The network IP address of the subnet. The destination can be specified as the IP address of a subnet or a specific host in the subnet. It can also be specified as all zeros to indicate that this route should be used for all destinations for which no other route is defined (this is the route that creates the default gateway).
Subnet Mask	The network mask of the destination subnet. The default gateway uses a mask of 0.0.0.0.
Next Hop	The IP address of the next hop through which traffic will flow towards the destination subnet.
Metric	Defines the number of hops between network nodes that data packets travel. The default value is 0, which means that the subnet is directly one hop away on the local LAN network.
Interface	The WAN interface to which a static routing subnet is to be applied.

Function buttons in this page:

Add Route

Add a user-defined destination route.

Update

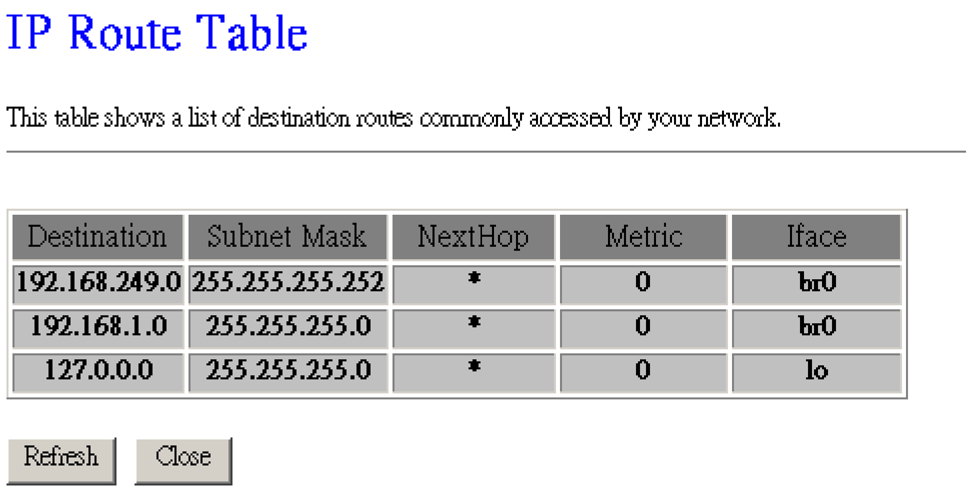
Update the selected destination route on the **Static Route Table**.

Delete Selected

Delete a selected destination route on the **Static Route Table**.

Show Routes

Click this button to view the DSL device's routing table. The **IP Route Table** displays, as shown in Figure.



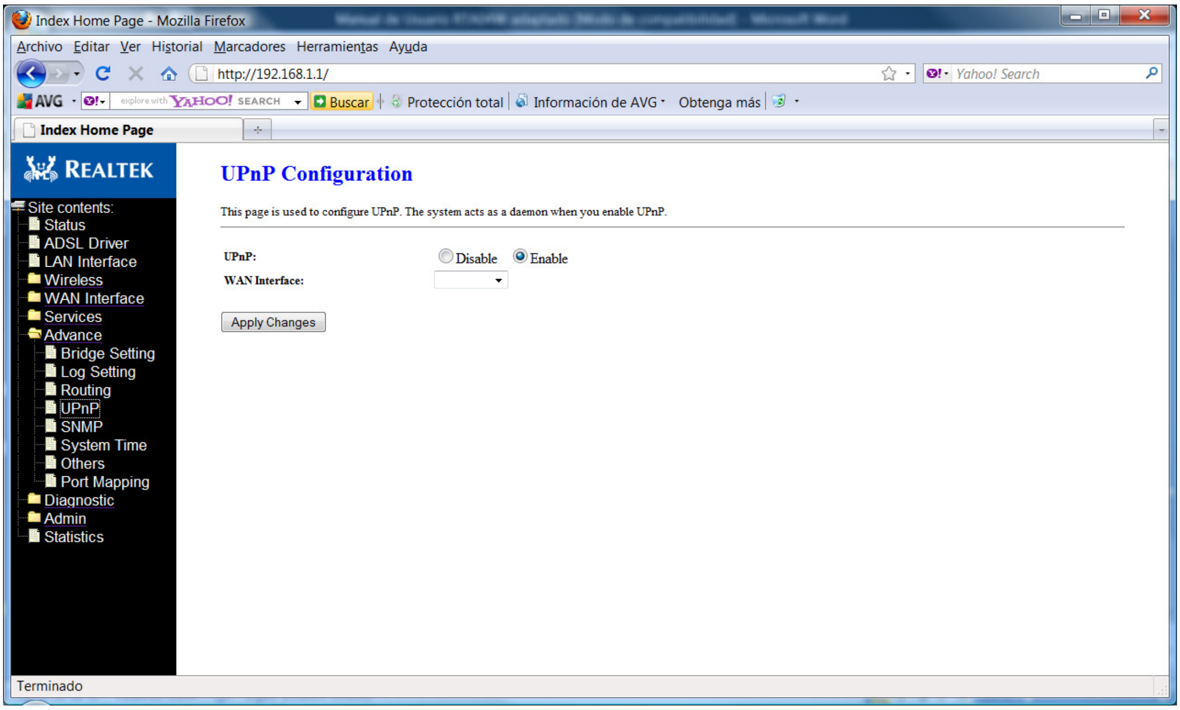
IP Route Table

This table shows a list of destination routes commonly accessed by your network.

Destination	Subnet Mask	NextHop	Metric	Iface
192.168.249.0	255.255.255.252	*	0	br0
192.168.1.0	255.255.255.0	*	0	br0
127.0.0.0	255.255.255.0	*	0	lo

14.4. UPnP Configuration

Universal Plug and Play (UPnP) defines protocols and common procedures to guarantee the interoperability among PCs allowed in network, applications and wireless devices.



UPnP Configuration

This page is used to configure UPnP. The system acts as a daemon when you enable UPnP.

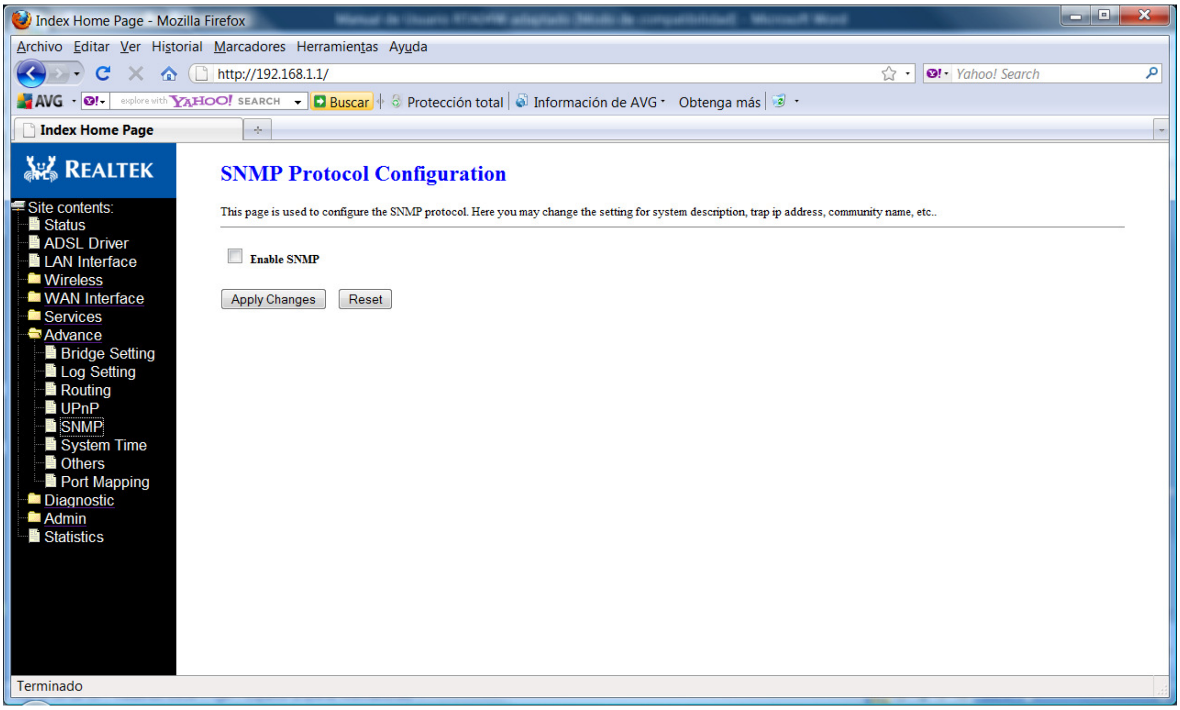
UPnP: ○ Disable ● Enable

WAN Interface:

Apply Changes

14.5. SNMP Configuration

Simple Network Management Protocol (SNMP) is a troubleshooting and management protocol that uses the UDP protocol on port 161 to communicate between clients and servers. The DSL device can be managed locally or remotely by SNMP protocol.



SNMP Protocol Configuration

This page is used to configure the SNMP protocol. Here you may change the setting for system description, trap ip address, community name, etc..

□ Enable SNMP

Apply Changes Reset

Fields in this page:

Field	Description
System Description	System description of the DSL device.
System Contact	Contact person and/or contact information for the DSL device.
System Name	An administratively assigned name for the DSL device.
System Location	The physical location of the DSL device.
System Object ID	Vendor object identifier. The vendor's authoritative identification of the network management subsystem contained in the entity.
Trap IP Address	Destination IP address of the SNMP trap.
Community name (read-only)	Name of the read-only community. This read-only community allows read operation to all objects in the MIB.
Community name (write-only)	Name of the write-only community. This write-only community allows write operation to the objects defines as read-writable in the MIB.

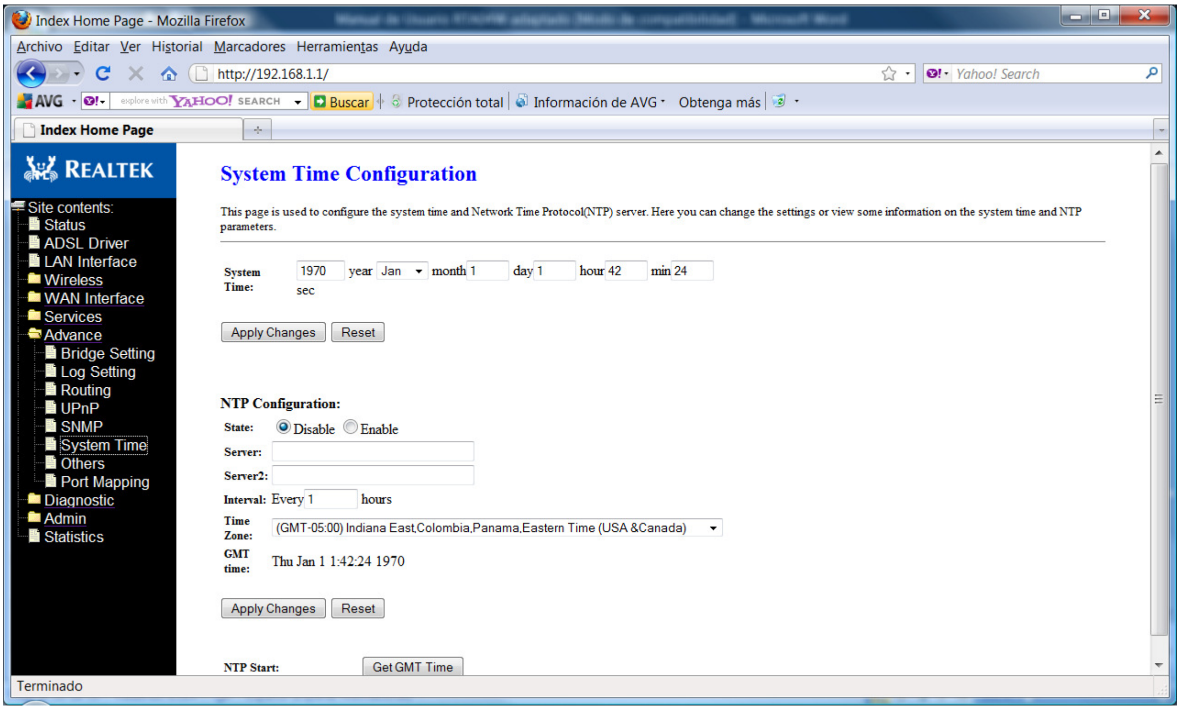
Function buttons in this page:

Apply Changes

Save SNMP configuration. New configuration will take effect after saving into flash memory and rebooting the system. See section "Admin" for details

14.6. System Time

This page allows configuring a SNP server in charge to provide time to the system.



System Time Configuration

This page is used to configure the system time and Network Time Protocol(NTP) server. Here you can change the settings or view some information on the system time and NTP parameters.

System Time: 1970 year Jan month 1 day 1 hour 42 min 24 sec

Apply Changes Reset

NTP Configuration:

State: ● Disable ○ Enable

Server:

Server2:

Interval: Every 1 hours

Time Zone: (GMT-05:00) Indiana East,Colombia,Panama,Eastern Time (USA &Canada)

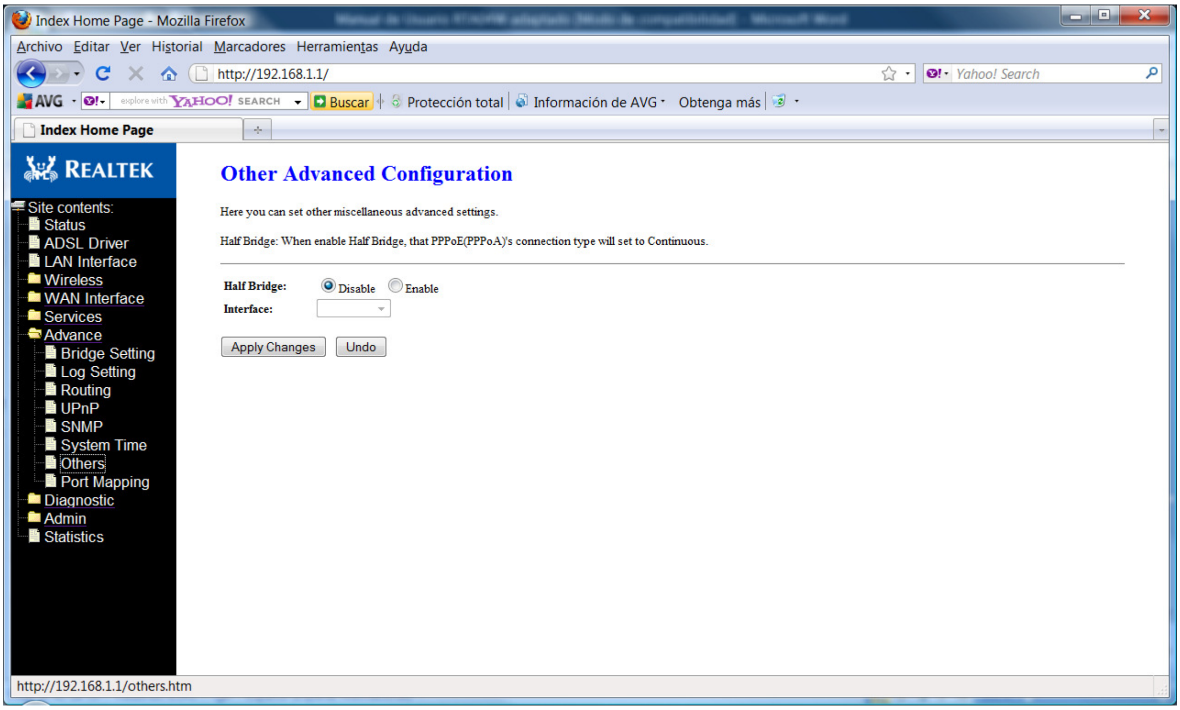
GMT time: Thu Jan 1 1:42:24 1970

Apply Changes Reset

NTP Start: Get GMT Time

14.7. Other advanced configuration

This page allows configuring the modem in Half Bridge mode. If it is enabled the modem will turn to be visible. The DHCP will duplicate the WAN IP from its local ISP to your PC and only one PC of the local network will be allowed to connect to internet.



Other Advanced Configuration

Here you can set other miscellaneous advanced settings.

Half Bridge: When enable Half Bridge, that PPPoE(PPPoA)'s connection type will set to Continuous.

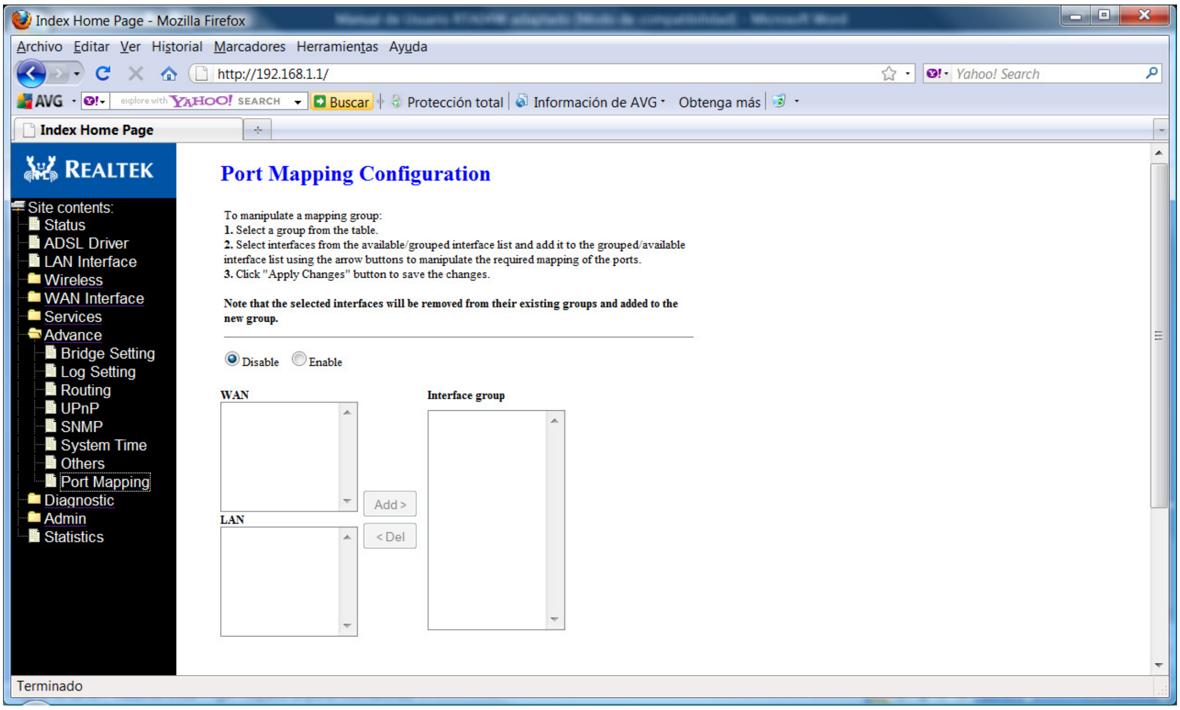
Half Bridge: ● Disable ○ Enable

Interface:

Apply Changes Undo

14.8. Port Mapping

In this page you can select the different interfaces group to create the specific ports mapping:



Port Mapping Configuration

To manipulate a mapping group:
1. Select a group from the table.
2. Select interfaces from the available/grouped interface list and add it to the grouped/available interface list using the arrow buttons to manipulate the required mapping of the ports.
3. Click "Apply Changes" button to save the changes.

Note that the selected interfaces will be removed from their existing groups and added to the new group.

● Disable ○ Enable

WAN

Interface group

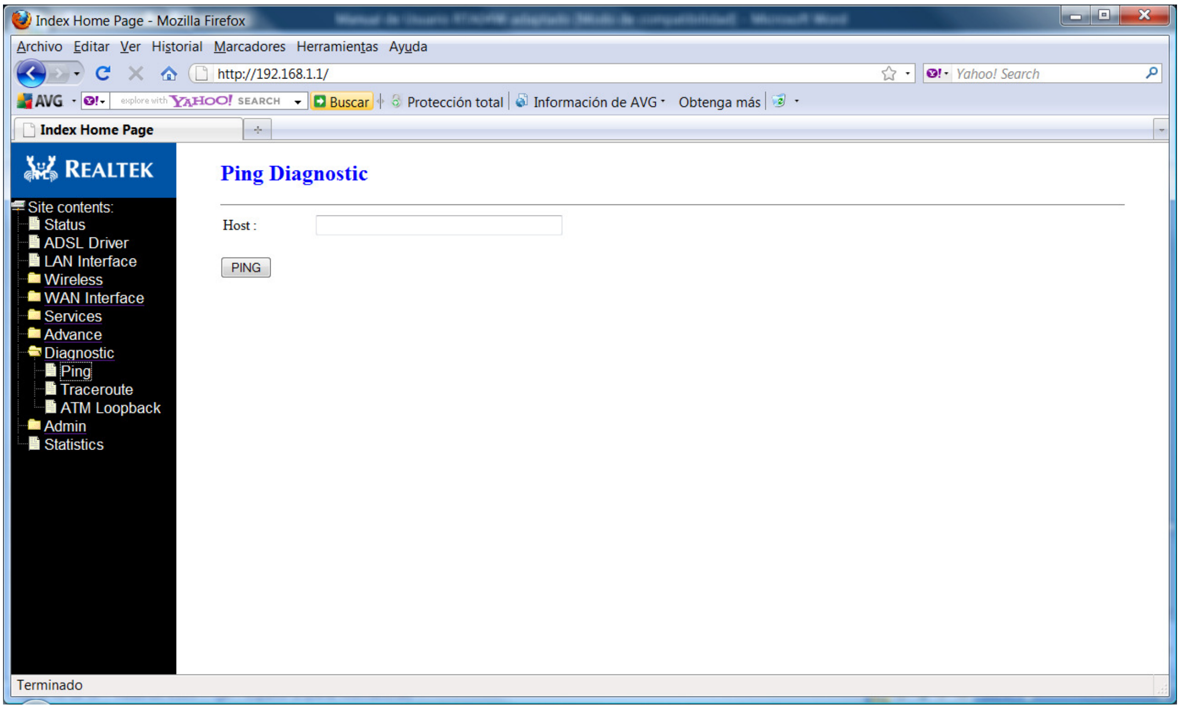
LAN

15. Diagnostic

This ADSL device supports some very useful diagnostic tools:

15.1. Ping

Once you have your DSL device configured, it is a good idea to make sure you can ping the network. A ping command sends a message to the host you specify. If the host receives the message, it sends messages in reply. To use it, you must know the IP address of the host you are trying to communicate with and enter the IP address in the Host Address field. Click Ping To start the ping command, the ping result will then be shown in this page.



Ping Diagnostic

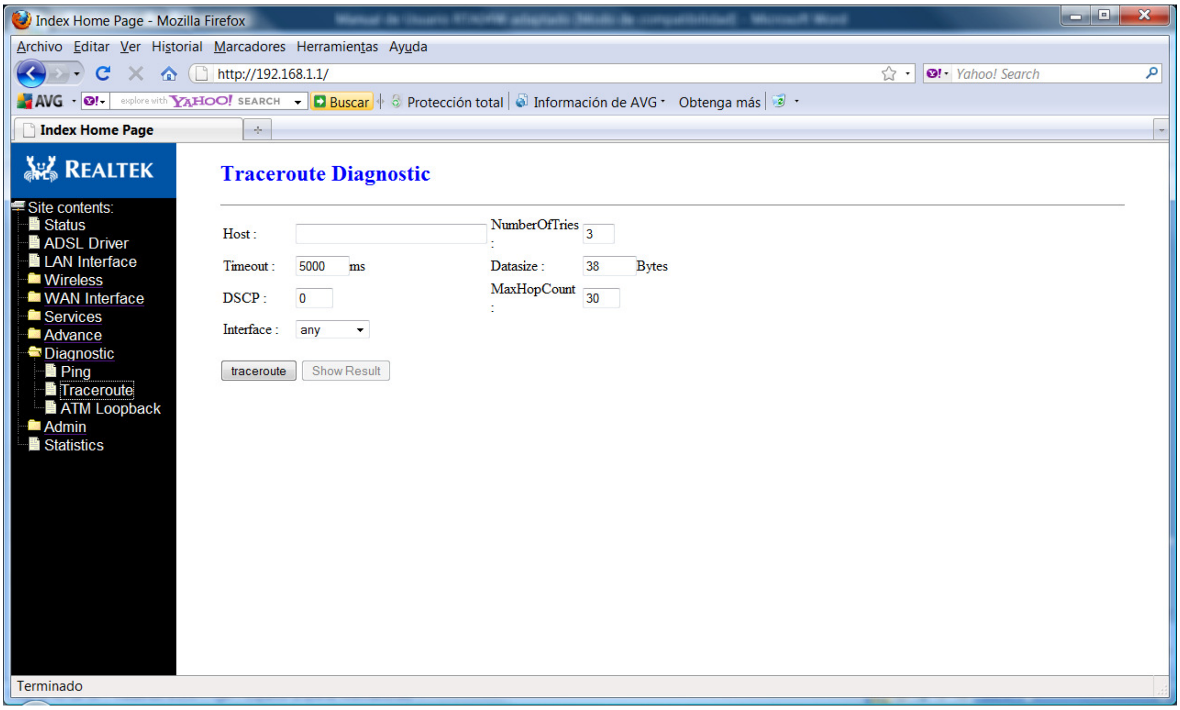
Host :

Fields in this page:

Field	Description
Host Address	The IP address you want to ping.

15.2. Traceroute

Through this tool you can track the packets going from one network point to the other.



Traceroute Diagnostic

Host :
NumberOfTries : 3
Timeout : 5000 ms
Datasize : 38 Bytes
DSCP : 0
MaxHopCount : 30
Interface : any

15.3. ATM Loopback

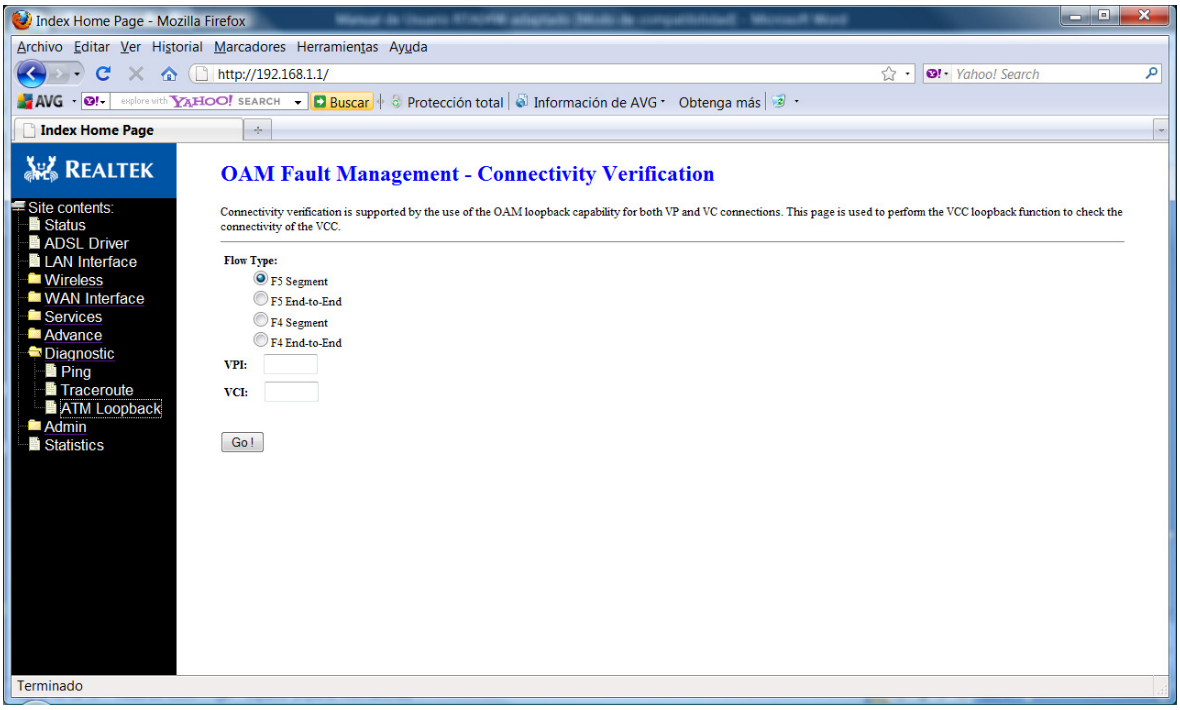
In order to isolate the ATM interface problems, you can use ATM OAM loopback cells to verify connectivity between VP/VC endpoints, as well as segment endpoints within the VP/VC. ATM uses F4 and F5 cell flows as follows:

- F4: used in VPs
- F5: used in VCs

An ATM connection consists of a group of points. This OAM implementation provides management for the following points:

- Connection endpoint: the end of a VP/VC connection where the ATM cell are terminated
- Segment endpoint: the end of a connection segment

This page allows you to use ATM ping, which generates F5 segment and end-to-end loop-back cells to test the reach ability of a segment endpoint or a connection endpoint.



OAM Fault Management - Connectivity Verification

Connectivity verification is supported by the use of the OAM loopback capability for both VP and VC connections. This page is used to perform the VCC loopback function to check the connectivity of the VCC.

Flow Type:

● F5 Segment

○ F5 End-to-End

○ F4 Segment

○ F4 End-to-End

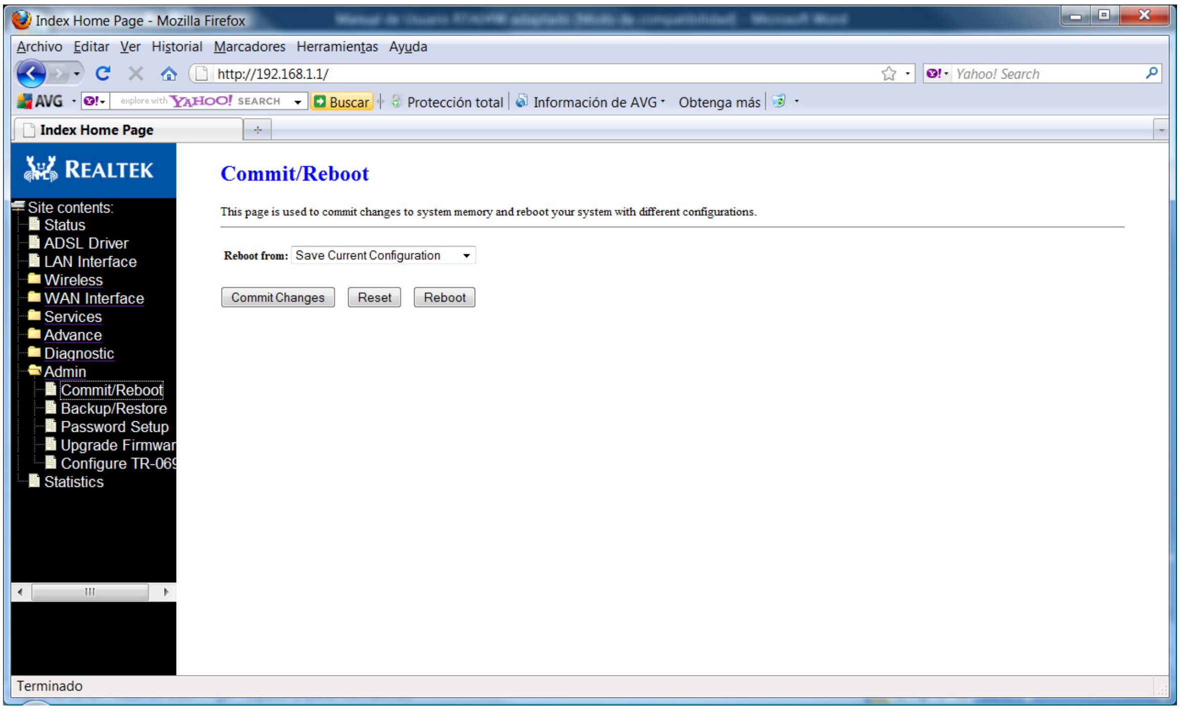
VPI:

VCI:

16. Admin

16.1. Commit / Reboot

Whenever you use the Web configuration to change system settings, the changes are initially placed in temporary storage. These changes will be lost if the device is reset or turn off. To save your change for future use, you can use the commit function:



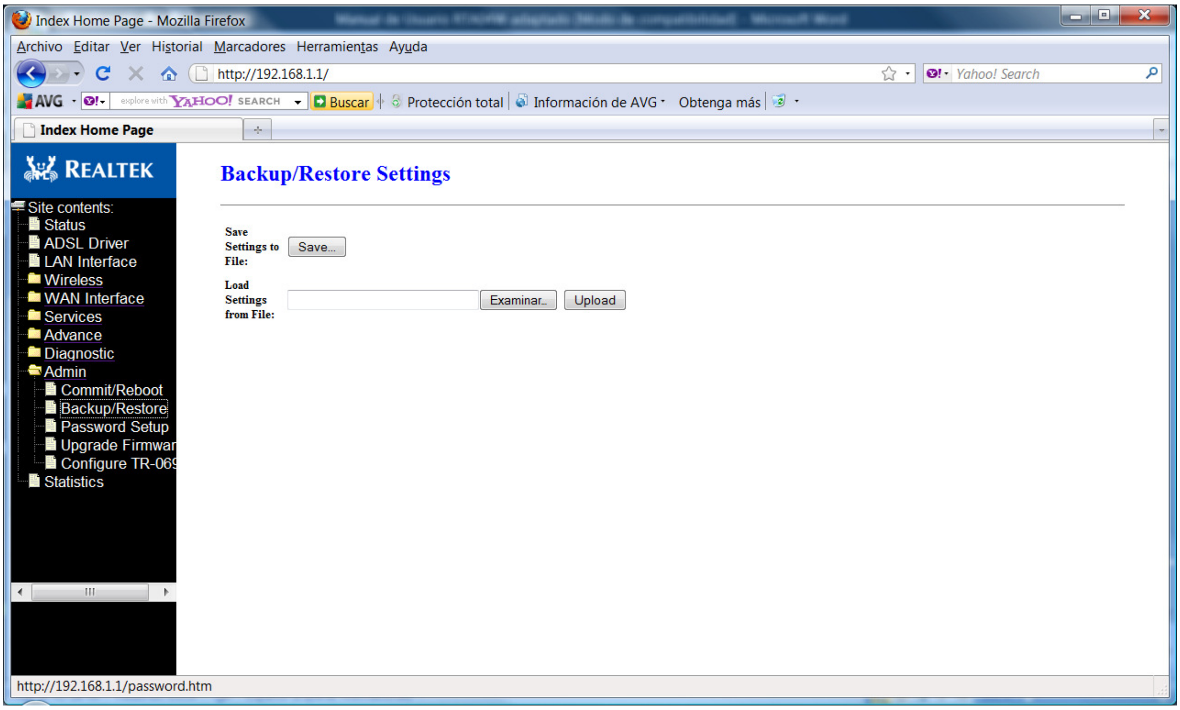
Commit/Reboot

This page is used to commit changes to system memory and reboot your system with different configurations.

Reboot from: Save Current Configuration

16.2. Backup/Restore

This page allows you to backup and restore your configuration into and from file in your host.



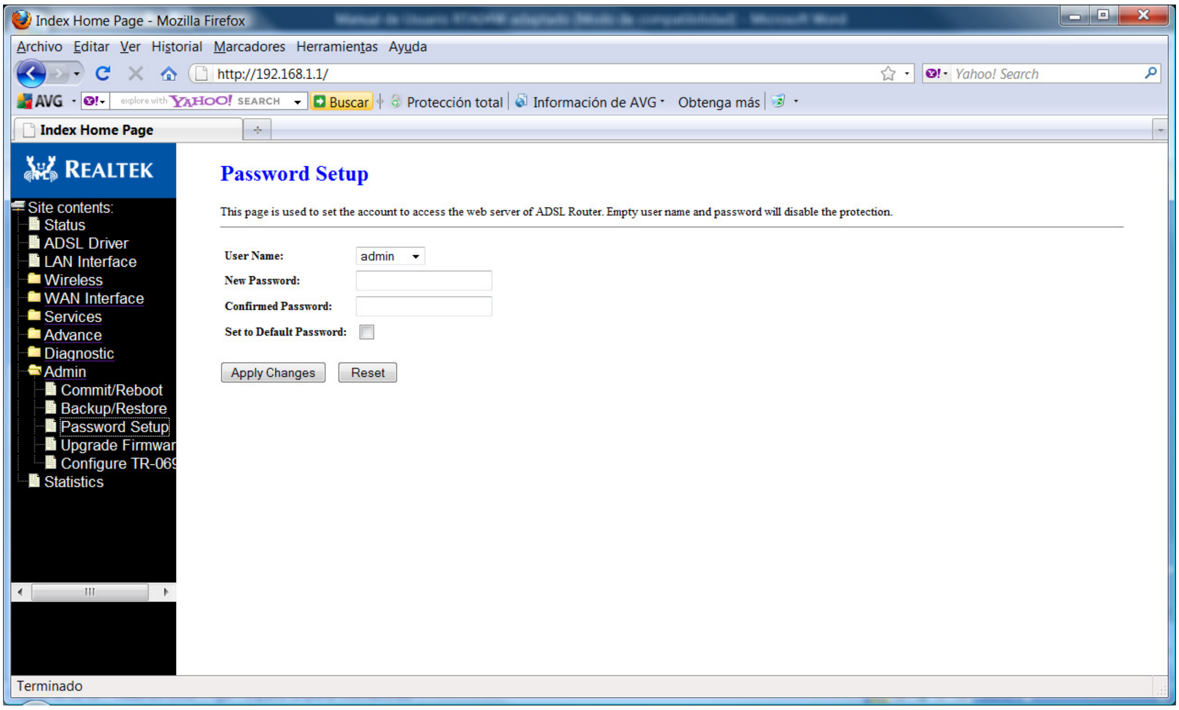
Backup/Restore Settings

Save Settings to File: Save...

Load Settings from File: Examinar... Upload

16.3. Password Setup

The first time you log into the system, you use the default password. In this page you can change the Access details if needed.



Password Setup

This page is used to set the account to access the web server of ADSL Router. Empty user name and password will disable the protection.

User Name: admin

New Password:

Confirmed Password:

Set to Default Password: □

Fields in this page:

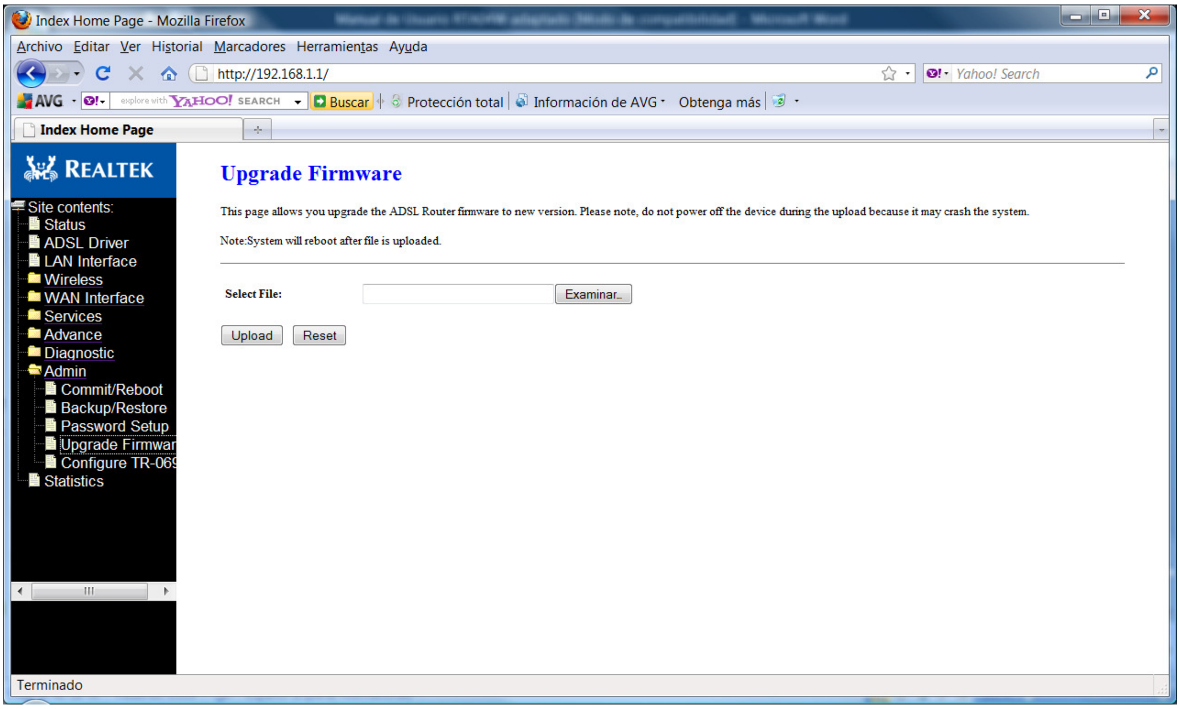
Field	Description
User Name	Selection of user levels are: admin and user.
Old Password	Enter the old password for this selected login.
New Password	Enter the new password here.
Confirmed Password	Enter the new password here again to confirm.

16.4. Upgrade Firmware

To upgrade the firmware for the DSL device:

- Click the **Browse** button to select the firmware file.
- Confirm your selection.
- Click the **Upload** button to start upgrading.

IMPORTANT! Do not turn off your DSL device or press the Reset button while this procedure is in progress



Upgrade Firmware

This page allows you upgrade the ADSL Router firmware to new version. Please note, do not power off the device during the upload because it may crash the system.

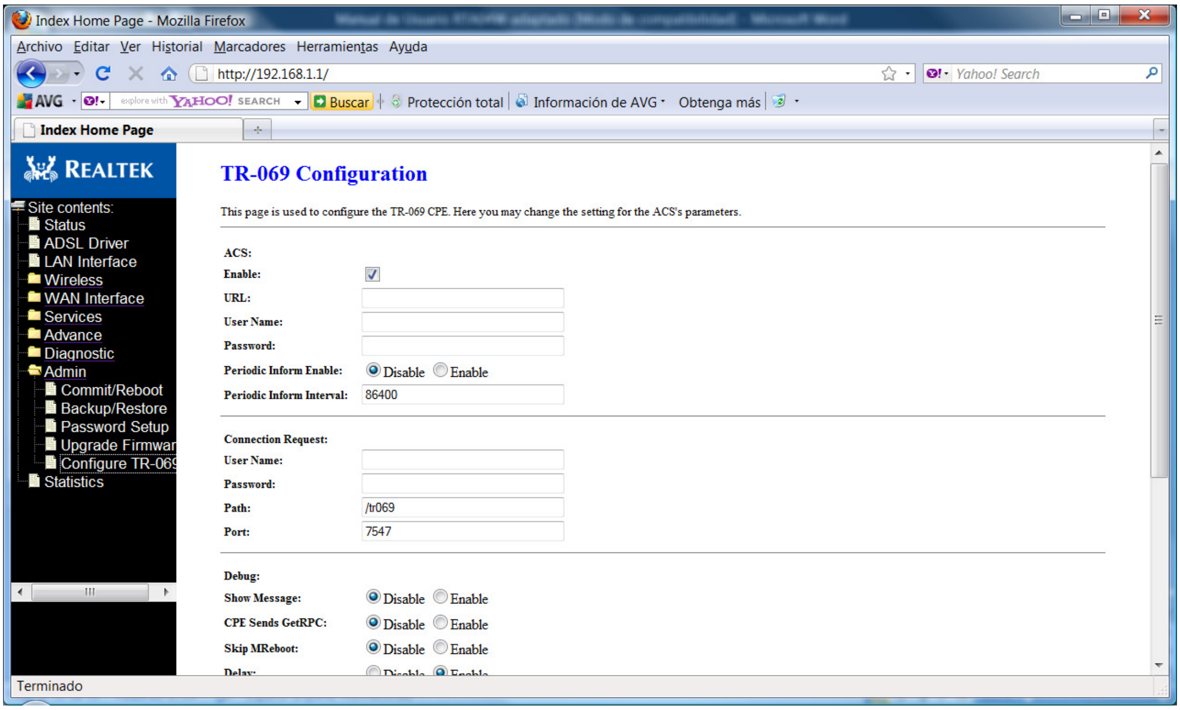
Note:System will reboot after file is uploaded.

Select File: [ ] Examinar...

Upload Reset

16.5. TR-069 Config.

TR-069 is a protocol for communication between a CPE and Auto-Configuration Server (ACS). The CPE TR-069 configuration should be well defined to be able to communicate with the remote ACS:



TR-069 Configuration

This page is used to configure the TR-069 CPE. Here you may change the setting for the ACS's parameters.

ACS:

Enable: ☑

URL:

User Name:

Password:

Periodic Inform Enable: ● Disable ○ Enable

Periodic Inform Interval: 86400

Connection Request:

User Name:

Password:

Path: /tr069

Port: 7547

Debug:

Show Message: ● Disable ○ Enable

CPE Sends GetRPC: ● Disable ○ Enable

Skip MReboot: ● Disable ○ Enable

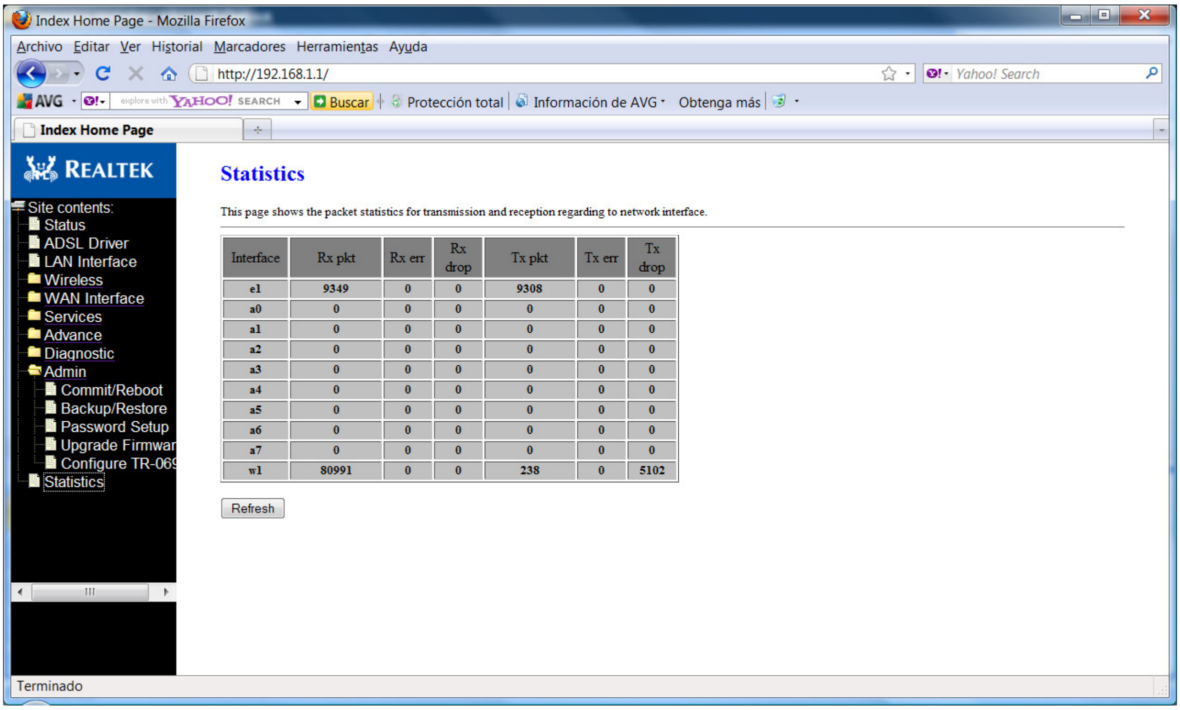
Delay: ○ Disable ● Enable

Fields in this page:

ACS Field	Description
URL	ACS URL. For example, http://10.0.0.1:80 https://10.0.0.1:443
User Name	The username the DSL device should use when connecting to the ACS.
Password	The password the DSL device should use when connecting to the ACS.
Periodic Inform Enable	When this field is enabled, the DSL device will send an Inform RPC to the ACS server at the system startup, and will continue to send it periodically at an interval defined in **Periodic Inform Interval** field; When this field is disabled, the DSL device will only send Inform RPC to the ACS server once at the system startup.
Periodic Inform Interval	Time interval in second to send Inform RPC.
Connection Request Field	Description
User Name	The username the remote ACS should use when connecting to this device.
Password	The password the remote ACS should use when connecting to this device.
Path	The path of the device ConnectionRequestURL. The device ConnectionRequestURL should be configured based on the Device_IP, Path and Port as follows: http://Device_IP:Port/Path
Port	The port of the device ConnectionRequestURL.

17. Statistics

You can view statistics on the processing of IP packets on the networking interfaces. You will not typically need to view this data, but you may find it helpful when working with your ISP to diagnose network and Internet data transmission problems.



Statistics

This page shows the packet statistics for transmission and reception regarding to network interface.

Interface	Rx pkt	Rx err	Rx drop	Tx pkt	Tx err	Tx drop
e1	9349	0	0	9308	0	0
a0	0	0	0	0	0	0
a1	0	0	0	0	0	0
a2	0	0	0	0	0	0
a3	0	0	0	0	0	0
a4	0	0	0	0	0	0
a5	0	0	0	0	0	0
a6	0	0	0	0	0	0
a7	0	0	0	0	0	0
w1	80991	0	0	238	0	5102