EnGenius

User Manual

EMR3000
version 1.0

AC1200 Dual Band Mesh Router

IMPORTANT

To install this router, please refer to the **Quick Start Guide** included in the product packaging.

To activate and use EnShare™ refer to the document **"Using EnShare"** also in the product packaging.

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Chapter 1

Product Overview

Product Overview

Key Features

- Dual Band Wireless AC1200 Draft IEEE 802.11ac and IEEE 802.11 a/b/g/n
- Up to 300 Mbps in the 2.4 GHz frequency band and up to 867 Mbps in 5 GHz
- Built-in 4-Port Gigabit Switch for optimal audio/visual streaming
- USB Port to share and access media content in the home or when you're away from home with EnShare™
- Next Generation IPv6 Compliant
- Parental Controls
- Up to 8 Guest Access settings (4 per frequency band)
- Industry-standard Wireless Encryption and Security
- VPN Server Support Lite-Business Applications
- Easy Setup Wizard

Robust and Reliable Wireless Performance

The EMR3000 is a AC1200 Dual-Band Mesh Router with a built-in 4-port Gigabit Ethernet switch. This cost effective router can connect to DSL or cable modems to provide high performance Internet access for desktop or laptop computers, tablets, smartphones and a wide variety of home entertainment devices, like HDTVs, set top boxes, Blu-ray players and game consoles.

The router's concurrent dual band design enables users to connect numerous wireless devices to it, giving them the option to leverage Quantum Beam and the AC speed boost on the less congested 5 GHz frequency for bandwidth intensive applications like streaming HD video.

Maximum data rates are based on draft IEEE 802.11ac and IEEE 802.11 standards. Actual throughput and range may vary depending on many factors including environmental conditions, distance between devices, radio interference in the operating environment, and mix of devices in the network. EnGenius Technologies, Inc. EnShare™ supports both FAT32 and NTFS USB formats. Transfer speeds of data from your router-attached USB storage device to a remote/mobile device may vary based on Internet uplink and downlink speeds, bandwidth traffic at either send or receive locations, the data retrieval performance of the attached storage device or other factors. EnGenius does not guarantee compatibility with all USB drives. EnGenius does not warrant its products or EnShare from loss of data or loss of productivity time. Features and specifications subject to change without notice. Trademarks and registered trademarks are the property of their respective owners. For United States of America: Copyright ©2015 EnGenius Technologies, Inc. All rights reserved.

Product Overview

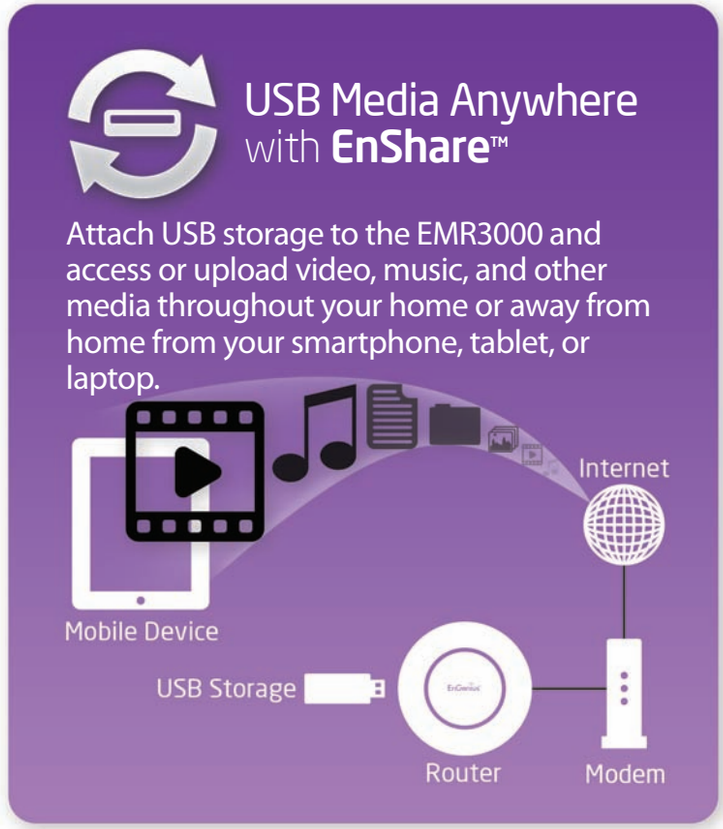
A Media Sharing Platform

The EMR3000 is designed to access and share media for devices on the home network. In addition to connecting home entertainment components to any of its available Gigabit Ethernet ports, the EMR3000 also includes a USB port for attaching a USB storage device so wireless devices in the home or away from the home can access or upload media content wherever there is an available Internet connection through EnShare™ - Your Personal Cloud.

EnShare is available as an Internet portal for accessing stored media connected to the USB port of the router (See the Using EnShare document in the product packaging). EnShare will also be available as an app for Apple iOS devices (iPads, iPods and iPhones) and Android-based devices (smartphones, tablet PCs, Kindle and other mobile readers) soon. The apps will be available through Apple iTunes Store and Google Play respectively.

Industry-standard Wireless Security

The router supports a variety of security features and mechanisms including industry-standard WPA/WPA2 wireless encryption to prevent unauthorized access to your network. It also includes a built-in SPI (Stateful Packet Inspection) firewall to help prevent attacks from malicious software (malware) from the Internet. The router also supports IPv6.



More Guest Access Options

The EMR3000 also includes up to eight (8) separate and discrete Guest Access options allowing the router's administrator to assign different names (SSIDs-Service Set Identifiers) for each login to the home network so friends or visitors can access the user's Internet connection without accessing personal data stored on networked computers in the home.

Technical Specifications

Device Interface
Gigabit WAN Port
4 Gigabit LAN Ports
USB2.0 Port
Push Button for WPS
Reset Button

IEEE Standards
802.11ac (draft)
802.11a/b/g/n
Up to 300 Mbps wireless speed on 2.4 GHz frequency band and 867 Mbps on 5 GHz frequency band
802.3i/u/ab

LED Indicators
Power
WLAN (Wireless Connection)
Internet

Package Contents
EMR3000 Router
Power Adapter (12V 1.5 A)
Quick Start Guide
RJ45 Ethernet Cable

Power Specification
External Power Adapter
DC In, 12V 1.5A

Certifications
FCC/CE/IC

Physical/Environmental Conditions
Operating Temperature: 0º~40º Celsius
Humidity: 90% or less (non-condensing)
Storage Temperature: -20º~60º Celsius
Humidity: 95% or less (non-condensing)

Software Features

Frequency Bands
2.400~2.484 GHz (11b/11g/11n)
5.18~5.24 GHz (11a/11n)

Operating Mode
AP Router/WDS

Wireless Features
Auto Channel Selection
Output Power Control
WMM (Wireless Multimedia)
MSSID (Multiple SSID)

Security
WEP/WPA-PSK/WPA2-PSK
TKIP/AES
Hidden SSID
MAC Address Filtering
802.1X Authentication
DDoS
DHCP Server/Client
SPI (Stateful Packet Inspection)
NAT
Port Forwarding
DMZ
Port Mapping/Triggering
VPN Server (PPTP/L2TP)
VPN Client (PPTP/L2TP)
VPN Pass-through (PPTP/L2TP/IPSec)
Rule Based (IP Address Ranges, Port Block ICMP
VPN Tunnel (Maximum 5)
QoS
IP Filtering
Port Filtering
DDNS
IPv6 Pass-through
MAC Clone
Traffic Monitor
WAN Type: PPPoE/DHCP/Static IP
USB Features: SAMBA

Physical Interface

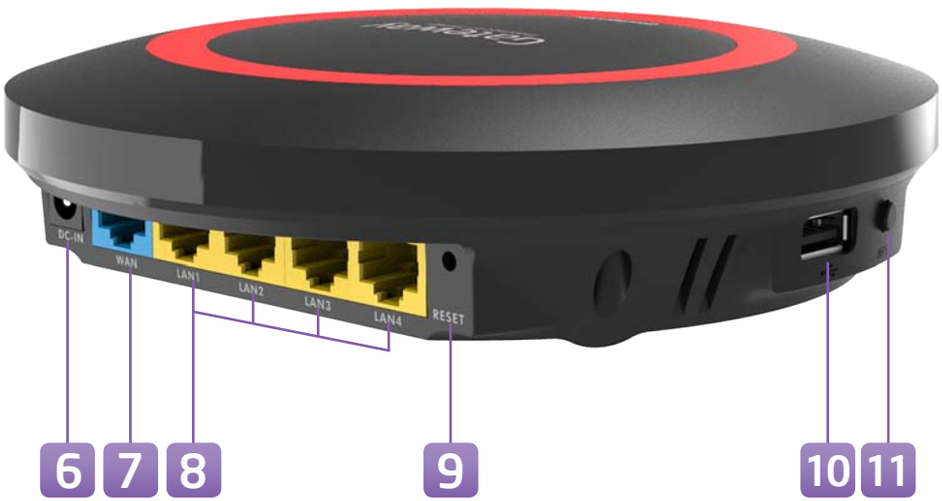
Dimensions and Weights
Weight: 0.5 lbs.
Diameter: 6.36"
Height: 1.64"

When considering the placement of the router
remember the following:

- It must be close to an electrical outlet.
- For optimal wireless connectivity, place the router near the center of the room if possible, at a high level

Other electronic devices and some architectural construction materials or impediments may interfere with the wireless signal(s) of the router and reduce its range or coverage. Try to minimize the number of walls or floors that the router's signal needs to penetrate to connect to other wireless devices.

1 **WLAN 5 GHz LED**
2 **WLAN 2.4 GHz LED**
3 **Power LED**
4 **WAN Port/(Internet) Status LED**
5 **WPS** (Wireless Protected Setup) **LED**



6 **DC Power Jack** – connects the ESR Series Router to its DC power adapter
7 **WAN Port** – connects the ESR Router to a cable or DSL modem to access the user's broadband (Internet) connection
8 **LAN Ports (1 - 4)** – for connecting home entertainment components, computers or other Ethernet-enabled devices using Ethernet cables
9 **Reset Button** – For resetting the router to its factory default settings by pressing button for more than 11 seconds or until the Power LED starts flashing.
10 **USB Port** for connecting a USB Storage Device
11 **WPS Button** – Wi-Fi Protected Setup button. To associate another WPS-enabled client device (computer, wireless media bridge, USB adapter, etc.) press the WPS button for 2 to 5 seconds on the router while also pressing the WPS button on the end device.

Chapter 2

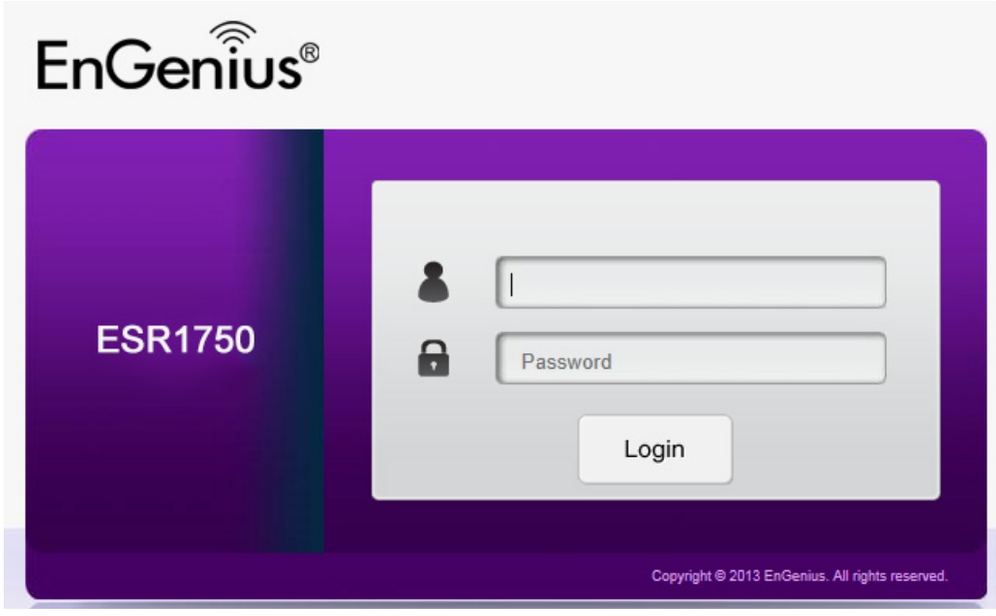
Controlling the Router Through Its Web Configuration Interface

Logging In

During the **Quick Start Guide** procedure, you should have successfully logged into the router's **Web Configuration user interface** (essentially the router's operating system that controls how it operates) and established some initial settings and controls for the router.

If you wish to change the router's settings (establish a new username and password for the person who manages and maintains the router, set Parental Controls, establish a Guest Access-SSID setting for visitors, or any number of other settings) you can log into the Web Configuration again through the web browser (Internet Explorer, Safari, Chrome, Firefox) on your computer or tablet device.

To do this, enter the router's default IP address of **192.168.0.1** into your browser's address window.
1. At the login screen enter your username and a password
2. Click Login to continue.



The default login settings are:

username: **admin**

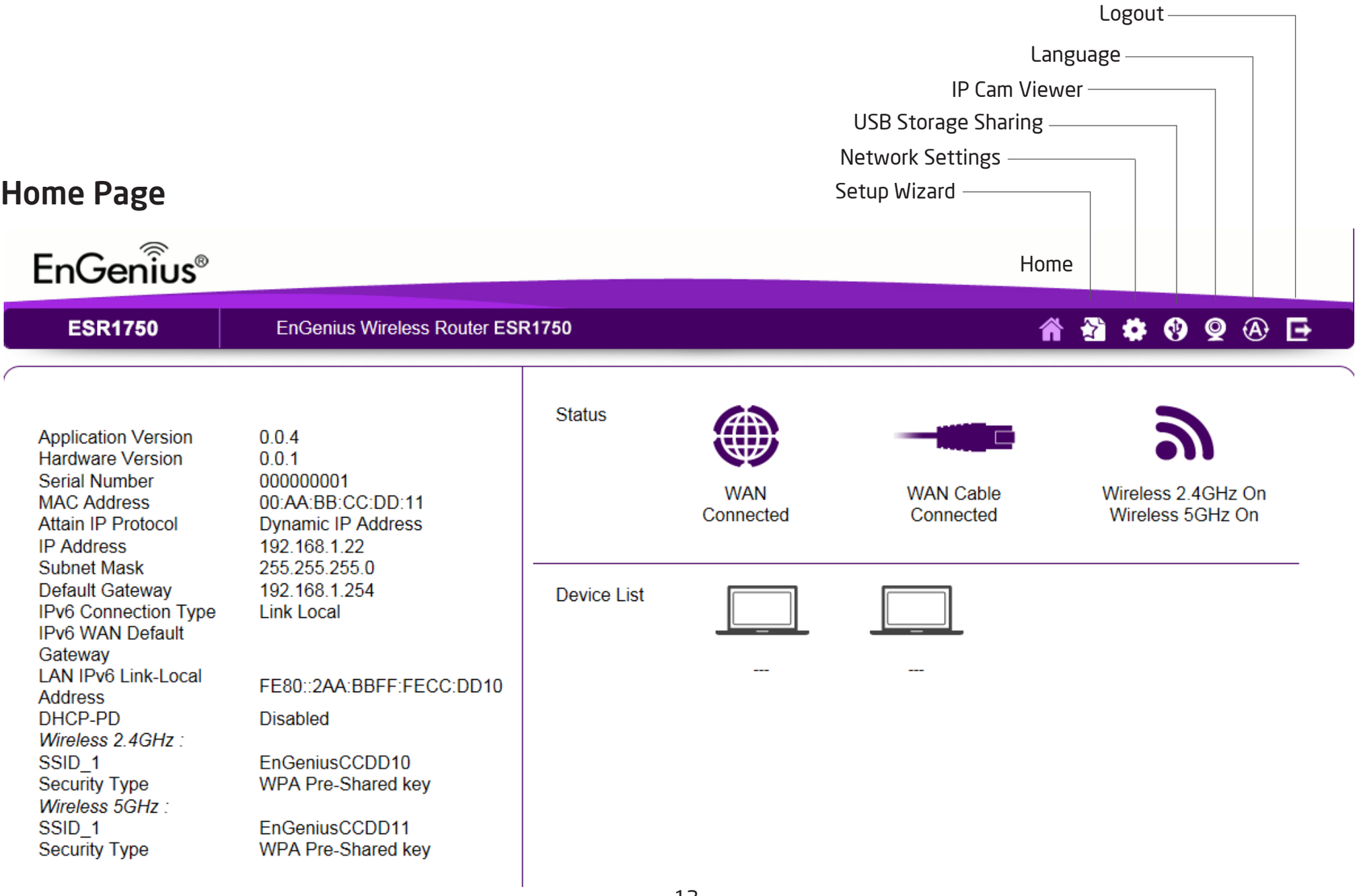
password: **admin**

It's highly recommended that, if you haven't done so already, to change these default names, so your router and the devices connected to it on your home network are more secure.

Viewing the Web Configuration Dash Board

The Home Page screen of the Web Configuration interface, or dashboard, provides access to the router's settings and controls.

Home Page



Home Page

The **Home Page** displays the areas within the Web Configuration to which you can navigate: **Setup Wizard**, **Network Settings**, **USB Storage Sharing**, **IP Cam Viewer**, **Language**, and **Logout**

Home
The Home link takes you back to the dashboard screen no matter where you are in the Web Configuration interface.

Setup Wizard
The Setup Wizard link starts the wizard that automatically configures the router.

Network Settings
The Network Settings link displays the menus to manually configure the router.

USB Storage Sharing
The USB Storage Sharing link displays the menus to access shared storage devices connected to the router.

IP Cam Viewer
The IP Cam Viewer link displays the menus to view an IP camera connected to the network.

Language
The Language link displays the menu to set the OSD language.

Logout
The Logout link closes the router's Web Configuration interface from any screen.

Web Menus Overview

System

View and edit settings that affect system functionality.

Operation Mode

Configure the device to be a router or WDS access point.

Status

Displays the summary of the current system status.

Schedule

Schedule services to start and stop at specific times or intervals.

Event Log

View recorded system operations and network activity events.

Monitor

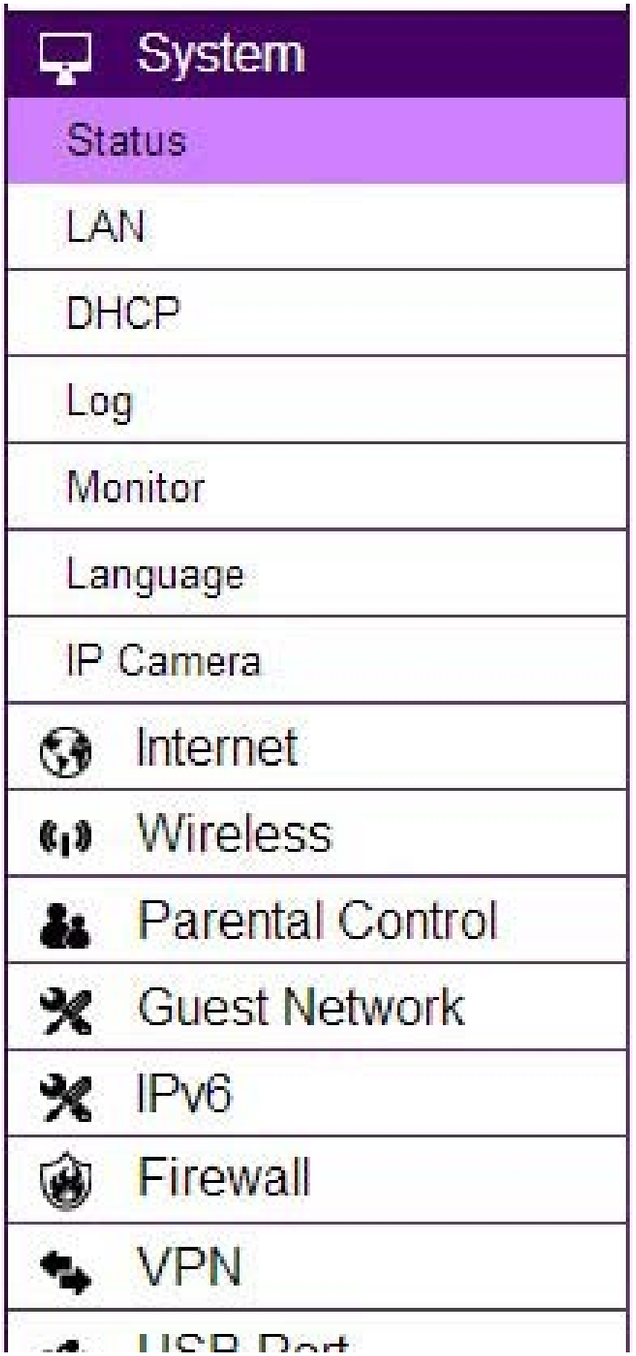
View the current network traffic bandwidth usage.

Language

Configure the application menu and GUI language.

IP Camera

View the IP cameras connected to the ESR Series Router.



Internet

View and edit settings that affect network connectivity.

Status

Displays a summary of the Internet status and type of connection.

Dynamic IP

Setup a dynamic IP connection to an ISP (Internet Service Provider).

Static IP

Setup a static IP connection to an ISP.

PPPoE

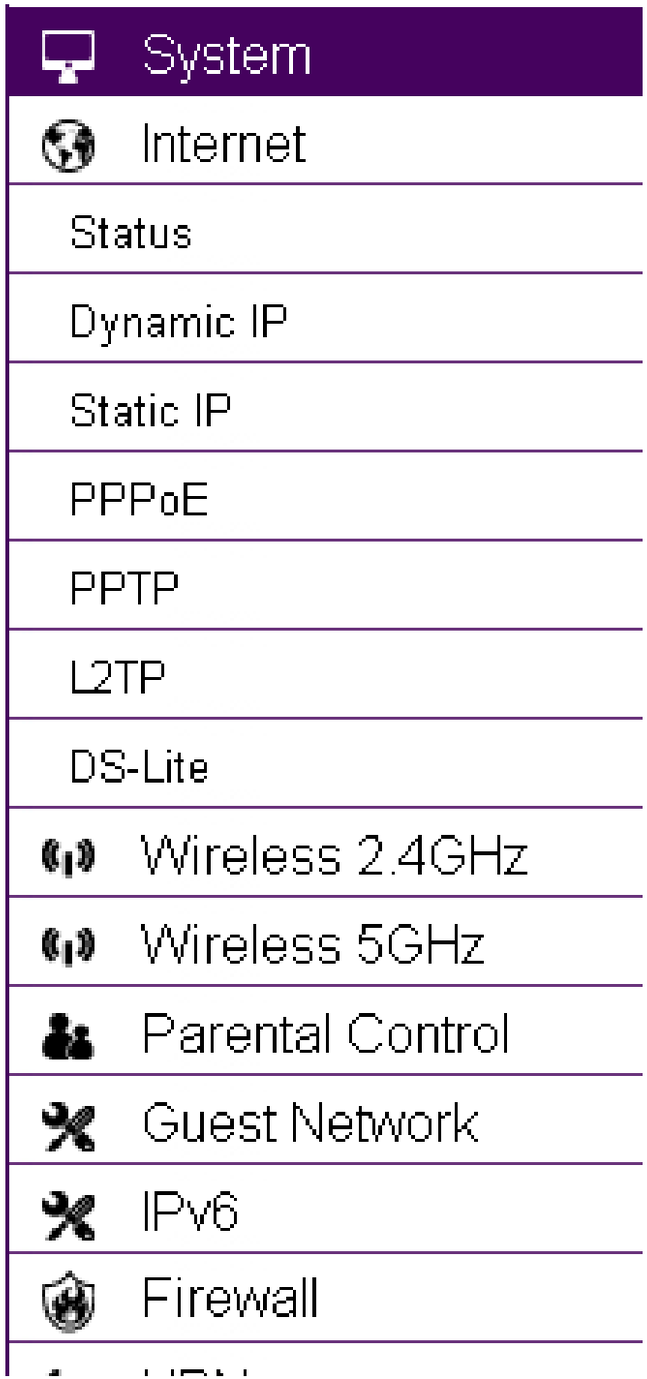
Setup a PPPoE connection to an ISP.

PPTP

Setup a PPTP connection to an ISP.

L2TP

Setup an L2TP connection to an ISP.



Wireless 2.4 GHz

View and edit settings for 2.4 GHz wireless network connectivity.

Status

View the current wireless connection status and related information.

Basic

Configure the minimum settings required to setup a wireless network connection.

Advanced

Configure the advanced network settings.

Security

Configure the wireless network security settings.

Filter

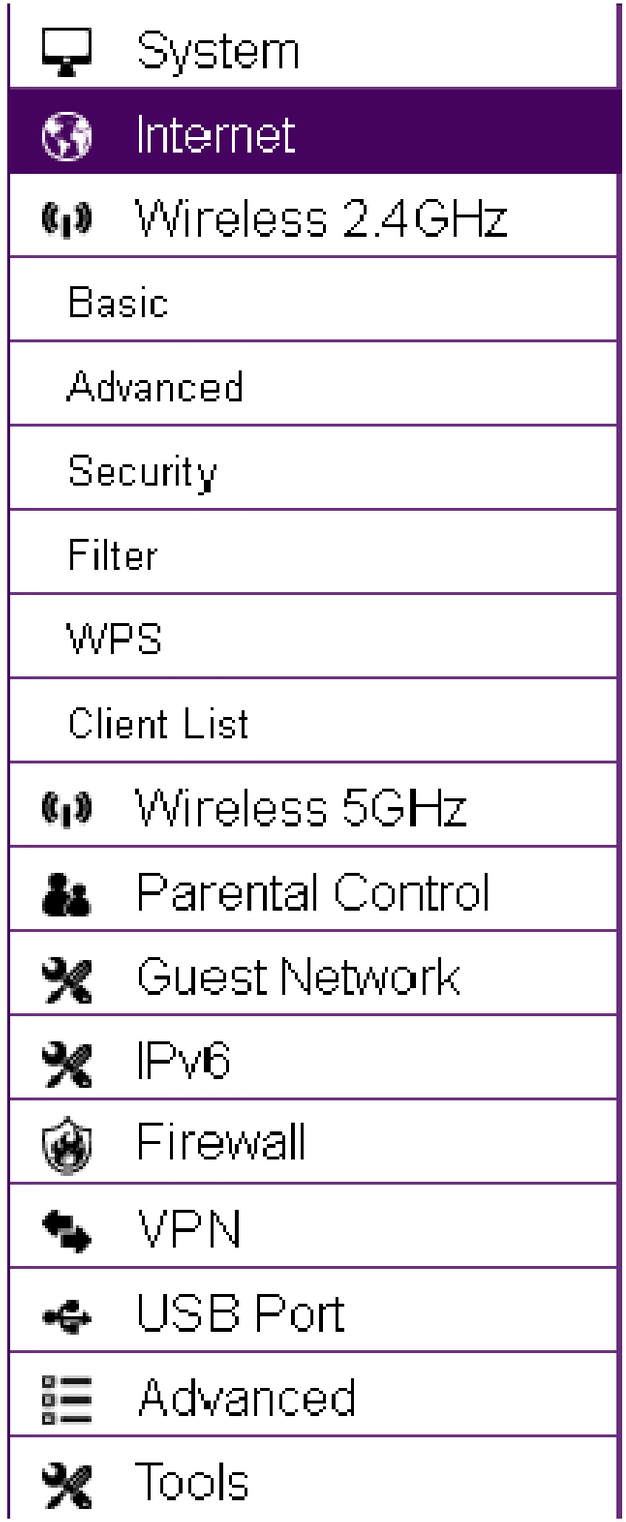
Establish a list of client devices (computer, tablets, smartphones, printers, etc.) based on their MAC (Media Access Control) numbers that are allowed to wirelessly connect to the 2.4 GHz network.

WPS

Automates the connection between a wireless device and your encrypted router using an 8-digit PIN.

Client List

View the 2.4 GHz wireless devices currently connected to the network.



Wireless 5 GHz

View and edit settings for 5 GHz wireless network connectivity.

Status

View the current wireless connection status and related information.

Basic

Configure the minimum settings required to setup a wireless network connection.

Advanced

Configure the advanced network settings.

Security

Configure the wireless network security settings.

Filter

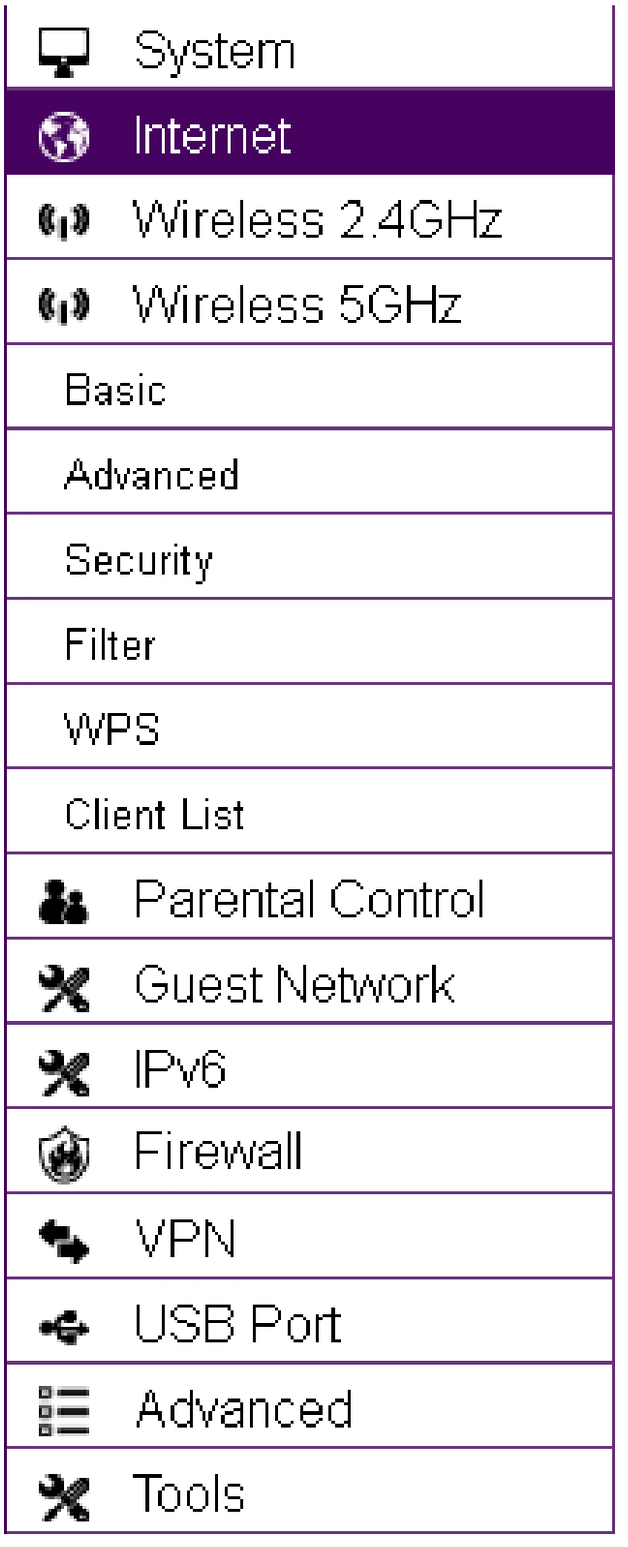
Establish a list of client devices (computer, tablets, smartphones, printers, etc.) based on their MAC (Media Access Control) numbers that are allowed to wirelessly connect to the 5 GHz network.

WPS

Automates the connection between a wireless device and your encrypted router using an 8-digit PIN.

Client List

View the 5 GHz wireless devices currently connected to the network.



Parental Controls

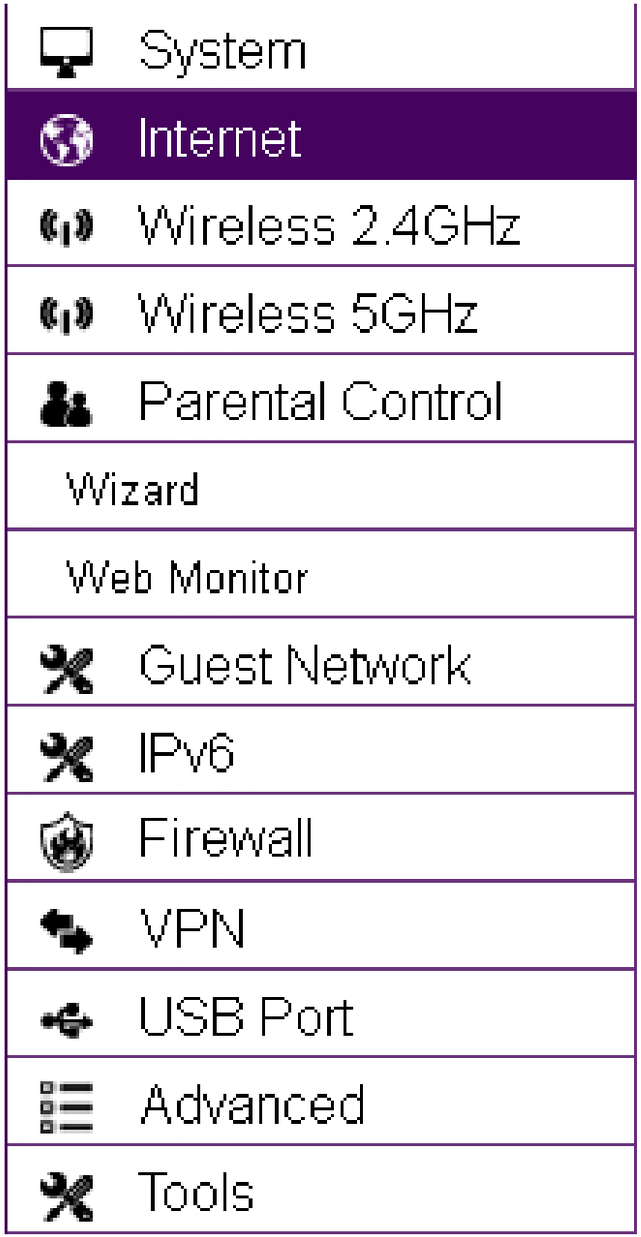
View and edit settings for parental controls.

Wizard

Enable or disable the Parental Controls function. The menu also provides information for configuring parental control policies.

Web Monitor

The menu provides a log of the events for defined parental control policies.



Guest Network

View and edit settings for a guest network.

Selection

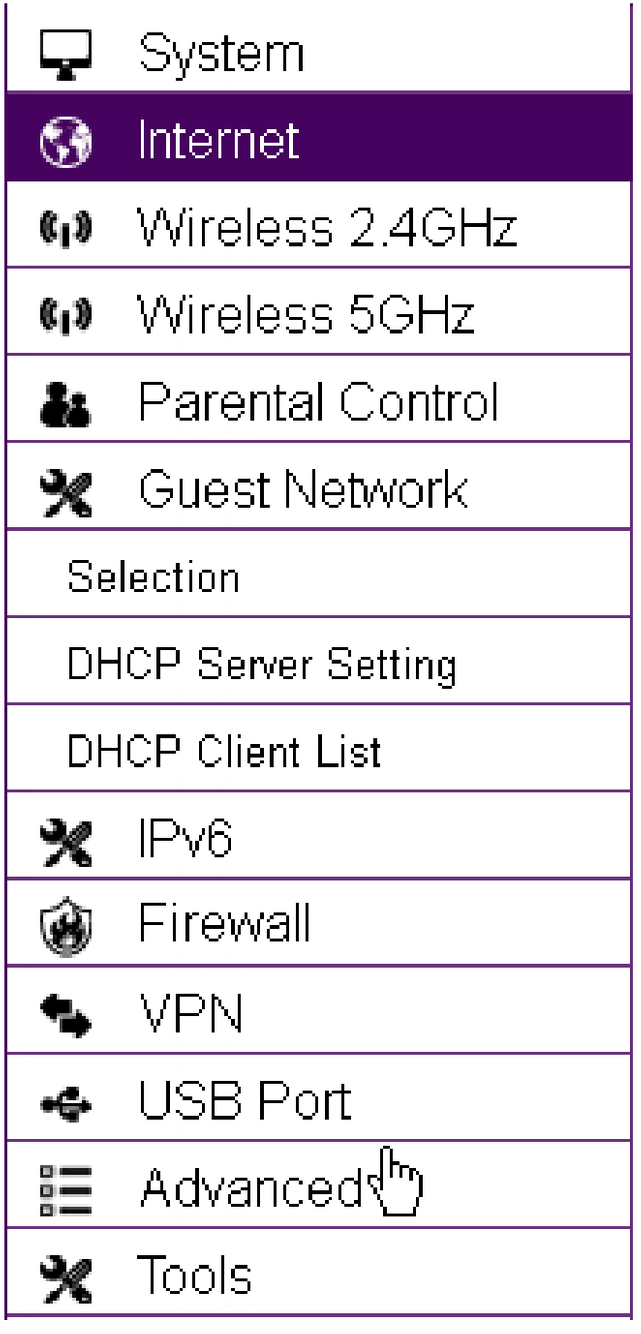
Enable or disable the Guest Network function.

DHCP Server Setting

Configure the Guest Network DHCP server settings.

DHCP Client List

Configure the Guest Network client list.



IPv6

View and edit settings for the IPv6 protocol.

Basic

Allows you to enable or disable the IPv6 and IPv6 Pass-through functions.

Status

Shows IPv6 LAN connection details.

Static IPv6

Configure the IPv6 protocol.

Auto Configuration

Configure the IPv6 by obtaining the information through the ISP provider.

PPPoE

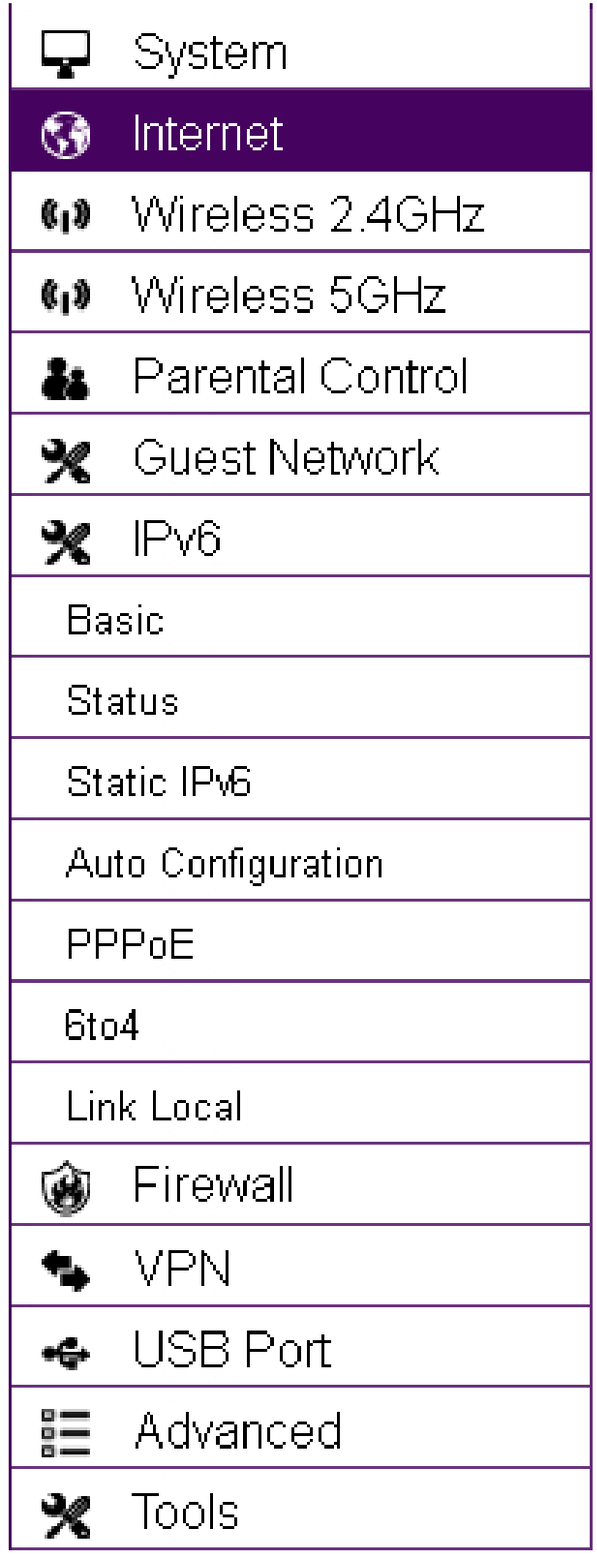
Configure the PPPoE network protocol, obtain information from your ISP (Internet Service Provider).

6to4

Allows IPv6 packets to be transmitted over an IPv4 network.

Link Local

Configure the IPv6 link local address.



Firewall

View and edit settings for the network firewall.

Basic

Enable or disable the network firewall.

Advanced

Configure virtual private network (VPN) packets.

DMZ

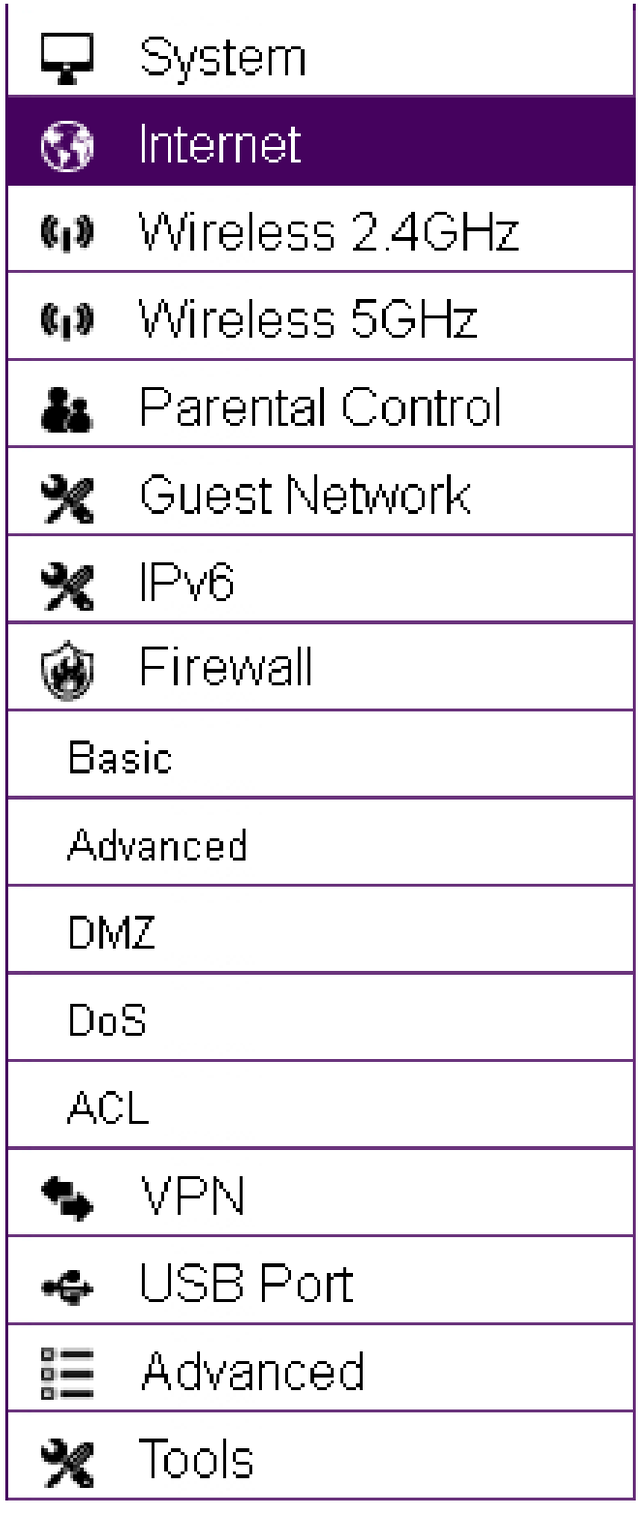
Redirect packets from the WAN port IP address to a particular IP address on the LAN.

DoS

Enable or disable blocking of DoS (Denial of Service) attacks.

ACL

Configure access control lists.



VPN

View and edit settings for VPN tunnelling.

Status

View the status of current VPN tunnels.

Profile Setting

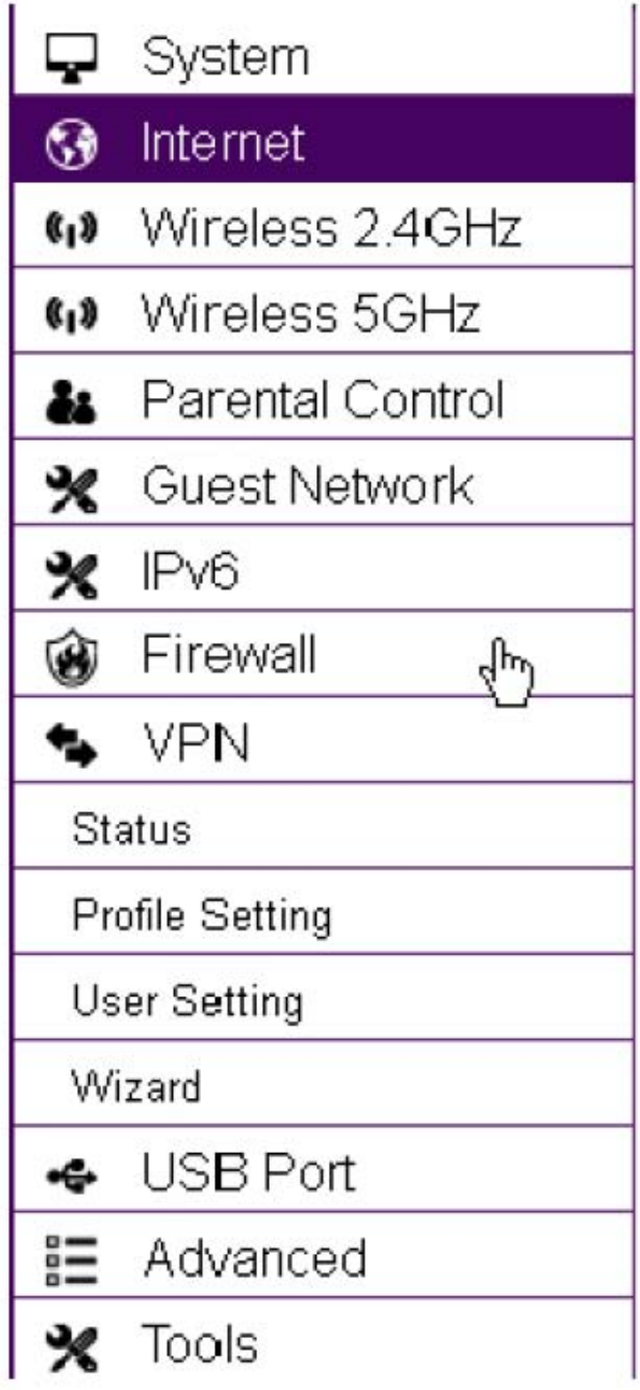
Manually configure VPN tunnels.

User Setting

Configure users, user ID and password combinations, and assign access to specific VPN tunnels.

Wizard

Automatically configure VPN tunnels with guidance from the software.



USB Port

For viewing and editing settings for storage sharing.

EnShare™

Enables or disables the EnShare remote access function.

File Sharing

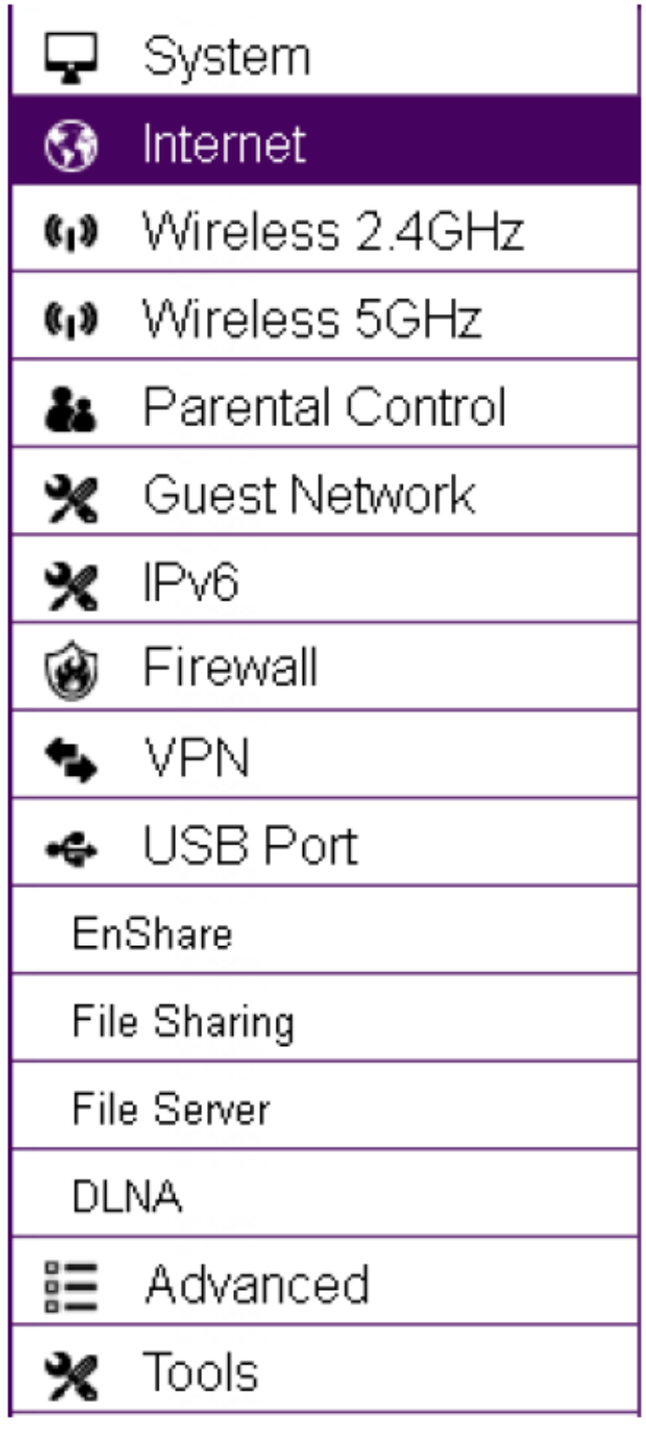
Enables or disables the Samba sharing function.

File Server

Enables and configures the File Server function.

DLNA

Enables the discovery of DLNA devices (some HDTVs, game consoles, some set top boxes/media players, Blu-ray players, some smartphones, and network attached storage) on the home network.



Advanced

View and configure advanced system and network settings.

NAT

Enable or disable Network Address Translation (NAT).

Port Mapping

Re-direct a range of service port numbers to a specified LAN IP address.

Port Forwarding

Configure server applications to send and receive data from specific ports on the network.

Port Triggering

Configure applications that require multiple connections and different inbound and outbound connections.

ALG

Configure the application layer gateway (ALG).

UPnP

Enable or disable Universal Plug and Play (UPnP) functionality.

IGMP

Enable or disable the Internet Group Multicast Protocol (IGMP).

QoS
Configures the network quality of service (QoS) setting by prioritizing the uplink and downlink bandwidth.

Routing
Configure static routing.

WOL (Wake On LAN)
Configure Wake on LAN to turn on a computer over the network.

Tools

For viewing and configuring the router's operating system and network tools settings.

Admin

For setting the administrator's password used to log into the router.

Time

For configuring the system time on the router.

DDNS

Maps a static domain name to a dynamic IP address.

Diagnosis

To perform a Ping test to verify whether a specific device is connected to the LAN.

Firmware

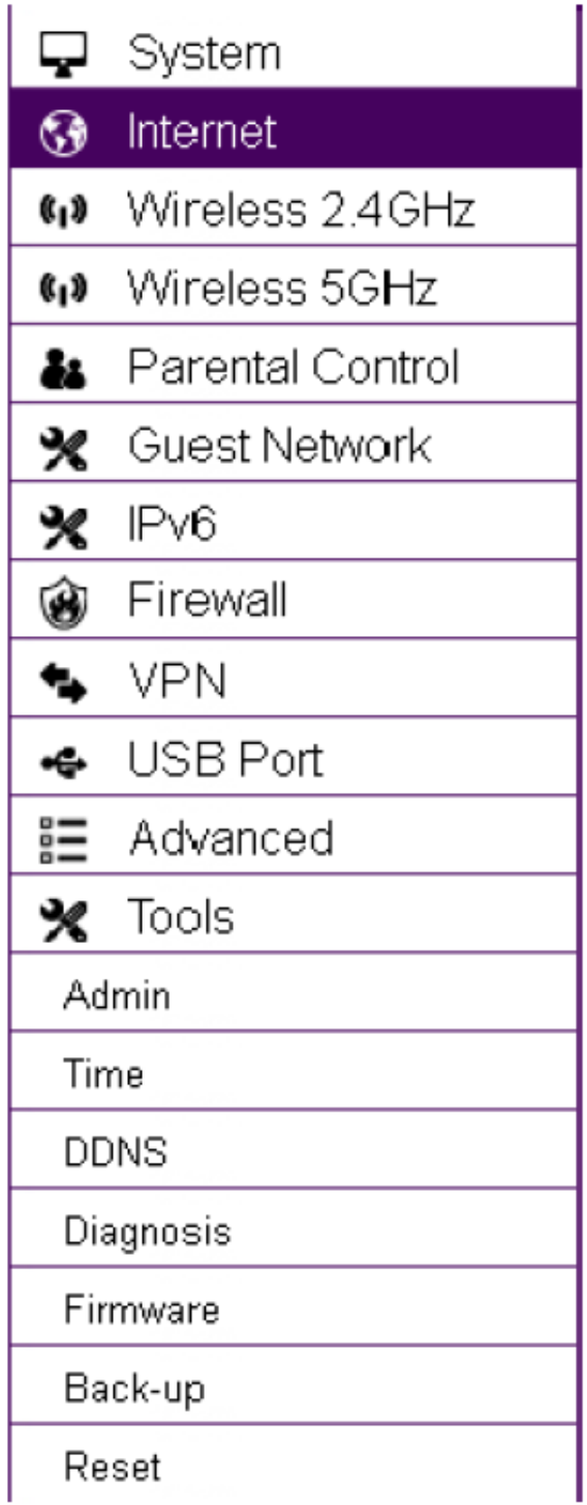
For updating the router's firmware.

Backup

For loading or saving the configuration settings to or from a backup file or to restore the router to its factory default settings.

Reset

Reboots the router.



Chapter 3

Installation Setup Wizard

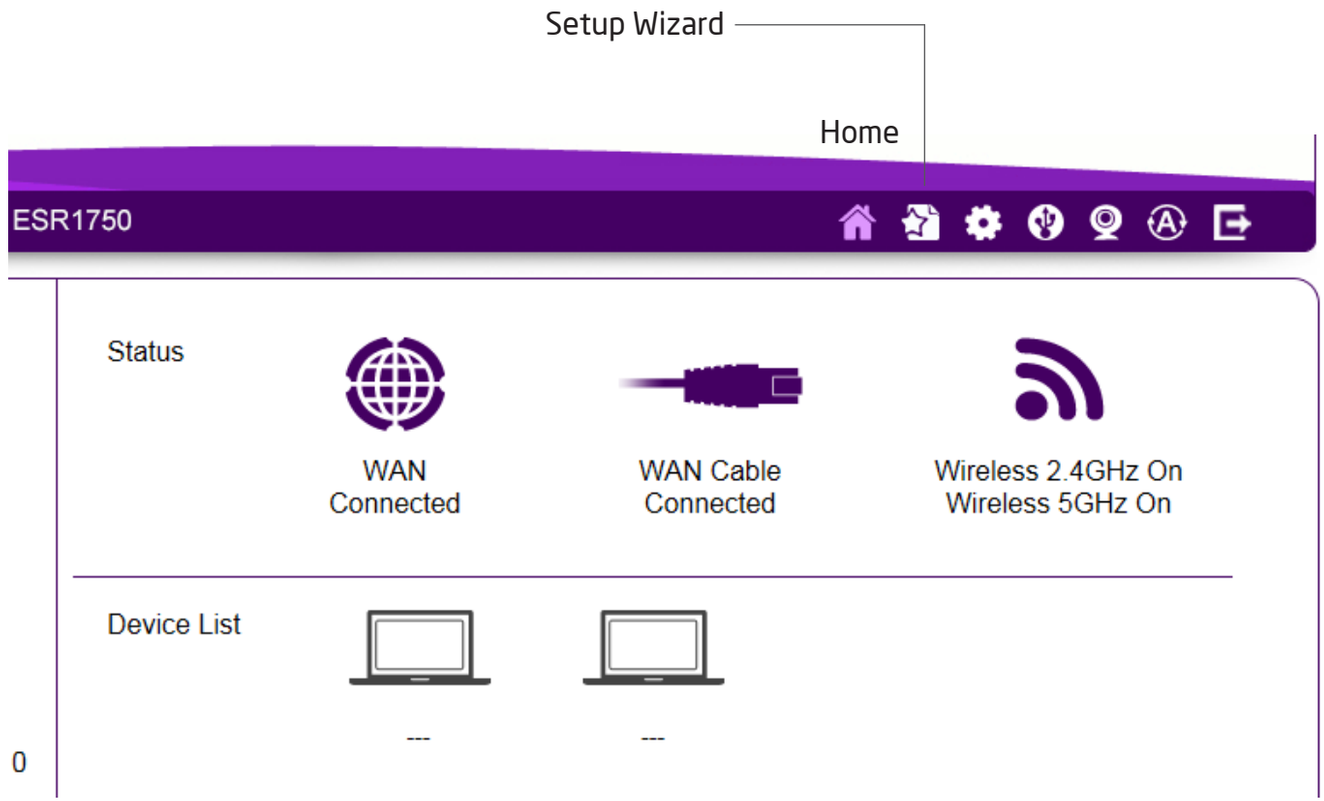
Internet Setup Wizard

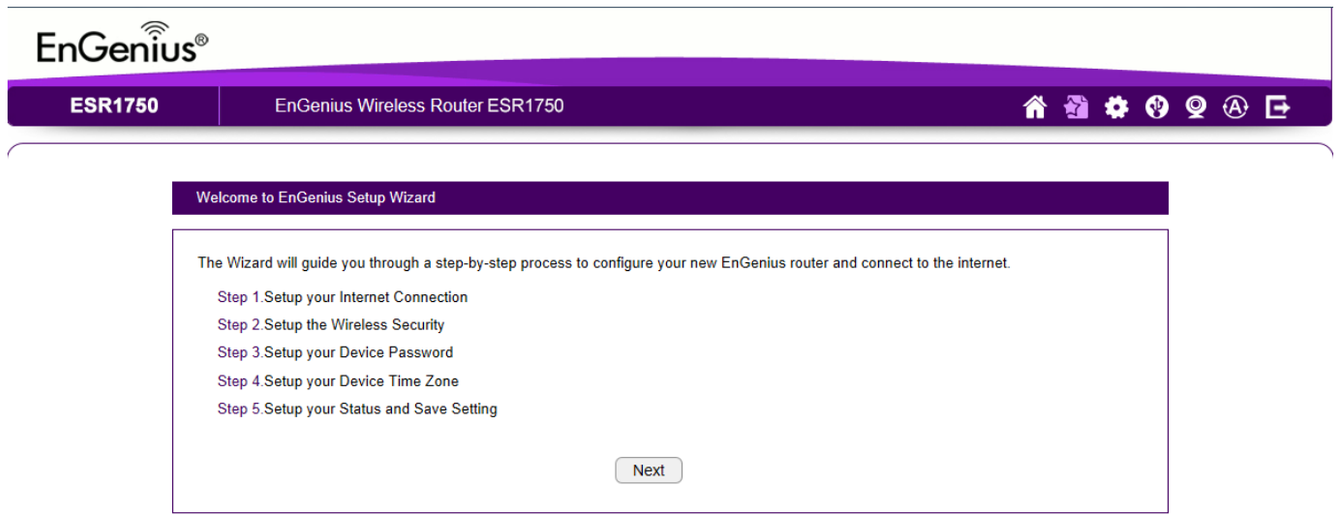
Use the Wizard to detect and set up the type of Internet connection you need, to set up a secure wireless connection, to create an administrator password to secure the device, or set the router's date and time properties.

To use the Internet Setup Wizard, follow these steps:

1. **Click** the **Wizard button** to show the Wizard start screen.

2. Click **Next** to continue with the setup procedure.





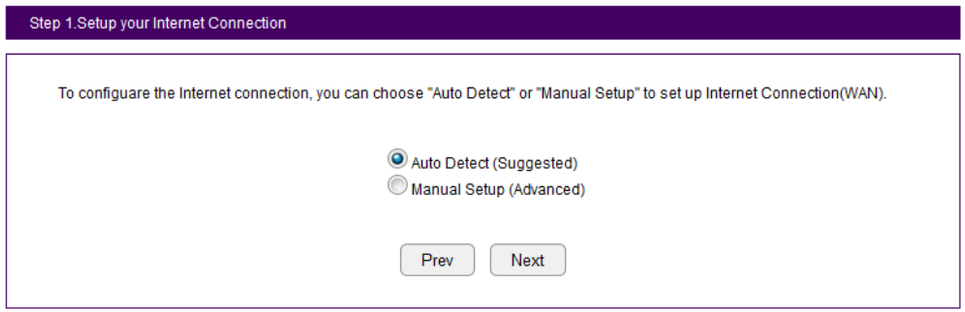
Setting Up Your Internet Connection

1. Decide how to set up the Internet connection.

Note: It is recommended to let the device setup the Internet connection automatically.

- Select **Auto Detect** to let the Wizard set up the Internet connection.
- Select **Manual Setup** to set the properties yourself.

2. Click **Next** to continue or **Prev** to return to the previous screen.

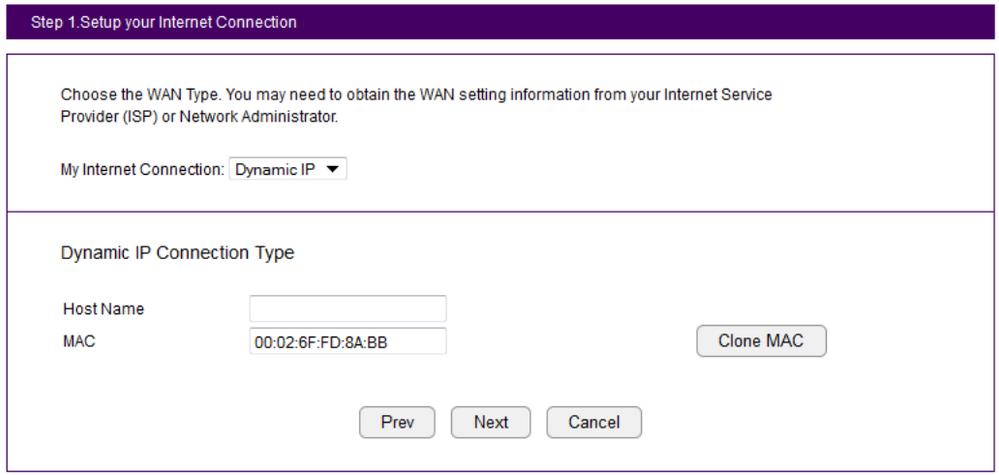


If you selected **Manual Setup**, follow these steps:

3. Select the Internet connection type and enter the connection properties.

Note: The connection types available are static IP, PPPoE, Dynamic IP, PPTP, and L2TP.

4. Click **Next** to continue, **Prev** to return to the previous screen, or **Cancel** to stop the procedure.



Setting Your Wireless Security

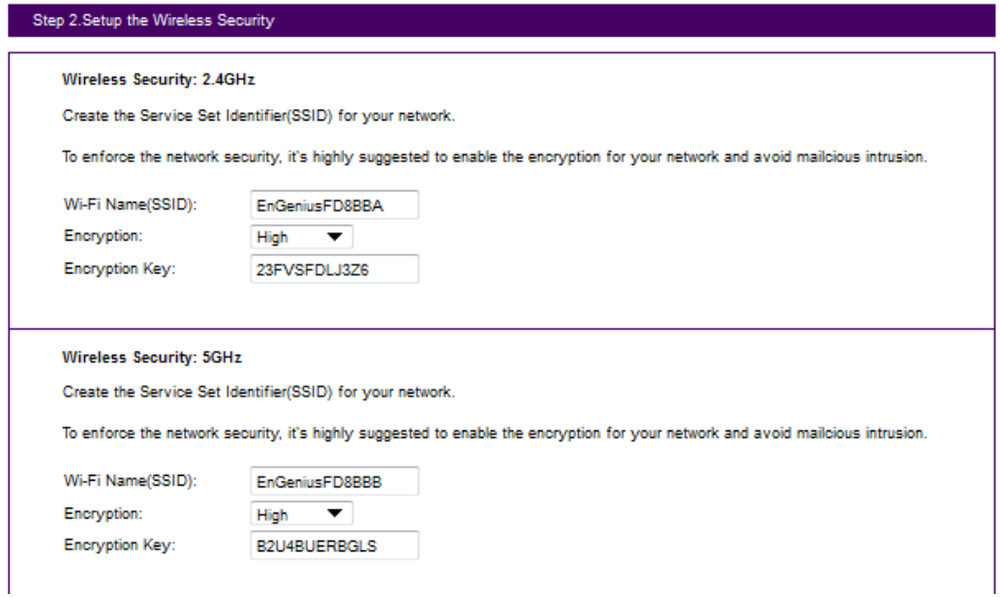
Setting wireless encryption for 2.4 GHz and 5 GHz networks.

To encrypt the wireless signals for either or both of the frequency bands in the EMR3000 router, follow these steps:

1. Enter the router name in the wireless Name (SSID) text field.
2. Select the security level from the Encryption dropdown list.

Important: To ensure the network is secure, it is recommended to select High for an encryption level.

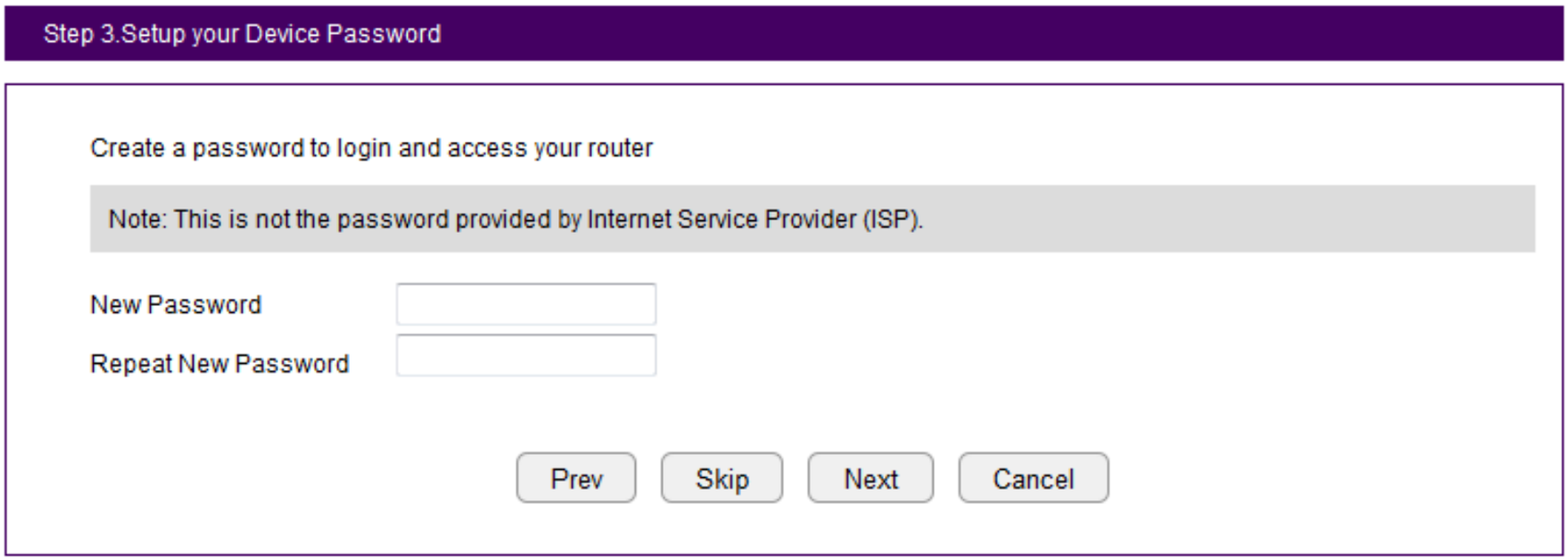
3. Enter a password in the Encryption Key text field.
4. Repeat steps 1 through 3 to encrypt the 5 GHz band
5. Click **Next** to continue, **Prev** to return to the previous screen, or **Cancel** to stop the procedure.



Setting Your Router's Administrator Password

Set up a password to log into the ESR Series Router.

1. Enter a password in the **New Password** text field.
2. Enter the same password in the **Repeat New Password** text field.
3. Click **Prev** to return to the previous screen, **Skip** to skip this procedure, **Next** to continue, or **Cancel** to stop the procedure.



Setting Your Router's Time Zone

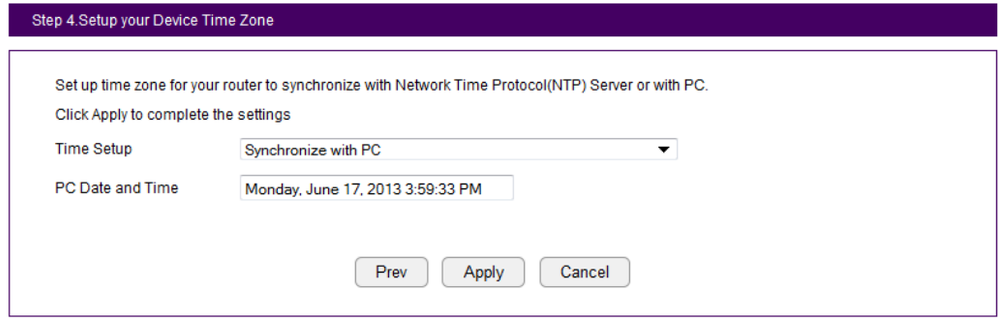
Setup date and time syncronization on the ESR Series Router with a computer or an Network Time Protocol (NTP) server.

To synchronize date and time settings with a computer, follow these steps:

1. Select Synchronize with PC (computer) from the **Time Setup** dropdown list. The date and time values are shown in the **PC Date** and **Time** text field.
2. Click **Prev** to return to the previous screen, **Apply** to save the settings, or **Cancel** to stop the procedure.

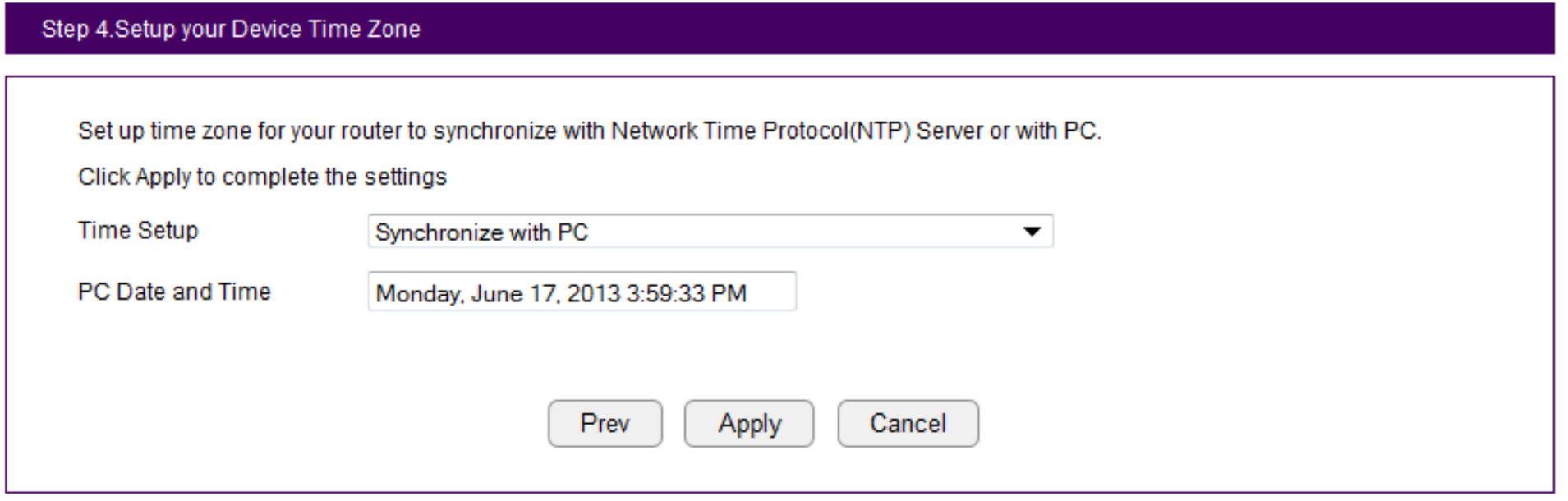
To synchronize the date and time settings with an NTP server, follow these steps:

1. Select **Synchronize** with NTP Server from the **Time Setup** dropdown list.
2. Select a time zone value from the **Time Zone** dropdown list.
3. Enter an IP address or domain name of an NTP server in the **NTP Server** text field.



4. Click the **Enable Daylight Savings** check box to enable or disable daylight savings time.
5. Select the date and time values when daylights savings time starts in the **Start Time** dropdown lists.

6. Select the date and time values when daylights savings time ends in the **End Time** dropdown lists.



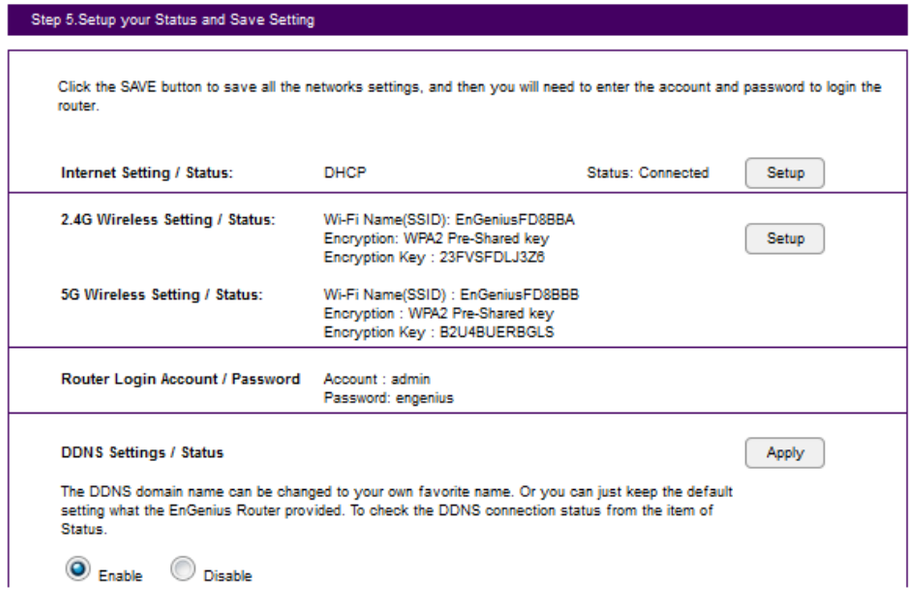
7. Click **Prev** to return to the previous screen, **Apply** to save the settings, or **Cancel** to stop the procedure.

Status and Save Settings

This screen lets you review, change and save your Internet connection, save wireless security settings or setup up a user-specified name for the default EnGenius DDNS service.

To review or modify the device settings, follow these steps:

1. Review the settings shown on the screen for the Internet connection, 2.4 GHz and 5 GHz networks, and the router administrator login.
2. You can change settings to the Internet connection and wireless network settings by clicking the **Setup** button.



You may wish to use a different name that's easier to remember for the default EnGenius DDNS service used for the **EnShare™** feature. To specify your own DDNS name, follow these steps:

3. The **Enable** option should be selected by default.

a. Enter the name in the **Domain Name** text field.

b. Select a time interval to refresh the DNS records from the **Refresh** dropdown list.

c. Click **Apply** to save the DDNS name you have entered.

4. Click **Save** to exit the Web Configuration interface. The router will reboot (restart) to apply all the settings you've specified. Devices connected to the router will temporarily lose their Internet connection. The reboot may take several seconds before the router and your Internet connection are once again available.

WARNING! Selecting **Disable** in the DDNS Settings/ Status field will disconnect the router's connection to the default EnGenius DDNS server and as a result will disable the EnShare feature which lets you access media from a USB storage device connected to your ESR pod router when you're away from your home.

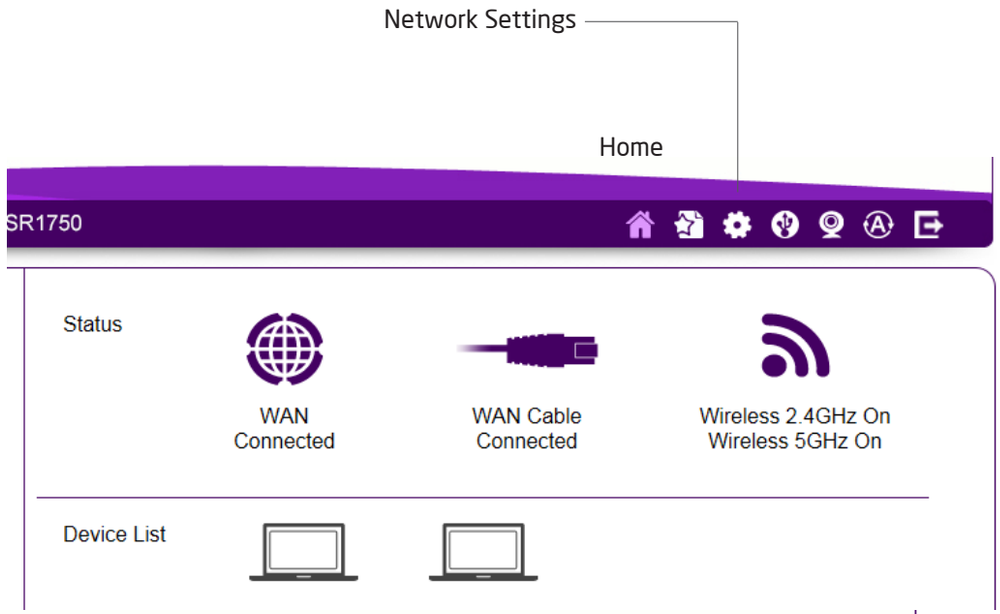
Chapter 4

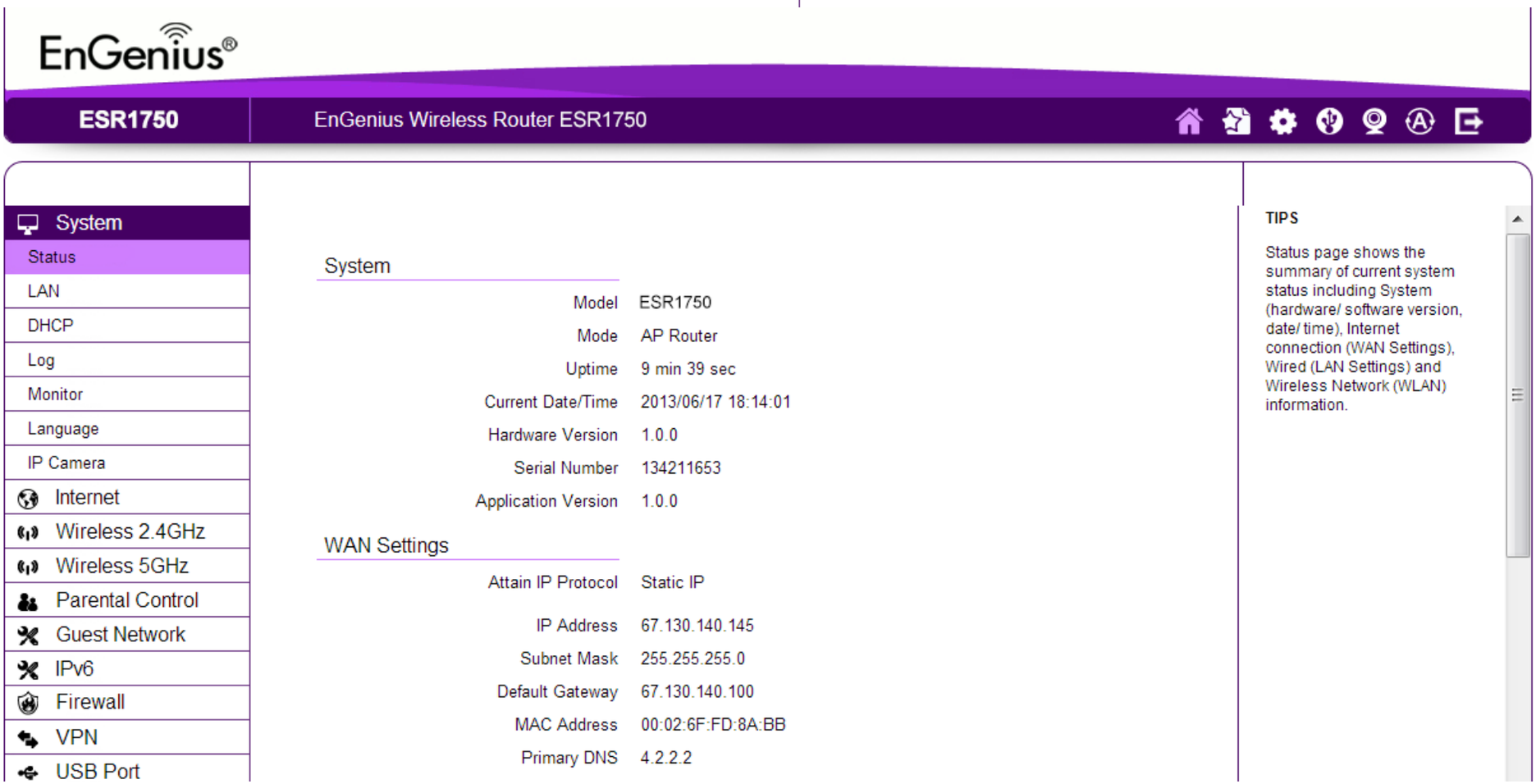
Basic Network Settings

Network Settings

Viewing System Status

To see a more detailed view of the router's status than the information displayed on the Home page of the Web Configuration interface, from the Home Page click on **Network Settings** button in the upper navigation bar.





Status

To view the Status settings, click **System** then click **Status**.

On the **Status** page, you can view a summary of the current router system status including the router's (hardware/software version, date/time), wired network (LAN) and wireless network (WLAN) information.

Model

The model name of the ESR Series Router.

Mode

The operating mode of the ESR Series Router.

Uptime

The amount of time the ESR Series Router has been connected for the current session.

Current Date/Time

The current system date and time.

Hardware Version

The hardware version number of the router.

Serial Number

The serial number of the router (required for customer service or support).

Application Version

The version of the router's firmware.

Note: To update the router's firmware, visit **www.engeniustech.com** and go to the product page for your router, then select the Downloads tab at the bottom of the web page to see if a newer version of the firmware is available.

WAN Settings

Attain IP Protocol
Displays the IP protocol in use for the router. It can be a dynamic or static IP address.

IP Address
The router's IP address as designated by an ISP (Internet Service Provider).

Subnet Mask
The router's WAN subnet mask as designated by an ISP provider.

Default Gateway
The router's gateway address as designated by an ISP provider.

MAC Address
The router's WAN MAC (Media Address Control) address. The router's MAC address is located on the label on the bottom panel of the router and is unique for each router.

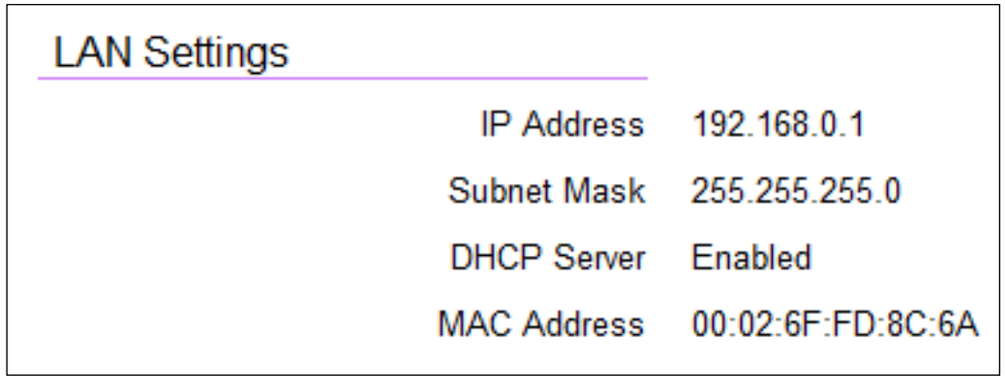
Primary DNS
The primary DNS of an ISP provider.

Secondary DNS
The secondary DNS of an ISP provider.

WAN Settings

Attain IP Protocol	Dynamic IP Address
IP Address	192.168.1.76
Subnet Mask	255.255.255.0
Default Gateway	192.168.1.254
MAC Address	00:02:6F:FD:8B:D1
Primary DNS	192.168.1.254
Secondary DNS	---

LAN Settings



IP Address

The router's local IP address. The default LAN IP address is **http://192.168.0.1**

To access the Web Configuration interface for the router, type this address into the address (URL) field of your web browser. This can only be done in the same physical location where the router resides (your home network).

Subnet Mask

The router's local Subnet Mask.

DHCP Server

The DHCP setting status (Default: Enabled). The DHCP (Dynamic Host Control Protocol) is a software mechanism in your router that assigns IP addresses to wired and wireless devices on your network, for example, a computer, printer, tablet or HDTV on your network may be assigned an IP address of http://192.168.0.104. Note how the address is essentially an extension or addition of your router's IP address.

MAC Address

The router's unique MAC address.

WLAN Settings

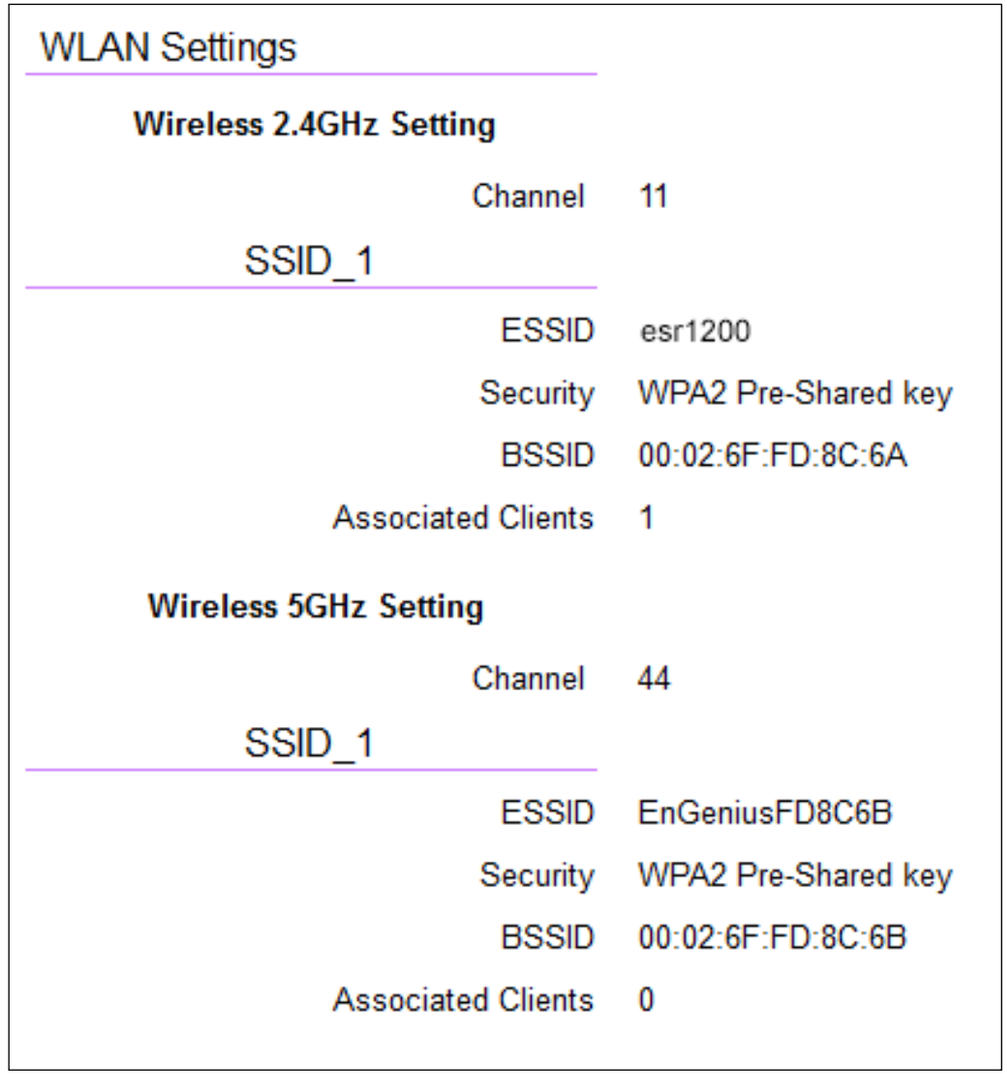
Channel
The communications channel used by all stations, or computing devices, on the network.

ESSID
The ID value of a set of one or more interconnected basic service sets (BSSs).

Security
The security setting status (Default: Disabled).

BSSID
The unique ID of the BSS using the above channel value on this router. The ID is the MAC address of the BSSs access point.

Associated Clients
The number of clients associated (actively linked to the router via a wireless or wired/Ethernet connection) with this SSID.



Guest Network

Guest Network Setting	
Guest Network	Enabled
IP Address	192.168.169.1
Subnet Mask	255.255.255.0
DHCP Server	Enabled
Guest Network Interface	SSID_2

Guest Network

The guest network status. (Default: Disabled)

IP Address

The Guest Network's LAN IP address.

Subnet Mask

The Guest Network's local subnet mask.

DHCP Server

The Guest Network DHCP setting status (Default: Enabled).

Guest Network Interface

The SSID (Service Set Identifier) of the Guest Network.

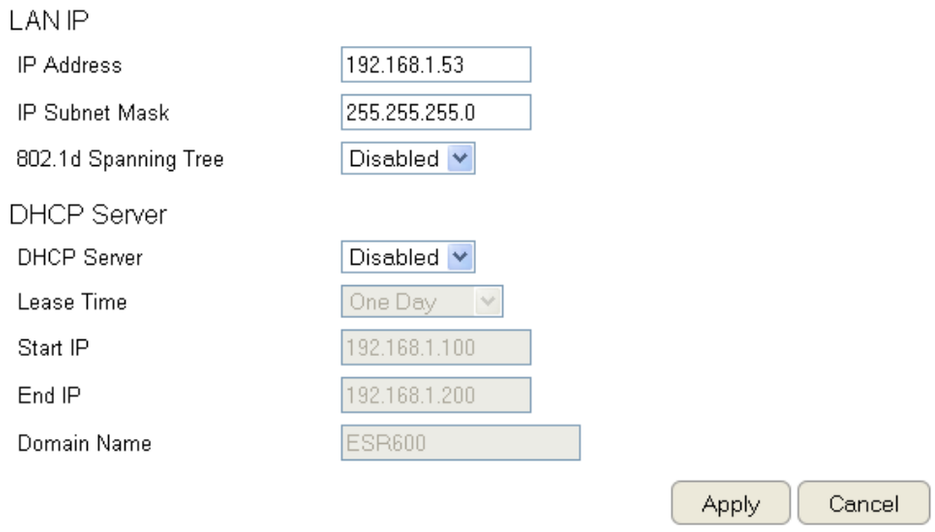
Configuring the LAN (Local Area Network)

The settings on this page allow you to configure the wired network settings. Devices connected to the router's Ethernet ports comprise its LAN. The router's IP is defined in the **IP Address** field. The default setting of the DHCP server is set to **Enabled** so that networked clients (computers, home entertainment components, printers, etc.) will automatically be assigned IP addresses by the router.

More advanced users may wish to configure the DNS server settings to meet their specific requirements. Changing the settings in this section are not necessary for most situations.

To view the LAN settings, click **System,** then click **LAN**.

Note: Keep the router's default values if you are uncertain of the settings values.



LAN IP

IP Address

For configuring the router's LAN IP address.

IP Subnet Mask

For configuring the router's LAN Subnet Mask

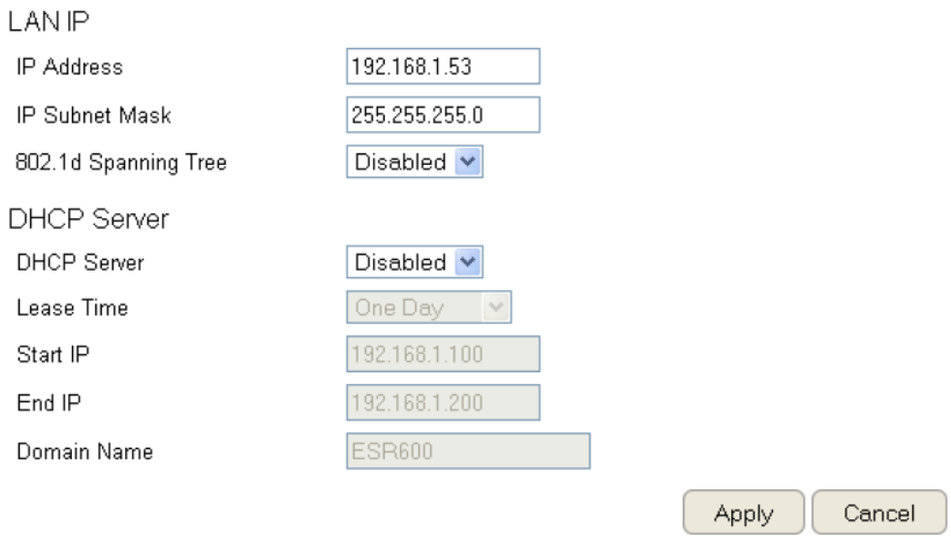
802.1d Spanning Tree

Spanning Tree is disabled by default. When enabled, Spanning Tree prevents network loops (transmissions won't pass the same node twice or several times to reach the destination).

Note:
The default device IP address is 192.168.0.1.

DHCP Server

The DHCP server assigns IP addresses to the devices on the LAN.



DHCP Server

Enable or disable the DHCP server (Default: Enabled).

Lease Time

Configure the amount of time each allocated IP address can be used by a client.

Start IP

The first IP address in the range of addresses assigned by the router.

End IP

The last IP address in the range of addresses assigned by the router.

Domain Name

The domain name of the router.

Configuring Dynamic Host Configuration Protocol

This window allows you to view and configure Dynamic Host Configuration Protocol (DHCP) addresses.

WARNING! Do not modify the settings in this section without a thorough understanding of the parameters.

To view the DHCP settings, click **System** then click **DHCP**.

Current Static DHCP Table

No.	IP Address	MAC Address	Select
1	192.168.0.99	00:02:6F:FD:8D:C5	☑

Delete Selected | Delete All | Reset

Apply | Cancel

DHCP Client Table

Displays the connected DHCP clients whose IP addresses are assigned by the DHCP server of the router.

IP Address

Displays the IP address of the static DHCP client device in the table.

MAC Address

Displays the MAC address of the static DHCP client device in the table.

Expiration Time

The date and time when the current DHCP address is no longer valid.

Click **Refresh** to update the table.

Enable Static DHCP IP

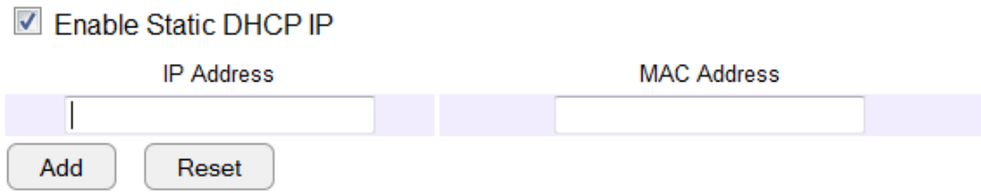
There are reasons why you may want to enable a static IP address on a client device on your ESR router's network.

On occasion, if there are power outages or if you've reconfigured the settings on your ESR router and reboot (restart) it to apply the new settings, the previous IP address that the router's DHCP server assigned to one or more devices on the network may have changed. Some client devices on your network may also have web configuration interfaces (set top boxes, Network Attached Storage, etc.) that are accessible from the router's assigned IP address from its DHCP server, so the client device can be managed. Thus if the client device's IP address changes from time to time, it may be difficult linking to it unless you find its new address through the ESR router's DHCP Client Table.

If you wish to avoid this, then the Enable Static DHCP IP option allows you set a static (essentially a permanent) address for given client devices on your network.

To do so, select the **Enable Static DHCP IP** option.

IP Address
Enter the IP address of the device to add as a static DHCP client.

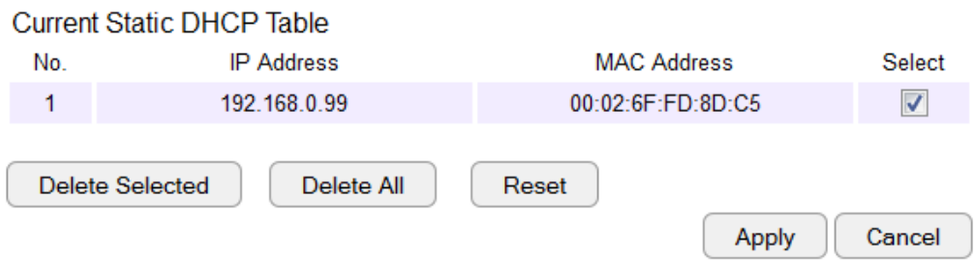


MAC Address
Enter the MAC address of the device to add as a static DHCP client.

Click **Add** to add the device to the static DHCP client table or **Reset** to return the table to its previous state.

Current Static DHCP Table

Allows you to view the active static DHCP IP addresses that have been manually assigned to client devices with their corresponding MAC addresses.



No. (Number)
Displays the ID of the static DHCP client device in the table.

IP Address
Displays the IP address of the static DHCP client device in the table.

MAC Address
Displays the MAC address of the static DHCP client device in the table.

Select
Click to select static DHCP client devices to be deleted.

Click **Delete Selected** to remove a selected address. Click **Delete All** to remove all addresses from the table. Click **Reset** to return the table to its previous state. Click **Apply** to save the settings or **Cancel** to discard changes.

Configuring Event Logging

The logging service records and displays important system information and activity on the network. The events are stored in a memory buffer with older data overwritten by newer when the buffer is full.

To view the Log settings, click **System** then click **Log**.

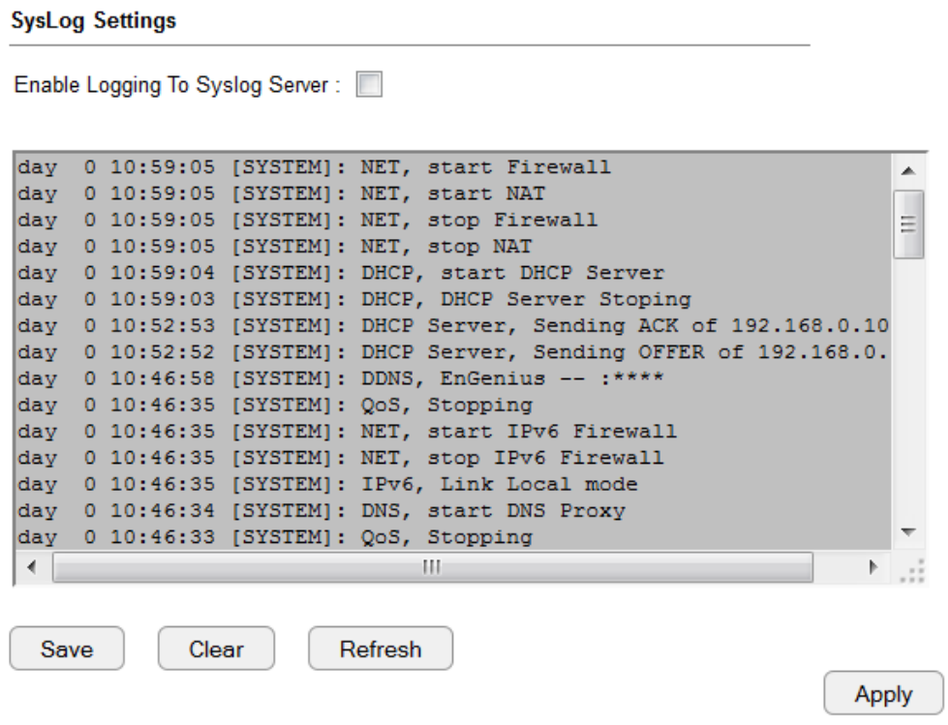
Log Message List

Select **Enable Logging to Syslog Server**

Click **Save** to start logging information to the system.

Log Message window

Shows the current system operations and network activity.
Click **Save** to save the message list to a text file, **Clear** to discard message from the memory buffer, or **Refresh** to clear previous messages and write new messages to the memory buffer.
Click **Apply** to save changes.

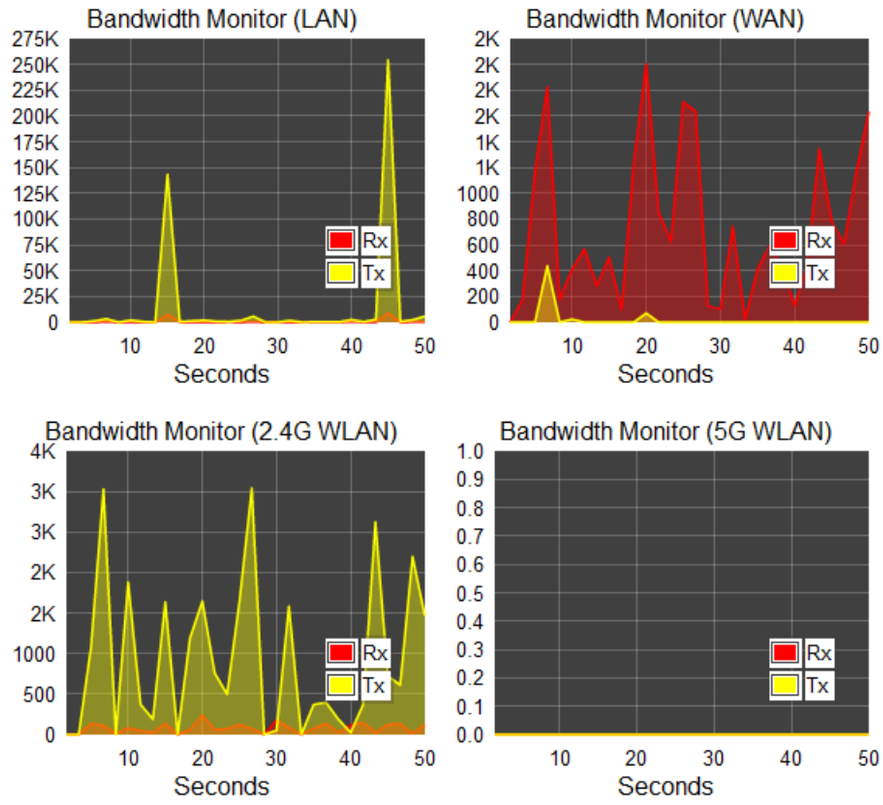


Monitoring Bandwidth Usage

This tool allows you to view real-time bandwidth usage for WAN (Wide Area Network - or Internet), LAN (Local Area Network) and WLAN (Wireless Local Area Network) traffic. For the EMR3000, it shows both the bandwidth traffic in both the 2.4 and 5 GHz frequency bands.

To view the Bandwidth Monitor settings, click **System**, then click **Monitor**.

The screens display the active bandwidth usage for both the LAN and WLAN networks as well as the bandwidth being used on the WAN connection.



Configuring the System Language

The ESR router's Web Configuration interface supports multiple languages.

To view the Language settings, click **System,** then click **Language**.

Select the system language you wish to use from the drop-down menu.

Multiple Language

Configuring IP Cameras

This ESR router supports up to four (4) EnGenius IP Cameras simultaneously. If no IP Camera is detected, please check that the IP Camera's IP address and UPnP client are configured correctly.

To view the IP Camera settings, click **System**, then click **IP Camera**.

Before starting this procedure, you must connect your EnGenius IP camera to the network.

Make sure the camera is powered on.

Click the **Refresh** button to view a listing of available devices.

Note: The "IP Camera" function supports EnGenius IP Camera products only.

IP Camera Client Table

IP Address	MAC Address

Refresh

Configuring Internet Settings

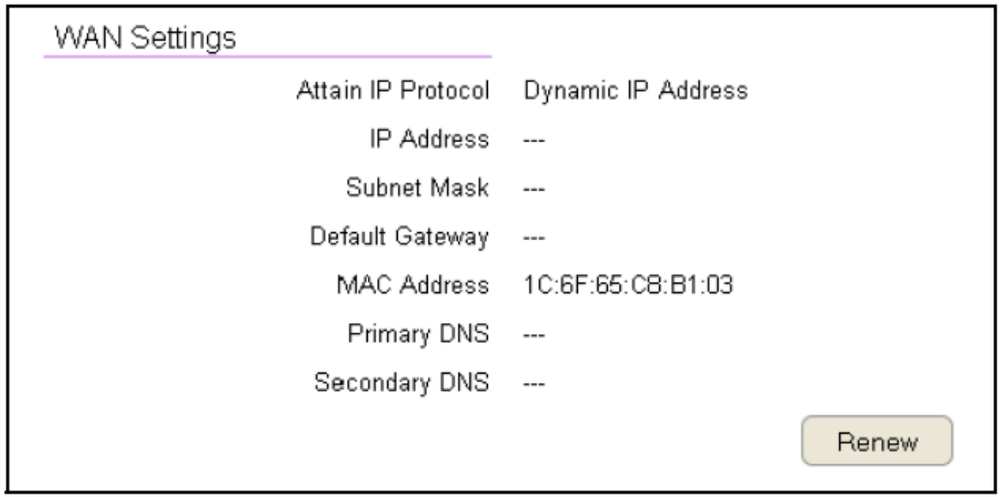
View Internet Status

The WAN Settings, or Internet Status, page shows a summary of the current Internet connection information. This section is also shown on the System Status page.

To view the Status settings, click **Internet**, then click **Status.**

WAN Settings

To view the WAN Settings, click Internet then select Status.



Attain IP Protocol

Display the IP Protocol type used for the ESR Series Router (Dynamic IP Address or Static IP Address).

IP Address

The router's WAN IP address.

Subnet Mask

The router's WAN subnet mask.

Default Gateway

The ISP's gateway IP address.

MAC Address

The router's WAN MAC address. The router's MAC address is located on the label on the back side of the router.

Primary DNS

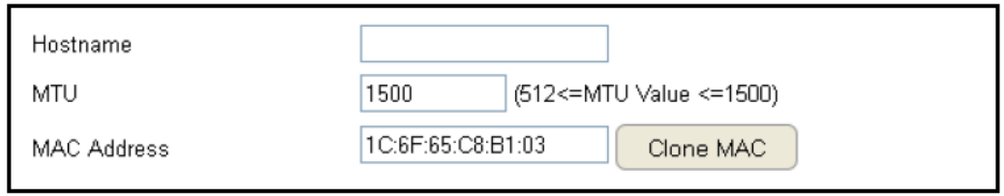
The primary DNS address of an ISP provider.

Secondary DNS

The secondary DNS address of an ISP provider.

Configuring Dynamic IP

Dynamic IP addressing assigns a different IP address each time a device connects to an ISP (Internet Service Provider) and most commonly used by cable ISPs.



To view the Dynamic IP, click **Internet** then select **Dynamic IP**.

Dynamic IP

Hostname

Assign a name for the Internet connection type. This field can be blank.

MTU (Maximum Transmission Unit)

Allows you to configure the MTU. The MTU specifies the largest packet size permitted for an internet transmission. The factory default MTU size for Dynamic IP (DHCP) is 1500. The MTU size can be set between 512 and 1500.

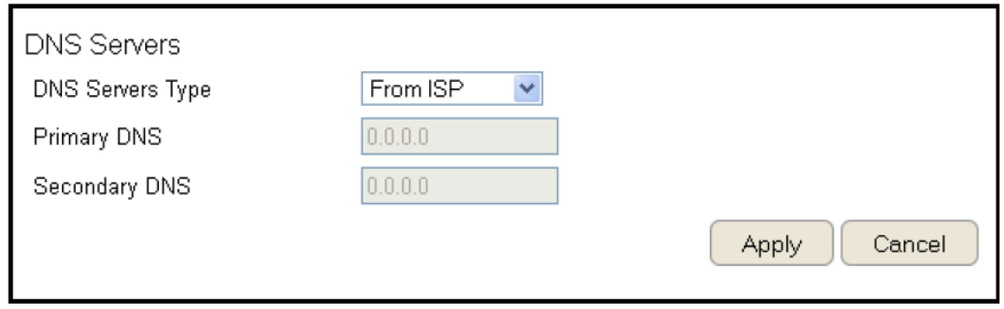
Clone MAC

Enter the MAC address of your computer's (or tablet's) network embedded Network Interface Card (NIC) in the MAC address field and click **Clone MAC**.

Note: Some ISP providers require registering the MAC address of the Network Interface Card (NIC) connected directly to the cable or DSL modem. Clone MAC masks the router's MAC address with the MAC address of the computer's NIC.

DNS Servers

The DNS server translates a domain or website name into a URL (Uniform Resource Locator), or Internet address. There are two options to choose from: From ISP or User-Defined. Select From ISP to retrieve the DNS address value from the ISP; select User-Defined to assign a custom DNS server address.



DNS Server

Configure the type of DNS server. (Default = From ISP)

First DNS Server

Configure the first, or primary, DNS server.

Second DNS Server

Configure the second, or secondary, DNS server.

Click **Apply** to save the settings or **Cancel** to discard the changes.

Configuring Static IP

Setting a static IP address allows an administrator to set a specific IP address for the router and guarantees that it can not be assigned a different address.

To view the Static IP settings, click **Internet**, then click **Static IP**.

Static IP

IP Address

The router's WAN IP address.

Subnet Mask

The router's WAN subnet mask.

Default Gateway

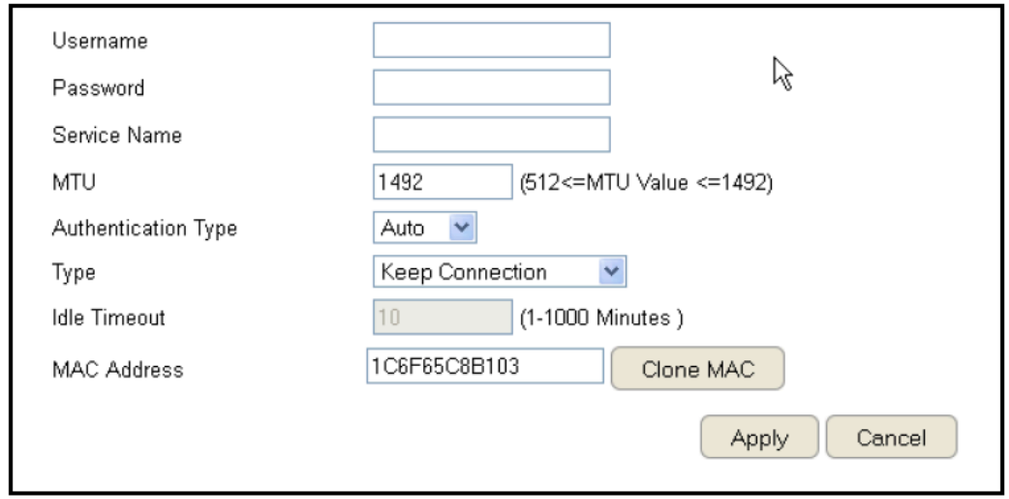
The WAN gateway address.

Primary DNS

The primary DNS server address.

Secondary DNS

The secondary DNS server address.



MTU (Maximum Transmission Unit)

The MTU specifies the largest packet size permitted for an internet transmission. The factory default MTU size for static IP is 1500. The MTU size can be set between 512 and 1500.

MAC Address

The router's MAC address.

Click **Apply** to save the settings or **Cancel** to discard the changes.

Configuring PPPoE

Point-to-Point Protocol over Ethernet (PPPoE) is used mainly by ISPs that provide DSL modems to connect to the Internet.

To view the PPPoE settings, click **Internet**, then click **PPPoE.**

Username

Enter the username assigned by an ISP.

Password

Enter the password assigned by an ISP.

Service Name

Enter the service name of an ISP (optional).

MTU (Maximum Transmission Unit)

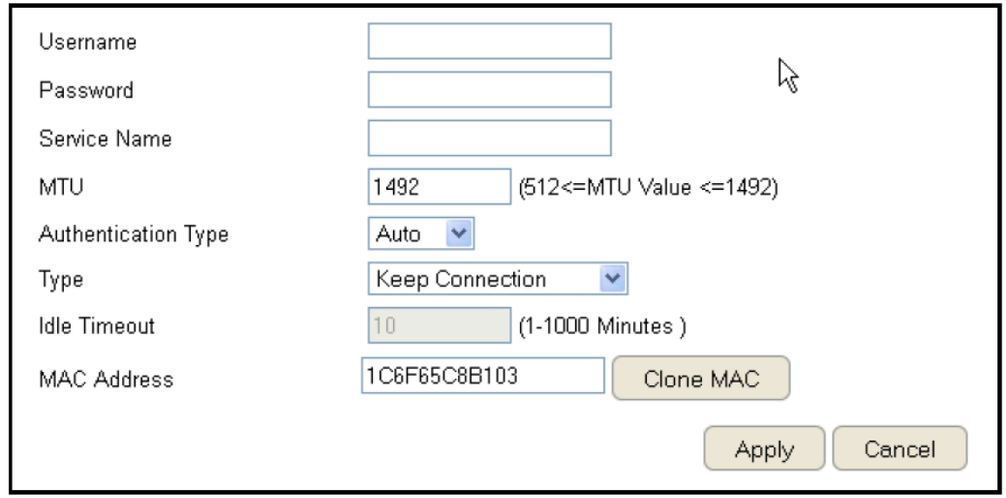
Enter the (MTU). The MTU specifies the largest packet size permitted for an internet transmission (PPPoE default: 1492). The MTU size can be set between 512 and 1492.

Authentication Type

Select the type of authentication provided by the ISP: Auto, PAP, or CHAP. If unsure of the best setting, select Auto or check with your Internet Service Provider.

Type

Configure the connection type between the router and the ISP. Select one of the following: **Keep Connection**, **Automatic Connection** or **Manual Connection**.



Idle Timeout

Configure the maximum idle time (1 to 1,000 minutes) allowed for an inactive connection.

Clone MAC

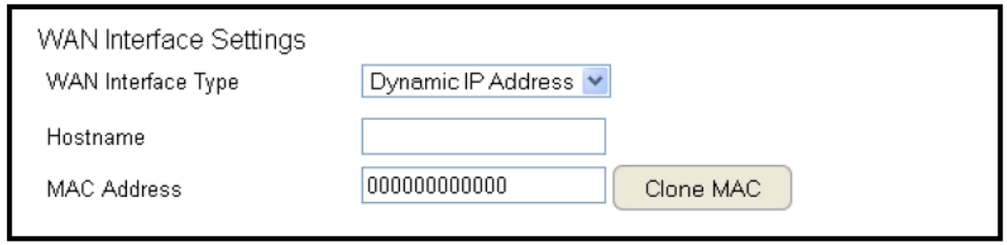
Enter the MAC address of the devices' network interface card (NIC) in the MAC address field and click Clone MAC.

Note: Some ISP providers require registering the MAC address of the network interface card (NIC) connected directly to the cable or DSL modem. Clone MAC masks the router's MAC address with the MAC address of the computer's NIC.

Click **Apply** to save the settings or **Cancel** to discard the changes.

Configuring PPTP

PPTP (Point-to-Point Tunnelling Protocol) is used in association with virtual private networks (VPNs). There are two parts to a PPTP connection: the WAN interface settings and the PPTP settings.



To view the PPTP settings, click **Internet**, then click **PPTP**.

WAN Interface Settings

Dynamic IP Address

WAN Interface Type

Select Dynamic IP Address to assign an IP address provided by an ISP.

Hostname

Enter a host name of an ISP. (optional).

Clone MAC

Enter the MAC address of the computer's (or tablet's) embedded Network Interface Card (NIC) in the MAC address field and click **Clone MAC**.

Note: Some ISP providers require registering the MAC address of the network interface card (NIC) connected directly to the cable or DSL modem. Clone MAC masks the router's MAC address with the MAC address of the computer's NIC.

PPTP Settings

User Name
Enter the username assigned by your ISP.

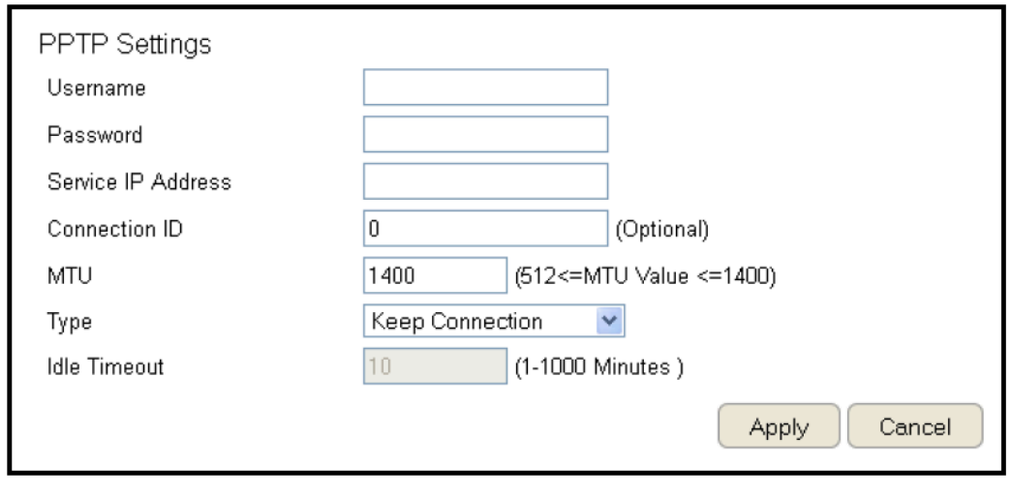
Password
Enter the password assigned by your ISP.

Service IP Address
Enter the PPTP server IP address provided by your ISP.

Connection ID
Enter the connection ID provided by your ISP (optional).

MTU (Maximum Transmission Unit)
Enter MTU. The MTU specifies the largest packet size (Default: 1462) permitted for an Internet transmission. The MTU size can be set between 512 and 1492.

Type
Configure the connection type between the router and the ISP. Select one of the following: **Keep Connection**, **Automatic Connection** or **Manual Connection**.



Idle Timeout
Configure the maximum amount of time, in minutes, allowed for inactive Internet connection. The Internet connection will be dropped when the maximum idle time is reached. Valid values are between one and one thousand.

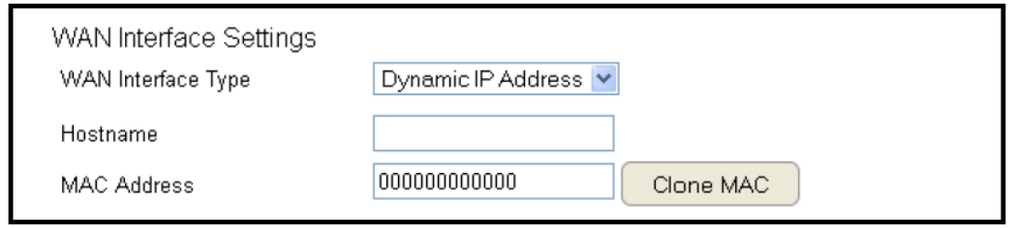
Click **Apply** to save the settings or **Cancel** to discard the changes.

Configuring L2TP

L2TP (Layer 2 Tunneling Protocol) is used in association with VPNs (Virtual Private Networks). There are two parts to a L2TP connection:

1. The WAN interface settings
   and
2. The L2TP settings.

To view the L2TP settings, click **Internet**, then click **L2TP**.



WAN Interface Settings

Dynamic IP Address

WAN Interface Type

Select Dynamic IP Address to assign an IP address provided by an ISP.

Hostname

Enter a host name of an ISP (optional).

Clone MAC

Enter the MAC address of your computer's embedded Network Interface Card (NIC) in the MAC address field and click **Clone MAC**.

Note: Some ISP providers require registering the MAC address of the network interface card (NIC) connected directly to the cable or DSL modem. Clone MAC masks the router's MAC address with the MAC address of the computer's NIC.

L2TP Settings

Username
Enter the username assigned by an ISP.

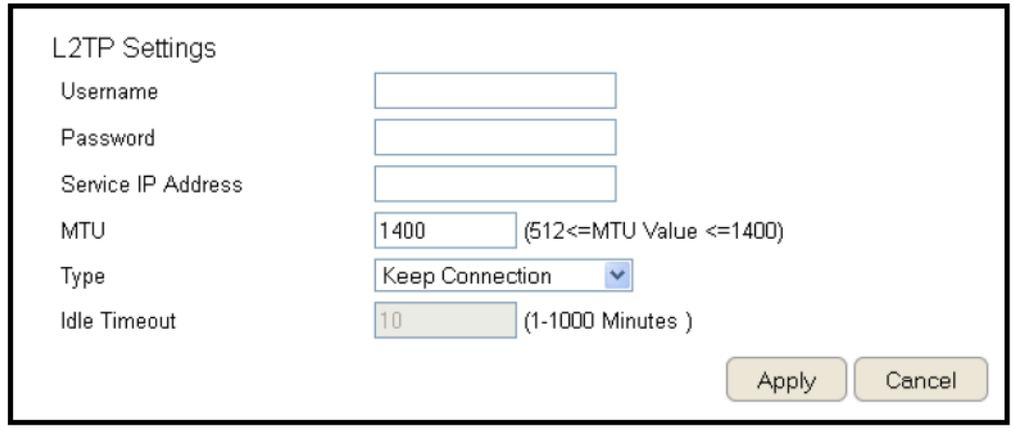
Password
Enter the password assigned by an ISP.

Service IP Address
Enter the L2TP server IP address provided by an ISP.

Connection ID
Enter the connection ID provided by an ISP (optional).

MTU (Maximum Transmission Unit)
Enter MTU. The MTU specifies the largest packet size (Default: 1460) permitted for an Internet transmission. The MTU size can be set between 512 and 1492.

Type
Configure the connection type between the router and the ISP. Select one of the following: **Keep Connection**, **Automatic Connection** or **Manual Connection**.

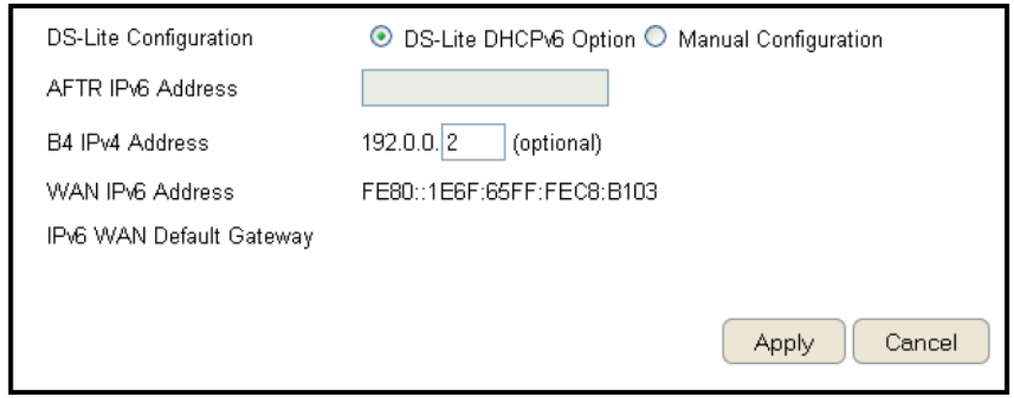


Idle Timeout
Configure the maximum amount of time, in minutes, allowed for inactive Internet connection. The Internet connection will be dropped when the maximum idle time is reached. Valid values are between one and one thousand.

Click **Apply** to save the settings or **Cancel** to discard the changes.

Configuring DS-Lite

Dual-Stack Lite, or DS-Lite, allows ISPs to stop IPv4 addresses from reaching a customer's network devices and only use IPv6.



To view the DS-Lite settings, click **Internet**, then click **DS-Lite**.

DS-Lite Configuration

Select DS-Lite DHCPv6 Option or Manual Configuration

AFTR IPv6 Address

Enter the AFTR IPv6 connection type

B4 IPv4 Address

Enter an Optional B4 IPv4 address.

WAN IPv6 Address

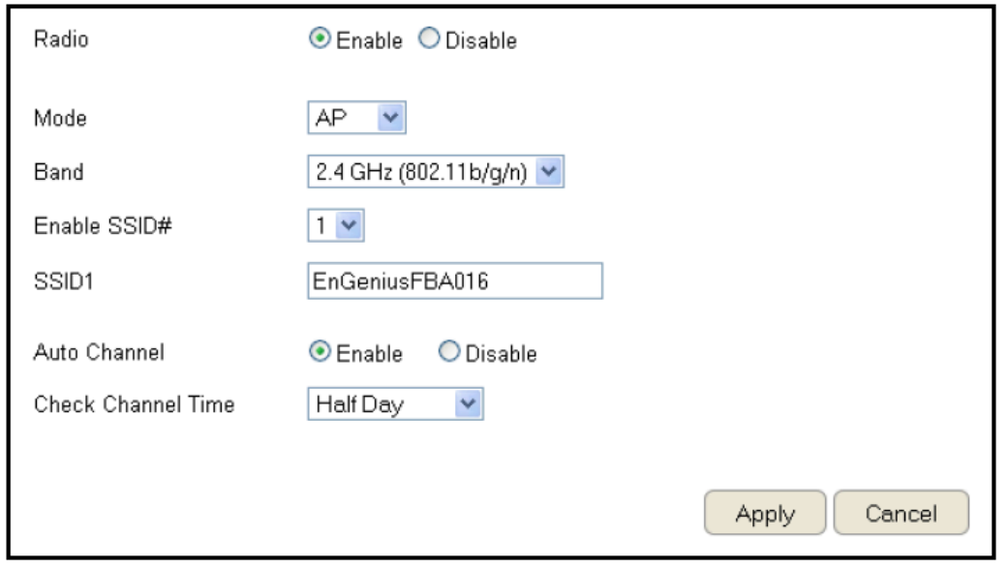
Enter the WAN IPv6 address.

IPv6 WAN Default Gateway

Enter the IPv6 WAN default gateway address.

Click **Apply** to save the settings or **Cancel** to discard the changes.

Wireless LAN Setup



To view the Wireless Basic settings, click **Wireless** then select **Basic**.

Radio

Enable or disable the wireless radio. If the wireless radio is disabled, wireless access points are not available.

Mode

Select the wireless operating mode for the router. Two modes are available: Access Point or Wireless Distribution System (WDS) mode.

AP (Access Point)

Provides a connection access point for wireless devices.

WDS (Wireless Distribution System)

Allows the wireless network to be expanded using multiple access points without wired connections.

Click **Apply** to save the settings or **Cancel** to discard changes.

Access Point Mode

These instructions apply to both the 2.4 GHz and 5 GHz frequency bands.

The router by default is already configured in Access Point Mode. For optimum connectivity to a number of different wireless client devices, it's recommended that you keep the router in its default wireless settings. You can choose to have the router associate only with certain iterations (IEEE standards) and by doing so this will either positively or negatively affect the router's speed and throughput performance.

Band

Select a wireless standard for the network from the following options:

- 2.4 GHz (IEEE 802.11b)
- 2.4 GHz (IEEE 802.11n)
- 2.4 GHz (IEEE 802.11b/g)
- 2.4 GHz (IEEE 802.11g)
- 2.4 GHz (IEEE 802.11b/g/n)
- 5 GHz (IEEE 802.11a)
- 5 GHz (IEEE 802.11n)
- 5 GHz (IEEE 802.11a/n)
- 5 GHz (IEEE 802.11 draft ac)

Enable SSID#

Select the number of wireless groups, between one and four, available on the network.

SSID[#]

Enter the name of the wireless network(s).

Auto Channel

Enable or disable having the router automatically select a channel for the wireless network. Auto Channel is enabled by default. Select disable to manually assign a specific channel. (Default = Disable)

Check Channel Time

When Auto Channel is enabled, select a time period that the system checks the appropriate channel for the router.

Channel

When Auto Channel is disabled, select a channel to assign to the wireless network. Valid values are from one to eleven in the US and one to thirteen in the EU.

Wireless Distribution System Mode

Configuring the router's wireless settings for WDS (Wireless Distribution System) mode.

Channel

Select a channel to assign to the wireless network. Valid values are from one to eleven in the US and one to thirteen in the EU.

MAC Address [#]

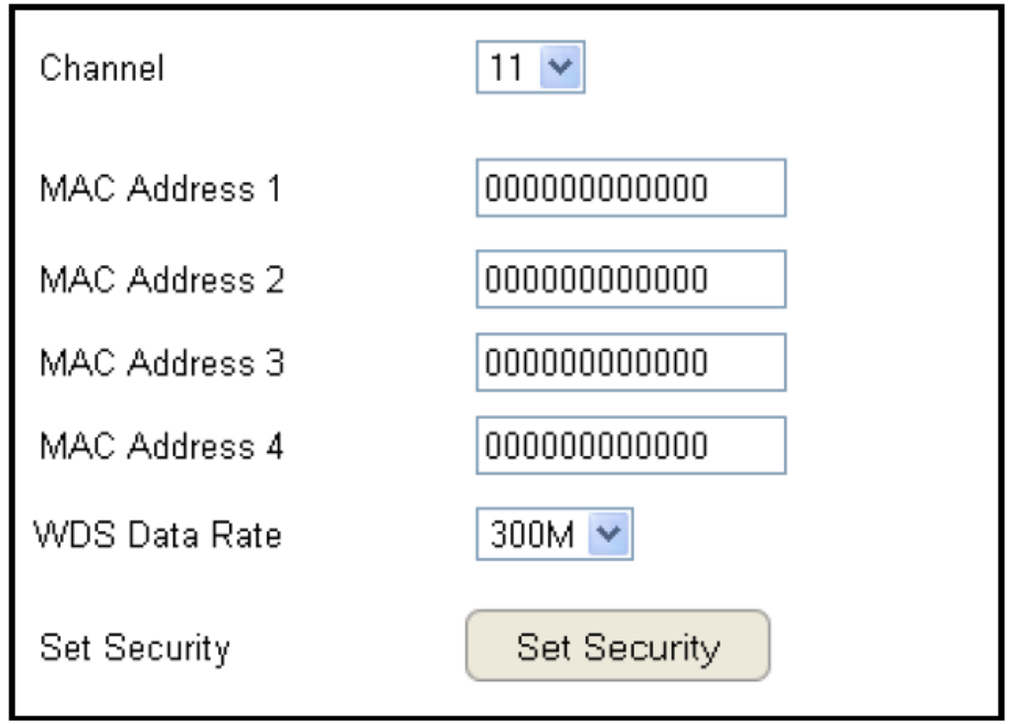
Enter the MAC address(es) for the wireless access point(s) that are part of the WDS.

WDS Data Rate

Select the data rate for the WDS.

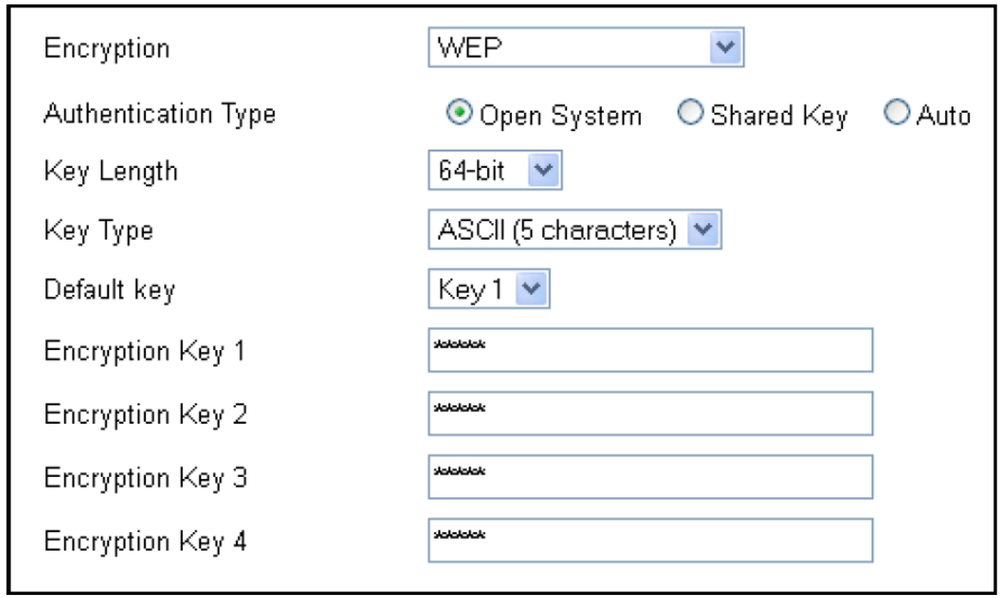
Set Security

Click Set Security to set up the WDS security settings screen.



WDS Security Settings Screen

Selecting the type of WDS encryption (Disable, WEP or WPA Pre-Shared Key) for the wireless network.



Wired Equivalent Privacy (WEP)

Key Length

Select between 64-bit and 128-encryption.

Key Format

Select the type of characters used for the WEP Key: ASCII (5 characters) or Hexadecimal (10 characters).

Default Key

Select the default encryption key for wireless transactions.

Encryption Key [#]

Enter the encryption key(s) used to encrypt the data packets during data transmission.

Chapter 5

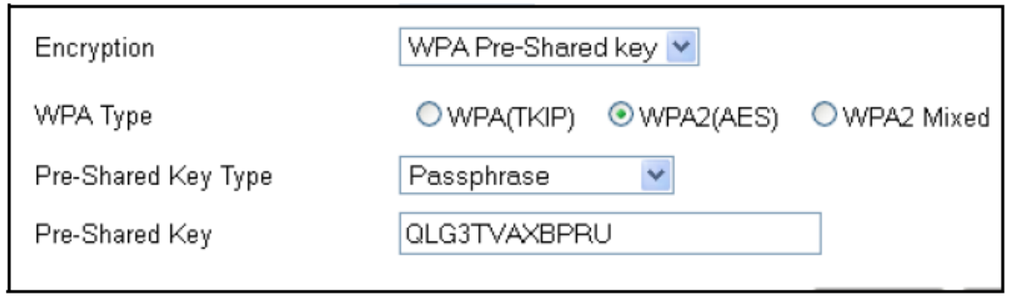
Wireless Encryption

Wi-Fi Protected Access (WPA) Pre-Shared Key

WPA Type

Select the type of WPA.

- WPA Temporal Key Integrity Protocol (TKIP): Generates a 128-bit key for each packet.
- WPA2 Advanced Encryption Standard (AES): Government standard packet encryption which is stronger than TKIP.



Pre-Shared Key Type

Select the type of pre-shared key as Passphrase (ASCII) or Hexadecimal.

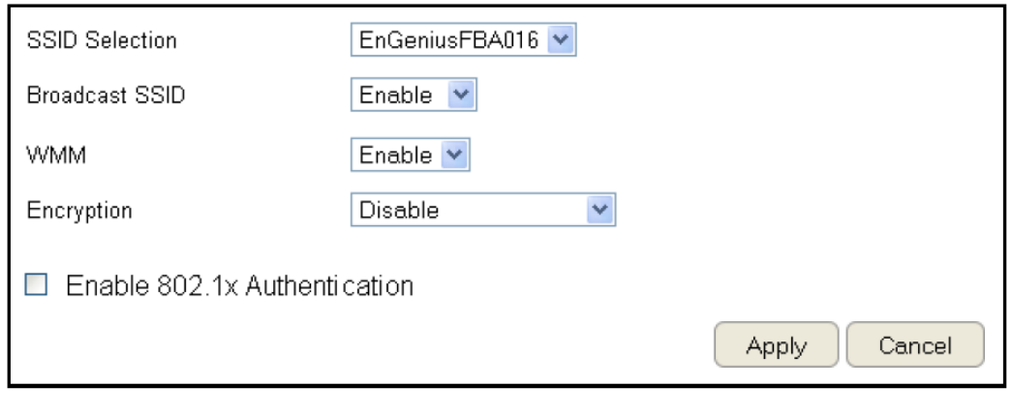
Pre-Shared Key

Enter the pre-shared Key value.

Configuring Security

Enabling security options on the wireless network to prevent intrusions to systems on the wireless network.

To view the Security settings, click **Wireless** then select **Security**.



SSID Selection

Select the wireless network group in which you wish to change its wireless security settings.

Broadcast SSID

Enable or disable broadcast SSID. Choose whether or not the wireless group is visible to other members.

Wi-Fi Multimedia (WMM)

Enable or disable quality of server (QoS) to optimize the streaming for bandwidth sensitive data such as HDTV video streaming, online gaming, VoIP, videoconferencing, and etc.

Encryption

Select the encryption type for the router.

Enable 802.1x Authentication

Enable or disable 802.1x authentication.

Encryption Type

Enabling encryption is strongly encouraged because unauthorized parties within range of your router's wireless signal may attempt to access your wireless network and then gain access to private information on devices on your network. It's highly recommended that you encrypt your router with WPA2 (AES) for optimal security and throughput performance. Always select a strong passphrase greater than 8 characters long and comprised of letters, numbers, and symbols. Please make note of the passphrase and keep it in a secure location somewhere in your home in case you need to retrieve it.

IMPORTANT! WPA2 (AES) offers much stronger security than WEP (Wired Equivalent Privacy) which has been and can be comprimised.

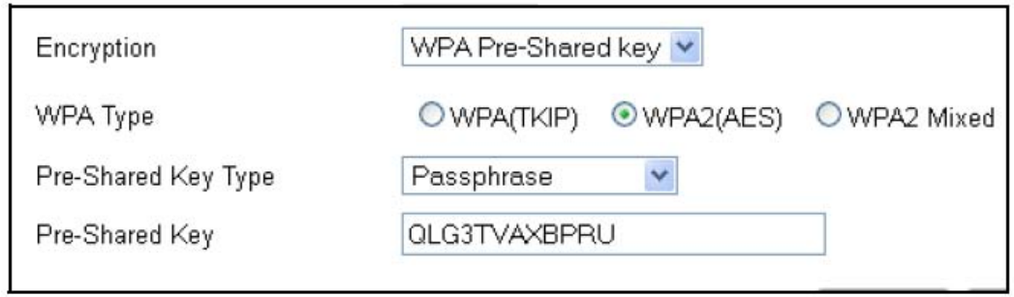
Click **Apply** to save the settings or **Cancel** to discard the changes.

Wi-Fi Protected Access (WPA) Pre-Shared Key

WPA Type

Select the type of WPA from the following:

- **WPA2 Advanced Encryption Standard (AES)**: **RECOMMENDED** – Government standard packet encryption which is stronger than TKIP.
- **WPA Temporal Key Integrity Protocol** (TKIP): Generates a 128-bit key for each packet.
- **WPA2 Mixed:** Mixed mode allows client devices to first associate to the router using WPA2, and if they fail to connect, then they are connected via WPA (TKIP).



Pre-Shared Key Type

Select the type of pre-shared key as Passphrase (ASCII) or Hexadecimal.

Pre-Shared Key

Enter the Pre-sShared Key value.

WPA RADIUS

Using a RADIUS server to authenticate wireless stations and provide a session key to encrypt data during communications.

WPA Type

Select the type of **Wireless Protected Access (WPA)** from the following:

- **WPA2 Advanced Encryption Standard (AES)**: **RECOMMENDED** – Government standard packet encryption which is stronger than TKIP.
- **WPA Temporal Key Integrity Protocol** (TKIP): Generates a 128-bit key for each packet.
- **WPA2 Mixed:** Mixed mode allows client devices to first associate to the router using WPA2, and if they fail to connect, then they are connected via WPA (TKIP).

RADIUS Server IP Address

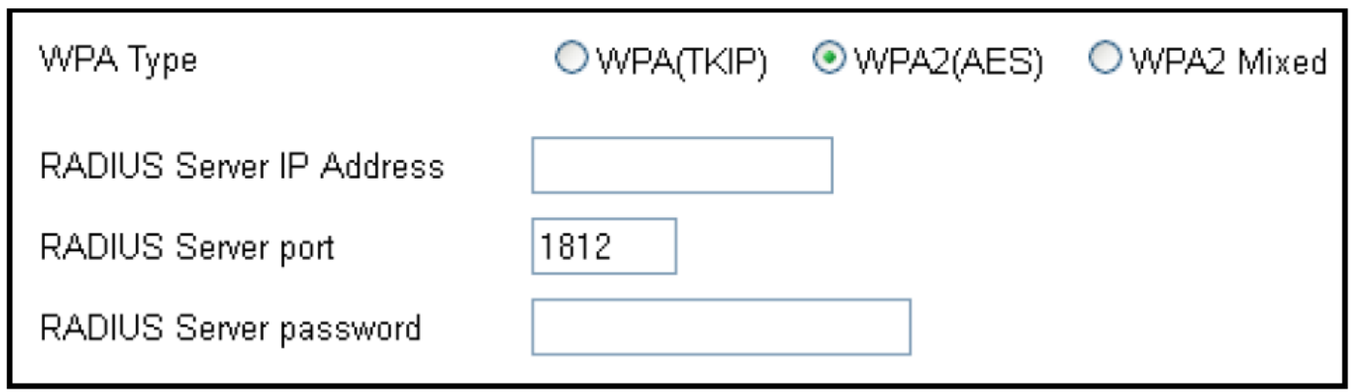
Enter the IP address of the server.

RADIUS Server Port

Enter the port number of the server.

RADIUS Server Password

Enter the password of the server.



Wired Equivalent Privacy (WEP)

Authentication Type

Select the type of authentication from the following:

- **Open System:** Wireless stations can associate with the router without WEP encryption
- **Shared Key:** Devices must provide the corresponding WEP key(s) when connecting to the router
- **Auto:** The router automatically detects whether Open System or Shared Key is being used

Key Length

Select between 64-bit and 128-encryption.

Key Type

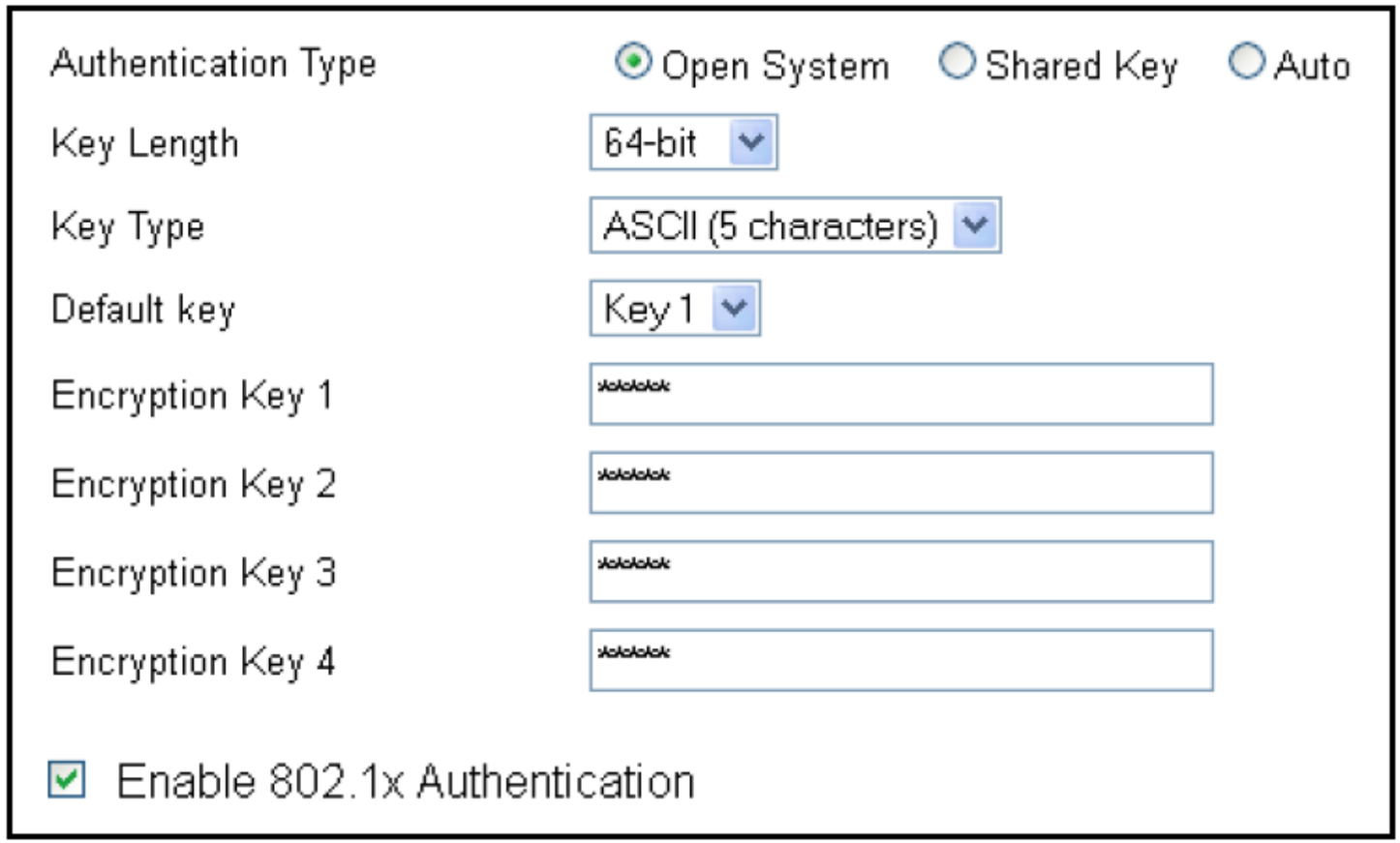
Select the type of characters used for the WEP Key: ASCII (5 characters) or Hexadecimal (10 characters).

Encryption Key [#]

Enter the encryption key(s) used to encrypt the data packets during data transmission.

Enable 802.1x Authentication

Enable or disable 802.1x authentication.



Configuring Filters

WARNING! Incorrectly changing these settings may cause the device to stop functioning. Do not modify the settings in this section without a thorough understanding of the parameters.

When Enable Wireless Access Control is selected, only wireless clients with MAC addresses listed in the table are allowed to connect to the wireless network.

To view the Filter settings, click **Wireless** then select **Filter**.

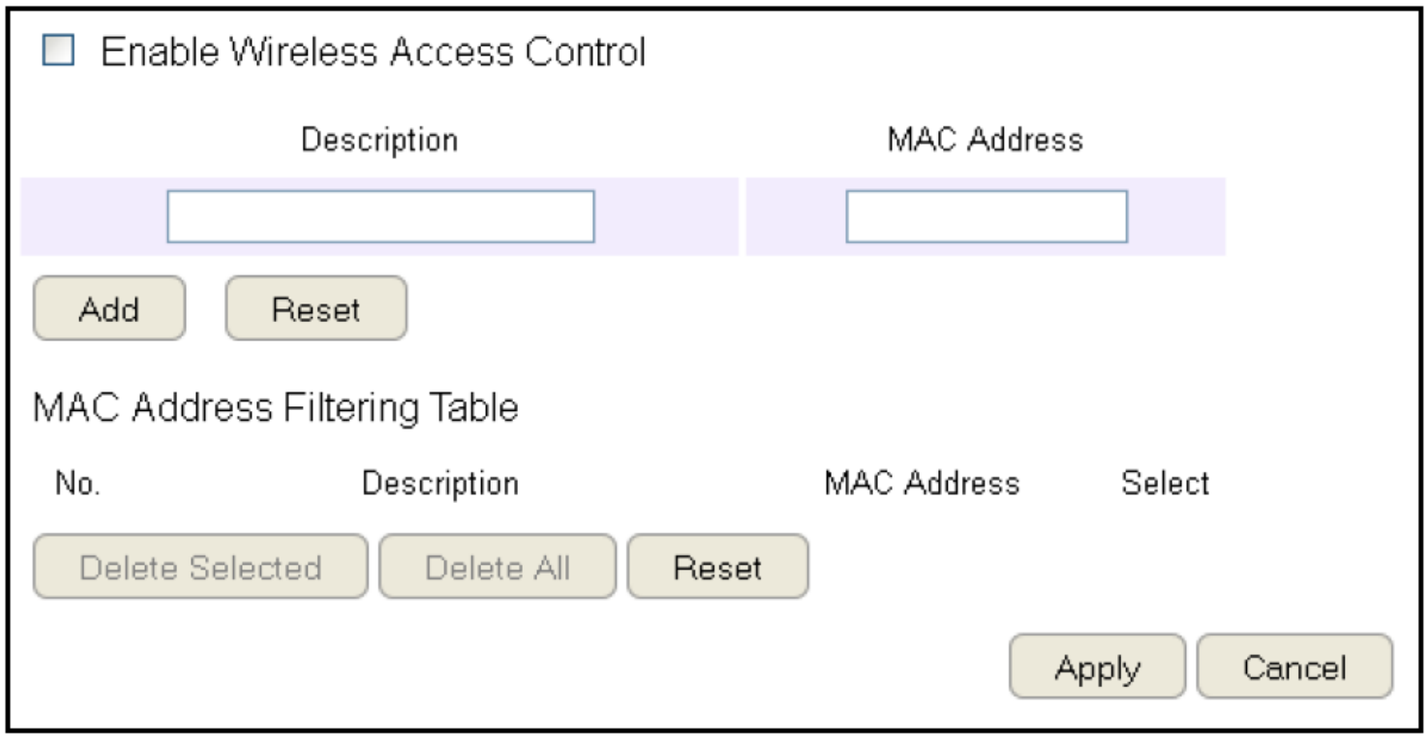
Enabling Wireless Access Control

Select "Enable Wireless Access Control"

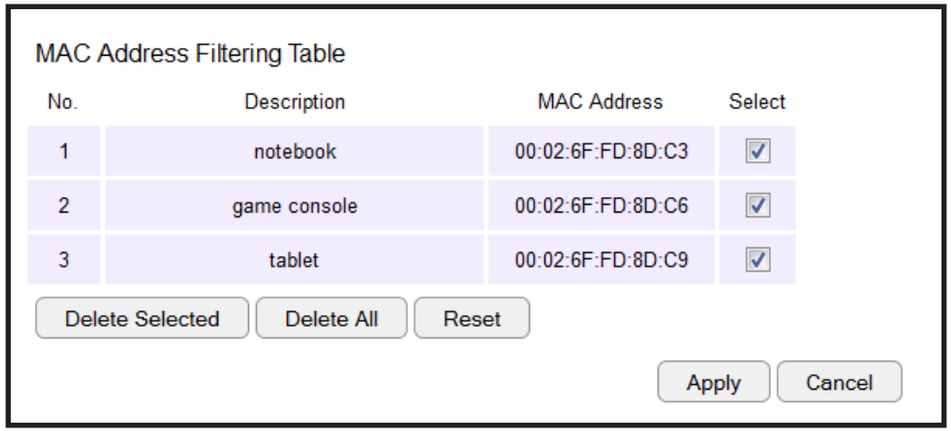
Description
Enter a description of the device allowed to connect to the network.

MAC Address
Enter the MAC Address of the wireless device.

Click **Add** to append a new device to the list or **Reset** to discard changes.



MAC Address Filtering Table



No. (Number)
The sequence number of the device.

Description
The description of the device.

MAC Address
The MAC address of the device.

Select
Indicates the device(s) that can have actions performed on them.

Click **Delete Selected** to remove selected devices from the list.

Click **Delete All** to remove all devices from the list.

Click **Reset** to discard changes. Click **Apply** to save the settings or **Cancel** to discard changes.

Configuring Wi-Fi Protected Setup

Wi-Fi Protected Setup (WPS) is an quick and easy way to associate a new wireless client device to the encrypted router using a PIN or the WPS buttons on each device.

To view the WPS settings, click **Wireless** then select **WPS**.

WPS
Enable or disable WPS.

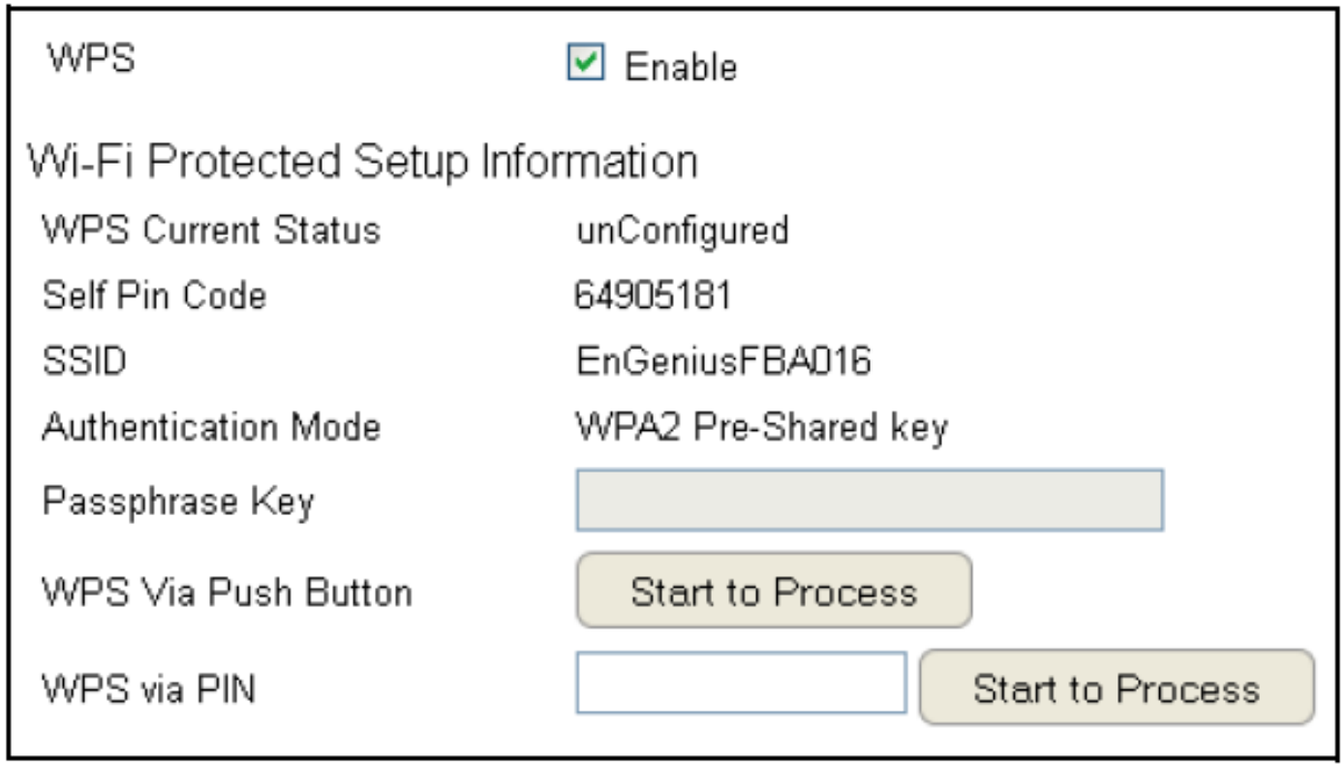
WPS Current Status
Displays whether or not the wireless security is configured.

Self Pin Code
An 8-digit PIN which is required when configuring the router for the first time in Windows 7 or Vista.

SSID
The name of the wireless network.

Authentication Mode
The current security settings for the corresponding SSID (wireless network).

Passphrase Key
A randomly generated key created by the router during the WPS process.

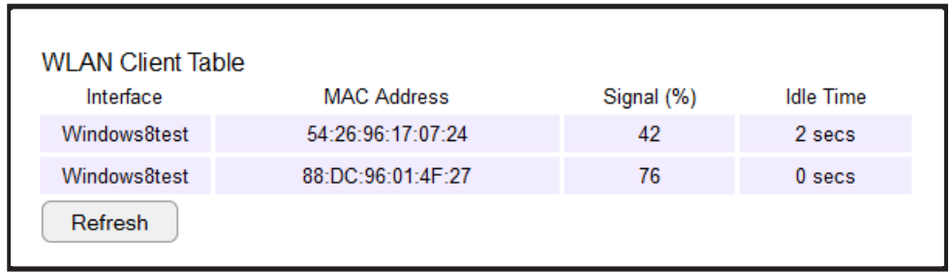


WPS via Push Button
Click "**Start to Process"** to activate WPS.

WPS via PIN
Enter the PIN of a wireless device click "**Start to Process"** to activate WPS.

Configuring Client List

View the wireless devices currently connected to the router.



To view the Client List settings, click Wireless then select Client List.

Interface

The type of network connected to the device.

MAC Address

The MAC address of device connected to network.

Signal

The signal strength of the device connected to the network.

Idle Time

The amount of time the connected device has not been active on the network.

Click **Refresh** to refill the list with currently connected devices.

Chapter 6

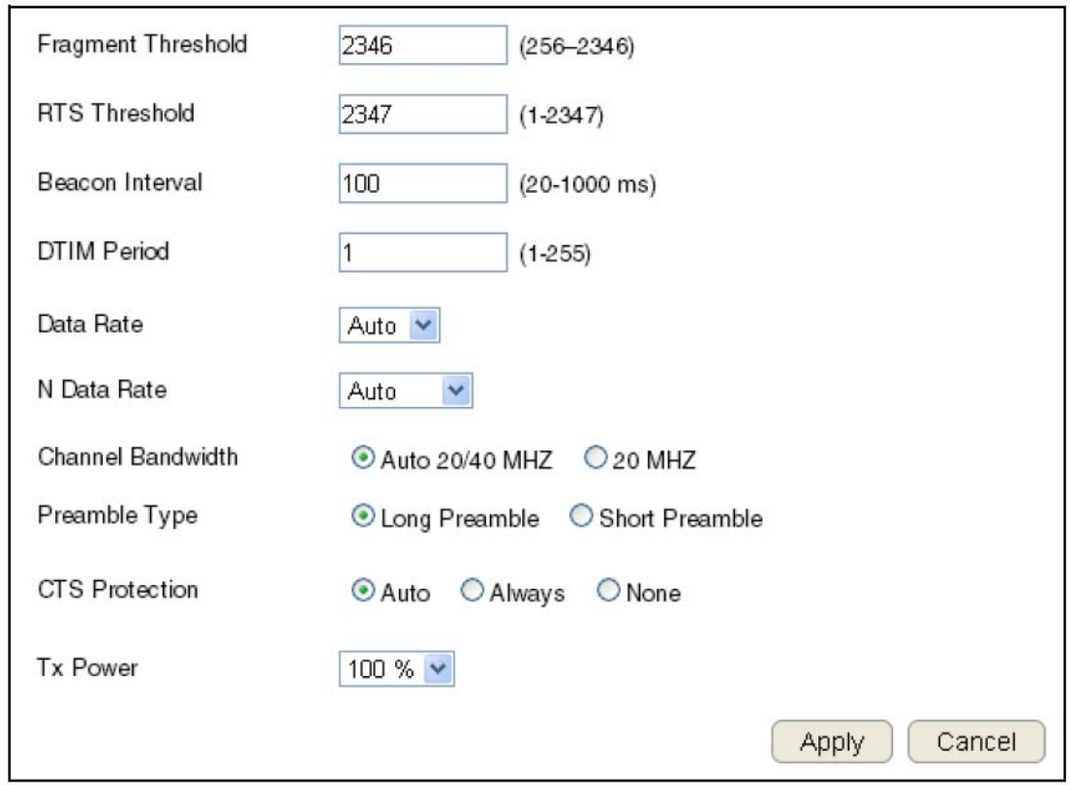
Advanced Settings

Configuring Advanced Settings

Allows you to define the Advanced Settings available on the router.

WARNING! Incorrectly changing these settings may cause the device to stop functioning. Do not modify the settings in this section without a thorough understanding of the parameters.

To view the Advanced settings, click **Wireless** then select **Advanced**.



Fragment Threshold

Enter the maximum size of a packet during data transmission. A value too low could lead to low performance.

RTS Threshold

Enter the RTS threshold. If the packet size is smaller than the RTS threshold, the router does not use RTS/CTS to send the data packet.

Beacon Interval

Enter the beacon interval. This is the amount of time that the router sets to synchronize the network.

Delivery Traffic Indication Message (DTIM) Period

Enter the DTIM period. The DTIM is a countdown period informing clients of the next point of broadcast and multicast of messages over the network. Valid values are between 1 and 255.

N Data Rate

Select the N data rate. This is the rate in which the ESR Series Router will transmit data packets to wireless N compatible devices.

Channel Bandwidth

Select the channel bandwidth. The factory default is Auto 20/40MHz. The default setting provides the best performance by auto selecting channel bandwidth.

Preamble Type

Select the preamble type. Long Preamble provides better LAN compatibility and Short Preamble provides better wireless performance.

CTS Protection

Select the type of CTS protection. Using CTS Protection can lower the data collisions between Wireless B (802.11b) and Wireless G (802.11g) devices and lower data throughput.

Tx Power

Select the wireless signal strength level. Valid values are between 25% and 100%.

Click **Apply** to save the settings or **Cancel** to discard changes.

Setting Up Parental Controls

Offensive web content can be blocked when a parent specifies keywords. Parents can also limit Internet access within a specified time and day, with a **Schedule**. A **Policy** is a rule profile which describes the keyword filter and Internet access schedule. Parents can apply the policy to multiple users or **Policy Members**. The Parental Controls tool will screen policy members based on applied policies.

Configuring the Access Control List

Note: By default, everyone is allowed to view all the contents without any limitation and filter.

To view the ACL settings, click **Firewall** then select **ACL**.

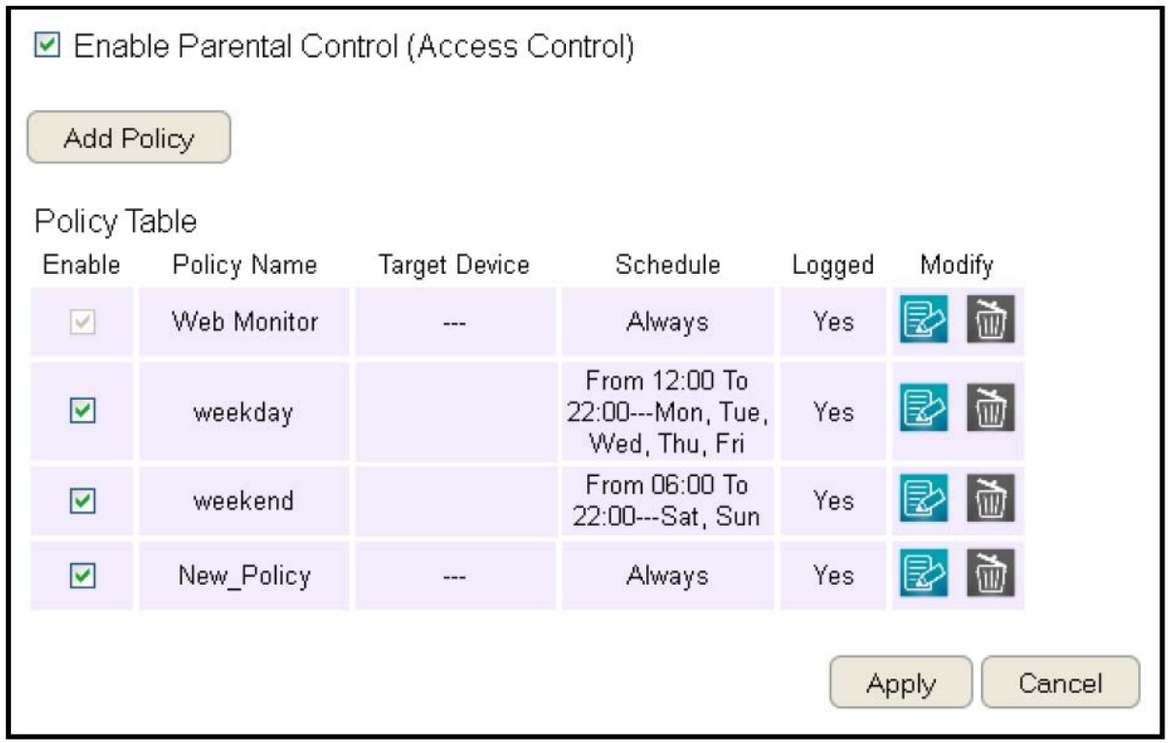
Viewing the Access Control List

To learn how to view existing access control list, refer to **Viewing Parental Policies**.

Adding a Control Policy

To learn how to create and add a policy to the access control list, refer to **Adding a Control Policy**.

To view the **Wizard settings**,
click **Parental Control** then select **Wizard**.



Enable Parental Control (Access Control)

Click to enable Parental Control.

Add Policy

Click the button to add a new control policy to the network.

Policy Table

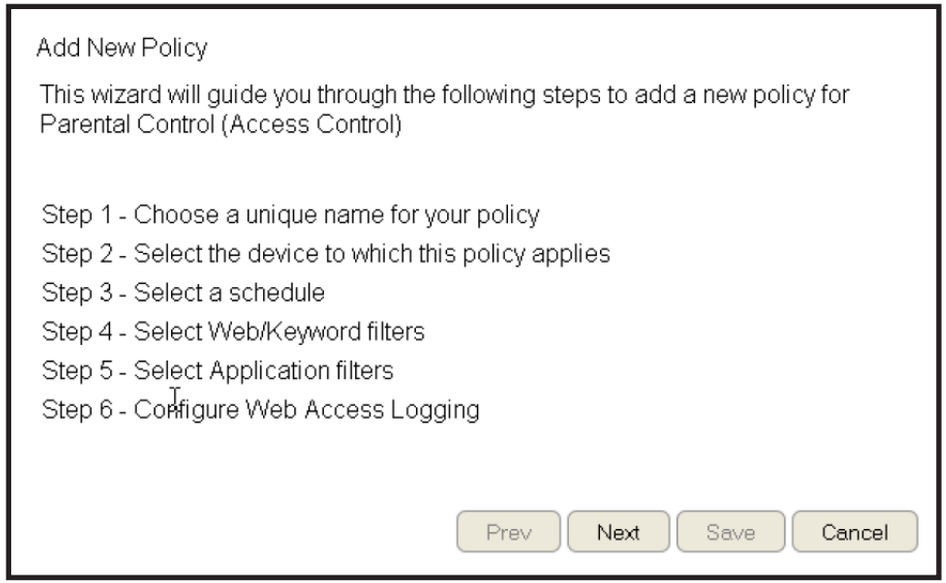
Shows the control policies available on the network.

Click **Apply** to save changes or **Cancel** to discard them.

Adding a Control Policy

The router provides a wizard to guide you through setting up a new Access Control Policy.

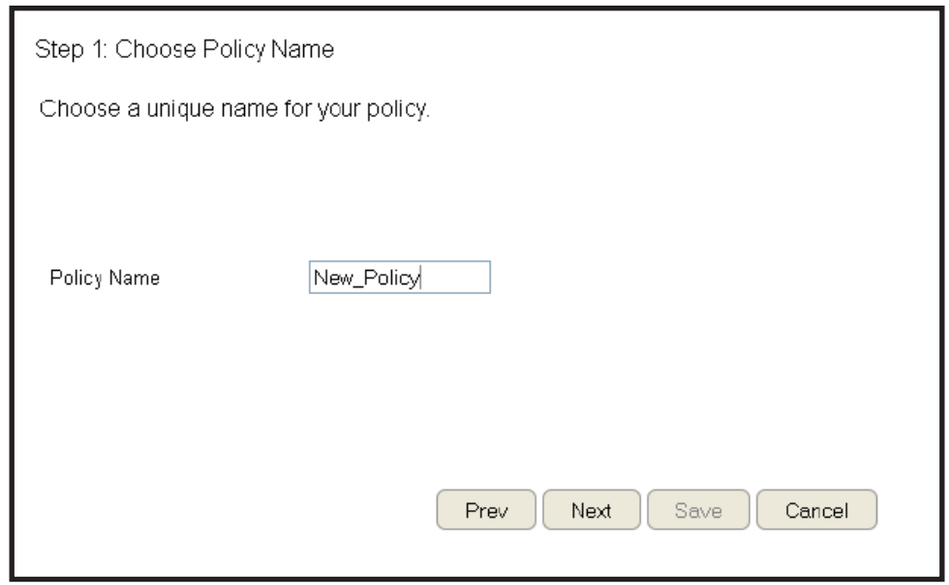
To start the procedure, click the **Add Policy** button.



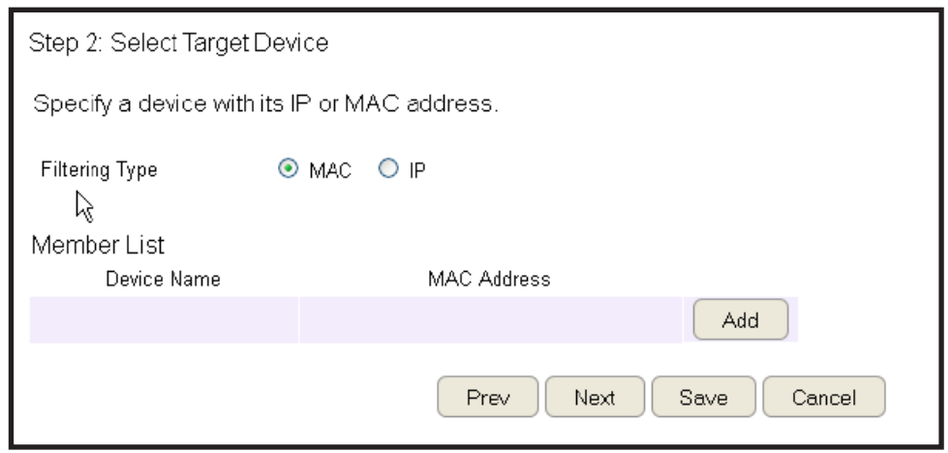
Click **Next** to continue the procedure or **Cancel** to stop the procedure.

The procedure consists of the following steps:

1. Enter a unique name for your policy in the Policy Name text field.

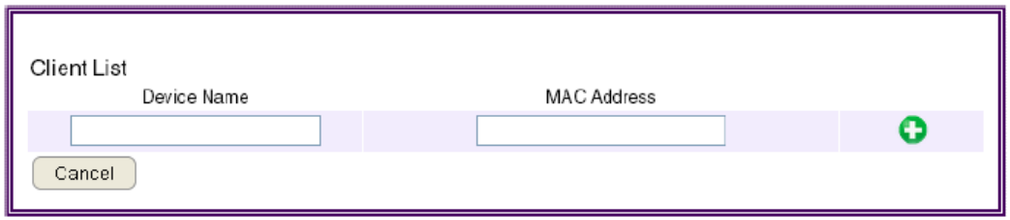


2. Click Prev to return to the previous screen, Next to continue the procedure, or Cancel to stop the procedure.
3. Add target devices to the access control policy.



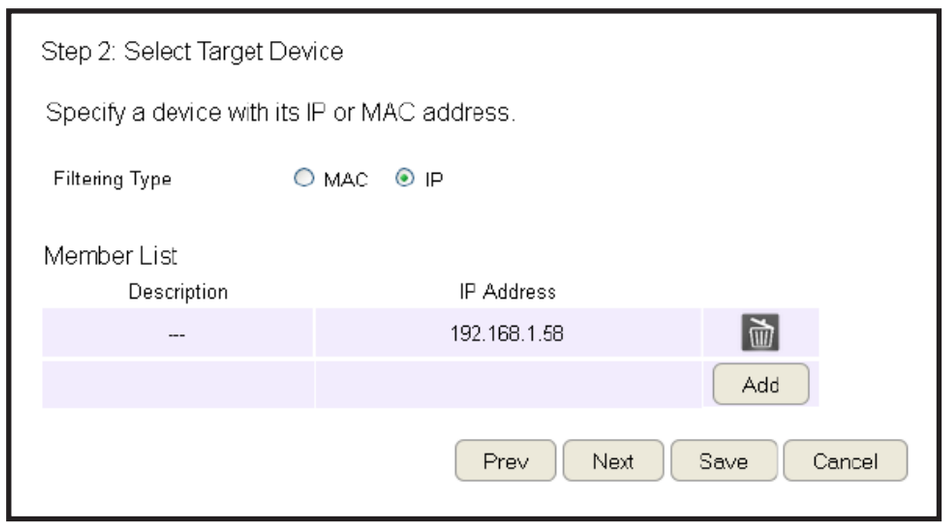
To add a device to the Member List, follow these steps:

a. Click **MAC** or **IP** from the **Filter Type** option.
b. Click **Add** to show the add client dialog.
c. Enter the name of the device in the **Device Name** text field.



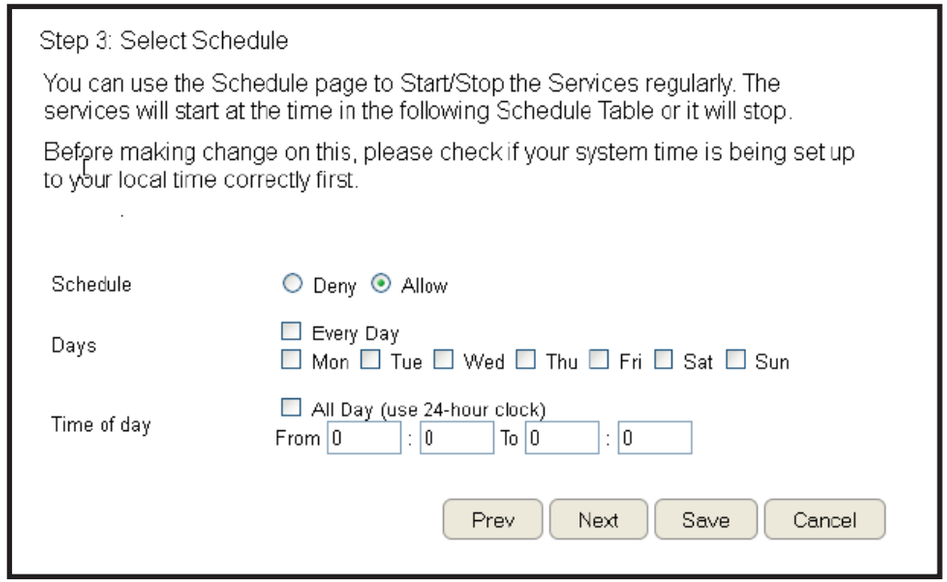
d. Enter either a MAC address or an IP address in the **Address** field depending upon which filter type you chose.

e. Click the **Add Device Button** to close the screen and add the device to the Member List.



4. Click **Prev** to return to the previous screen, **Next** to continue the procedure, **Save** to save the changes, or **Cancel** to stop the procedure.

5. Setting up a schedule for the router services.

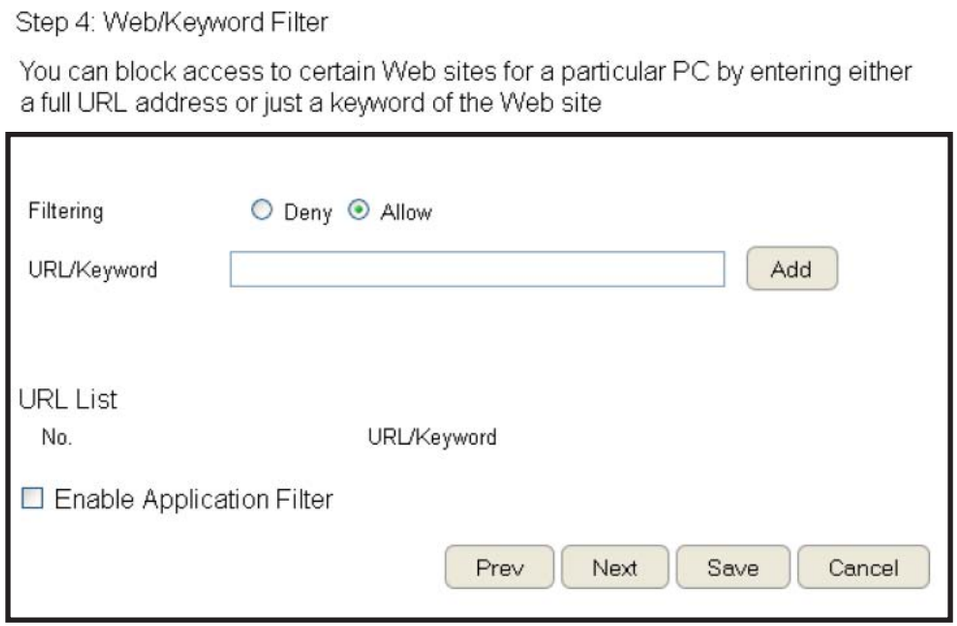


To set up a **Service Schedule**, follow these steps:

a. Select **Allow** from the **Schedule** option.
b. Click the days that the schedule will be active.
c. Enter the time period that the schedule will be active.

6. Click **Prev** to return to the previous screen, **Next** to continue the procedure, **Save** to save the changes, or **Cancel** to stop the procedure.

7. Setup a keyword and URL filter list.



To set up a keyword/URL filter list, follow these steps:

a. Select **Allow** from the Filtering option.

b. Enter a keyword or URL in the **URL/Keyword text field.**

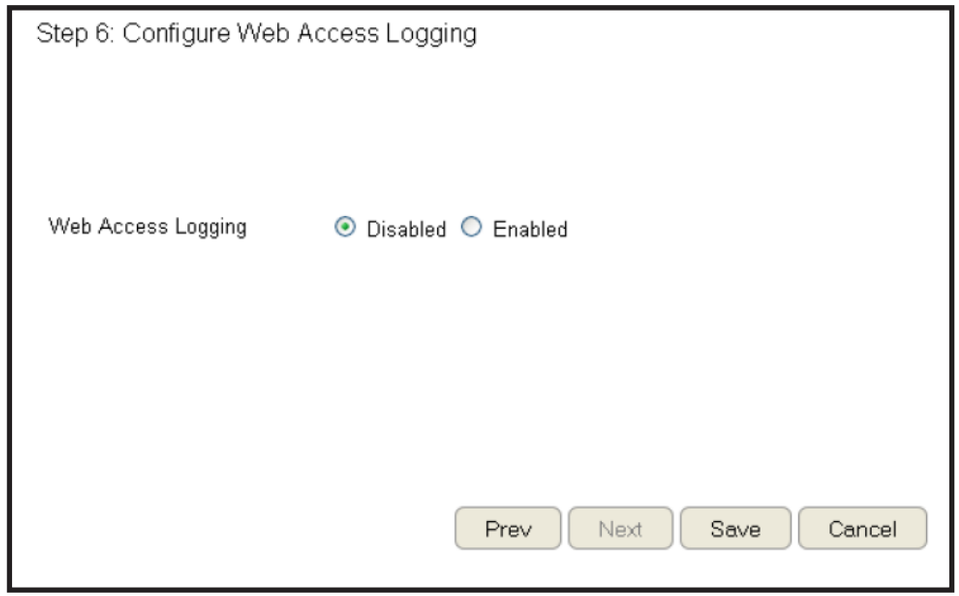
c. Click the **Add** button to add the filter to the list.

d. Repeat steps **a through c** for each filter.

8. Click **Enable Application Filter** to filter software applications.

9. Click **Prev** to return to the previous screen, **Next** to continue the procedure, **Save** to save the changes, or **Cancel** to stop the procedure.

10. Select **Enable** to save web access information to a log file or **Disable** to ignore the information.

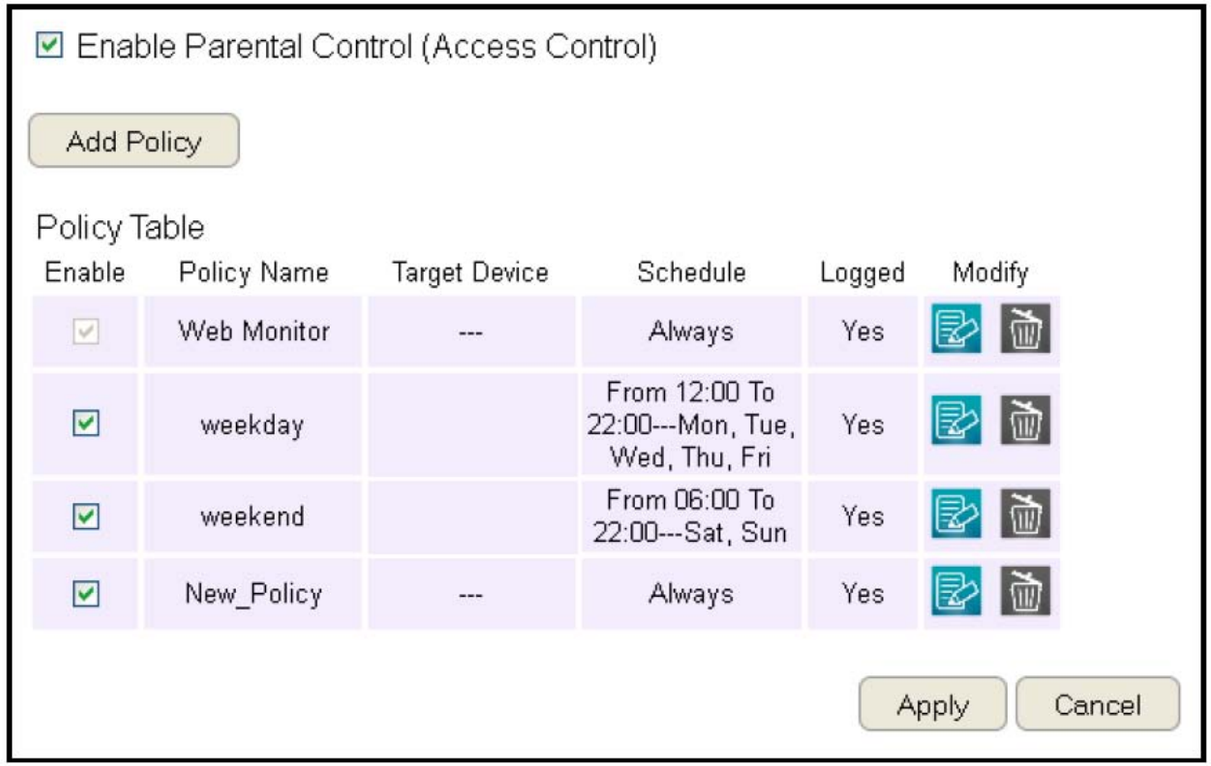


11. Click **Prev** to return to the previous screen, **Save** to save the changes, or **Cancel** to stop the procedure.

Viewing Parental Policies

Available parental control policies are shown in a table and each policy can be enabled or disabled, edited, and deleted.

To view the Web settings, click **Parental Control** then select **Web Monitor**.



Enable

Click to enable or disable the control policy.

Policy Name

Shows the control policy name.

Target Device

Shows the target device MAC address or IP address.

Schedule

Shows the control policy schedule.

Logged

Shows whether the control policy is storing log information.

Modify

Edit a policy by clicking the **Edit Button**.

Delete a policy by clicking the **Delete Button**.

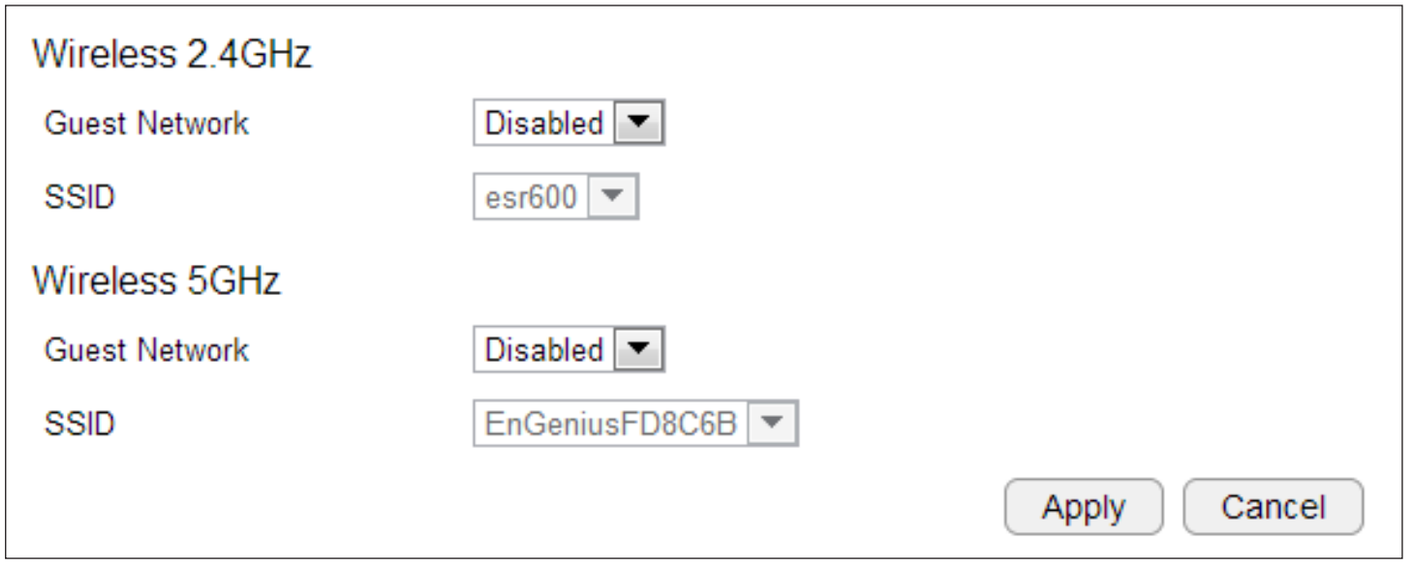
Guest Network

The Guest Network function enables you to offer Internet connectivity to visitors or guests while keeping other networked devices (computers and hard drives) and sensitive personal or company information private and secure.

The Guest Network is controlled by the Wireless SSID function. When the Guest Network function is enabled, the Guest SSID can only get the internet connection from WAN, but can not reach the client from the LAN port.

Enabling the Guest Network

To view the Selection settings, click **Guest Network** then select **Selection**.



Guest Network
Enable or Disable the Guest Network function

Client Isolation
Guest clients are isolated and cannot communicate with each other.

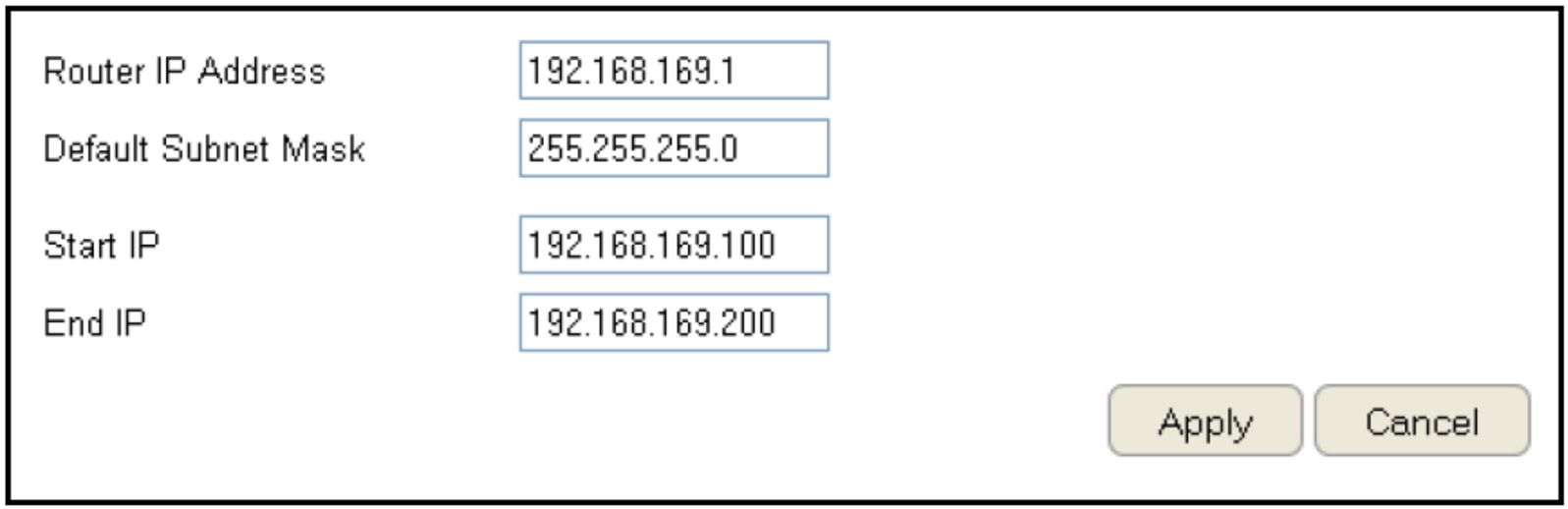
SSID
Choose a SSID for the Guest Network used. The SSID can be defined from the Wireless setting page.

Click **Apply** to save the settings or **Cancel** to discard changes.

Configuring the DHCP Server Setting

The Guest Network SSID should be on a different subnet from the router's DHCP server.

To view the DHCP Server Settings, click **Guest Network** then select **DHCP Server Setting**.



Router IP address
Define the router IP address for the Guest network.

Default Subnet Mask
Define the Subnet Mask IP address for the Guest network.

Start IP
To define the Guest network DHCP server start IP.

End IP
To define the Guest network DHCP server end IP.

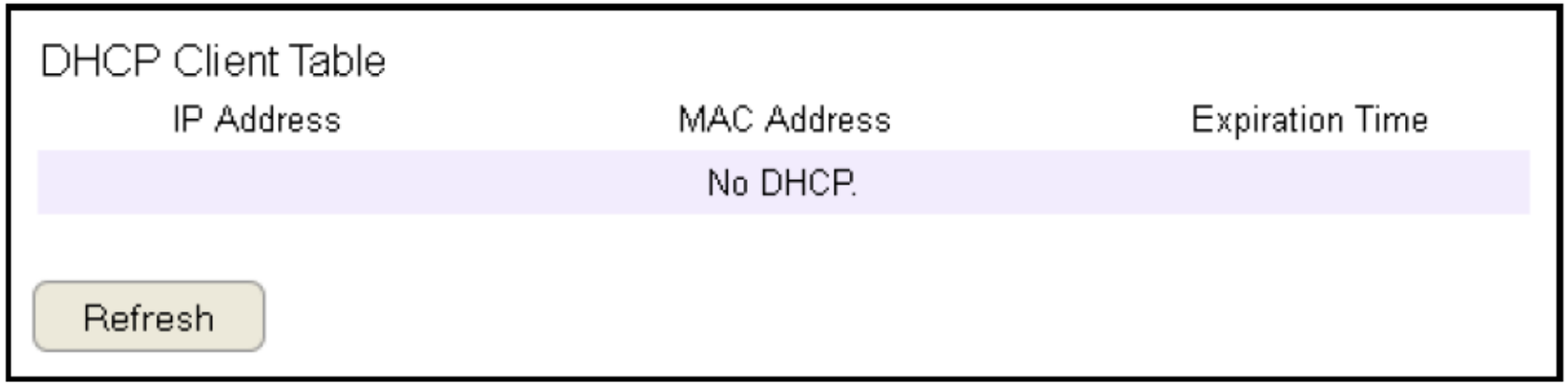
Click **Apply** to save the settings or **Cancel** to discard changes.

Viewing the DHCP Client List on the Guest Network

Shows the list of guest clients registered on the network.

To view the DHCP Client List settings, click **Guest Network** then select **DHCP Client List**.

DHCP Client Table
Shows the IP address, MAC address, and expiration time of each of the registered clients on the list.



IP Address
The IP address of the guest client.

MAC Address
The MAC address of the guest client.

Expiration Time
The time that the guest client's DHCP address will expire and must be renewed.

Click **Refresh** to refresh the view of the list.

IPv6

There are several connection types to choose from: Auto Detection, Static IPv6, Autoconfiguration (SLAAC/DHCPv6), PPPoE, IPv6 in IPv4 Tunnel, 6to4, and Link-local. If you are unsure of your connection method, please contact your IPv6 Internet Service Provider.

Note: If you are using the PPPoE option, you will need to ensure that any PPPoE client software on your computers has been removed or disabled.

Enabling IPv6 Settings

To view the Basic settings, click IPv6 then select Basic.
Before using or configuring the IPv6 protocol, or IPv6 passthrough, on an ESR Series Router you must enable it.

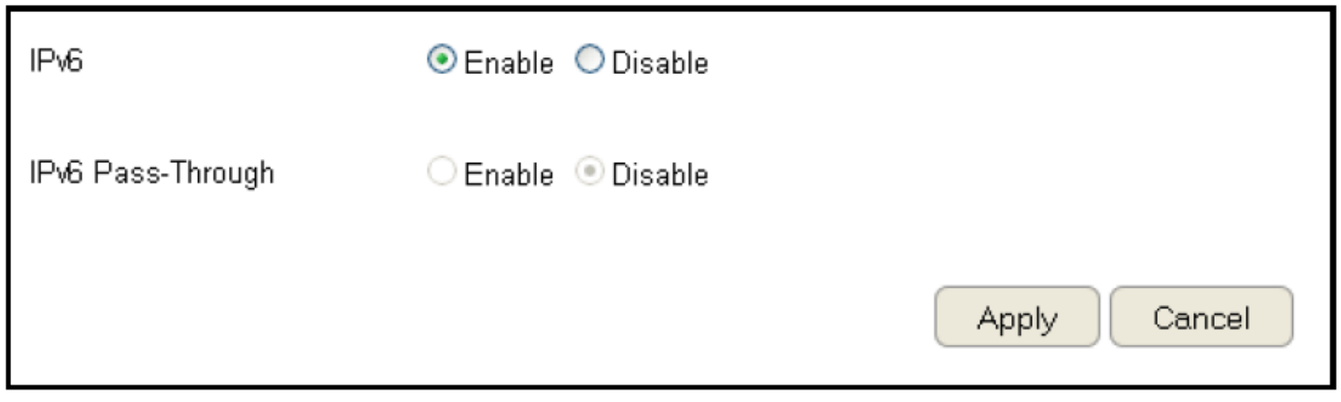
IPv6

Select enable to configure the IPv6 protocol on the router.

IPv6 Passthrough

Select enable to allow IPv6 passthrough functionality.
IPv6 must be disabled to enable this feature.

Click **Apply** to save the settings or **Cancel** to discard changes.



Viewing the IPv6 Connection Status

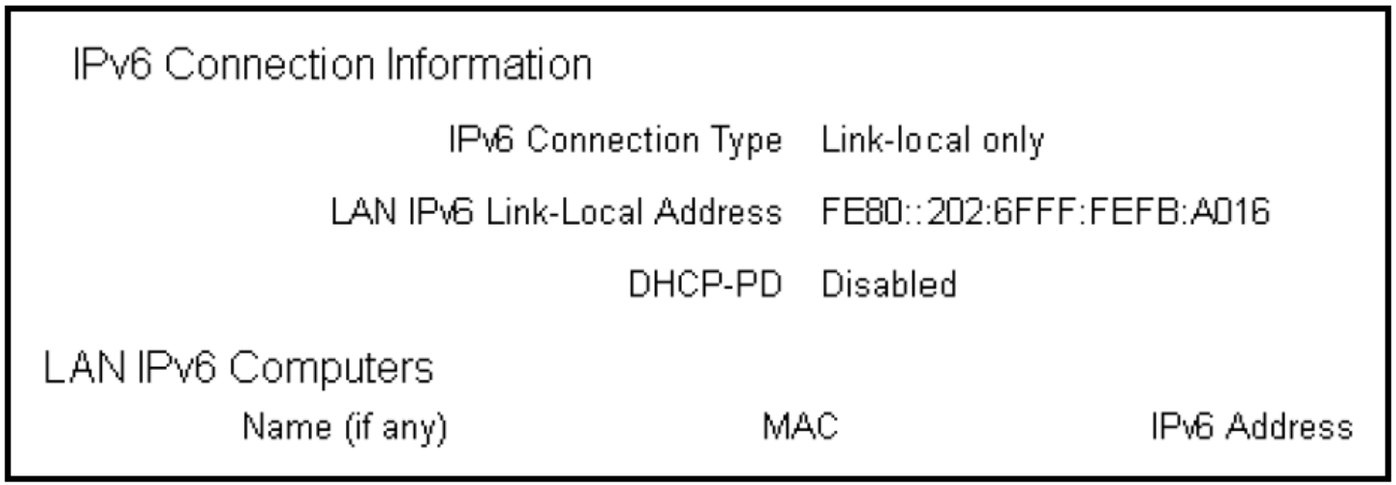
To view the Status information, click IPv6 then select Status.

IPv6 Connection Information

Shows the IPv6 connection type, the LAN IPv6 link-local address and the DHCP-PD.

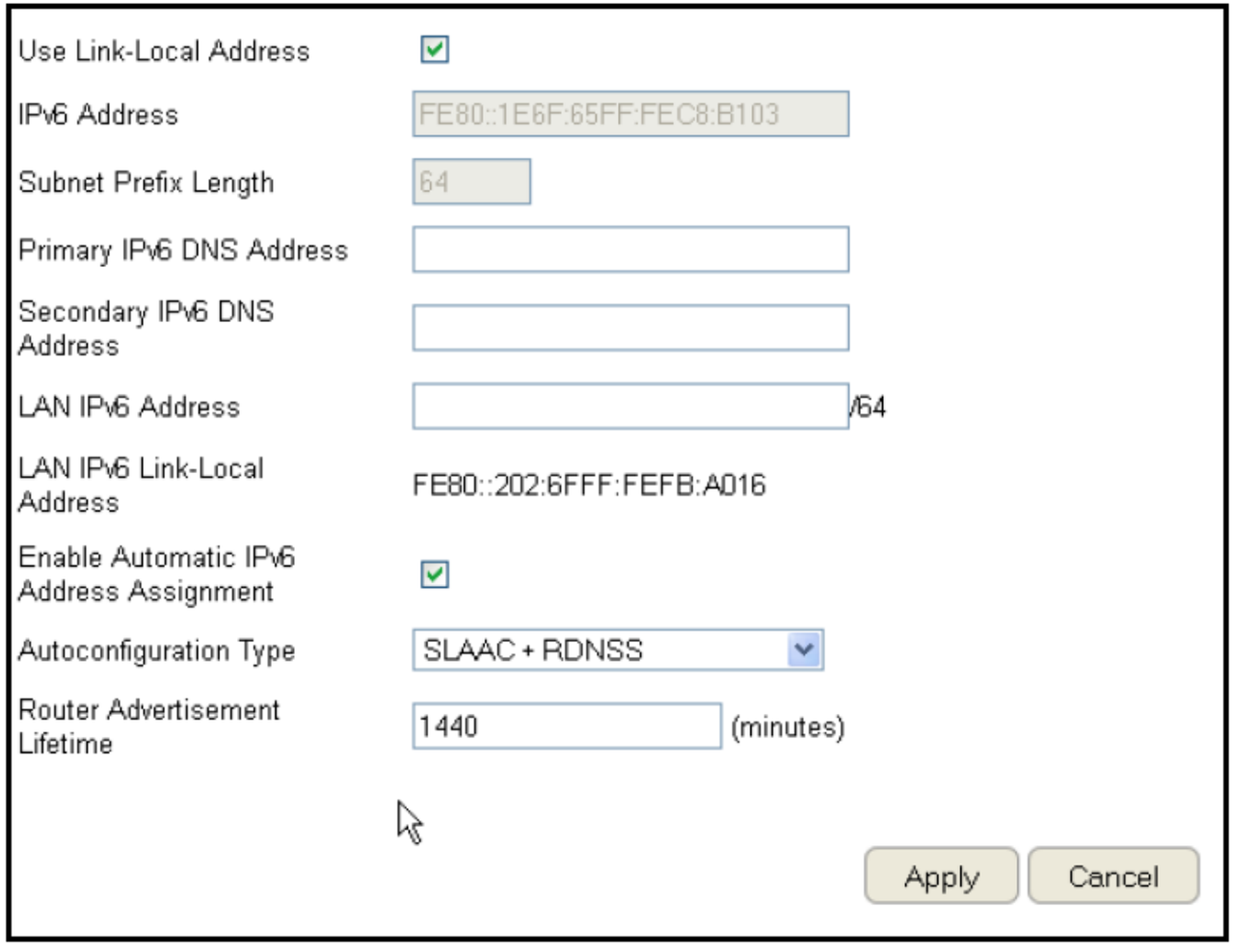
LAN IPv6 Computers List

Shows a list of network computers and their IPv6 connection information.



Configuring Static IPv6

To view the Static IPv6 settings, click **IPv6** then select **Static IPv6**.



Use Link-Local Address

Enable or disable LAN link-local address.

IPv6 Address

Enter the LAN (local) IPv6 address for the router.

Subnet Prefix Length

Enter the subnet prefix length.

Default Gateway

Enter the default gateway.

Primary IPv6 DNS Address

Enter the primary IPv6 DNS address.

Secondary IPv6 DNS Address

Enter the secondary IPv6 DNS address.

LAN IPv6 Address

Enter the LAN IPv6 address.

LAN IPv6 Link-Local Address

Enter the LAN IPv6 link-local address.

Enable Automatic IPv6 Address Assignment

Enable or disable automatic IPv6 address assignment.

Autoconfiguration Type

Enter the autoconfiguration type. (Default: SLAAC+RDNSS).

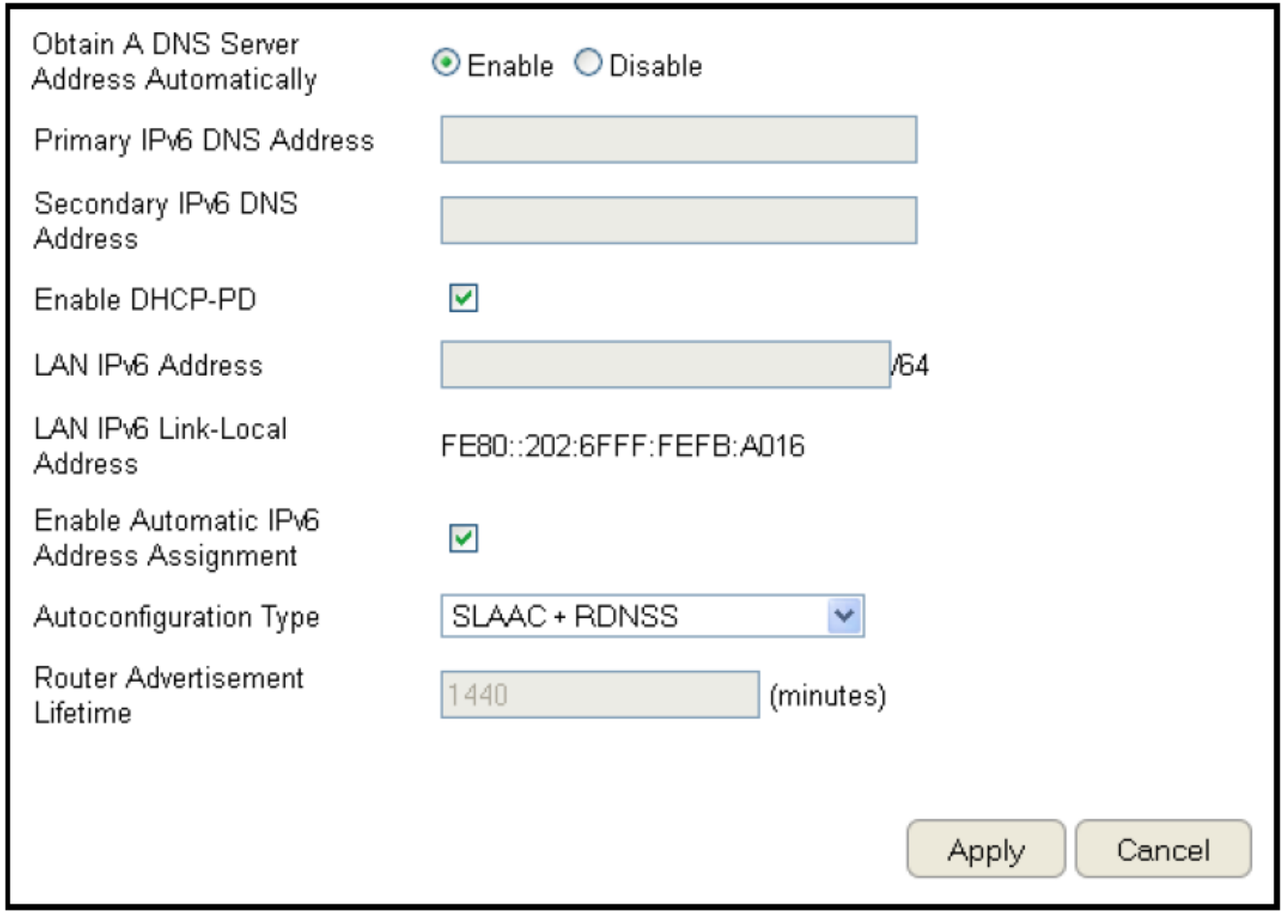
Router Advertisement Lifetime

Enter the IPv6 Address Lifetime (in minutes).

Click **Apply** to save the settings or **Cancel** to discard changes.

Setting Autoconfiguration

To view the Auto Configuration settings, click **IPv6** then select **Auto Configuration**.



Obtain A DNS Server Address Automatically

Enable or disable obtaining a DNS server automatically.

Primary IPv6 DNS Address

Enter the primary IPv6 DNS address.

Secondary IPv6 DNS Address

Enter the secondary IPv6 DNS address.

Enable DHCP-PD

Enable or disable DHCP-prefix delegation (PD).

LAN IPv6 Address

Enter the LAN IPv6 address.

LAN IPv6 Link-Local Address

Enter the LAN IPv6 link-local address.

Enable Automatic IPv6 Address Assignment

Enable or disable automatic IPv6 address assignment.

Autoconfiguration Type

Enter the autoconfiguration type. (Default: SLAAC+RDNSS)

Router Advertisement Lifetime

Enter the IPv6 Address Lifetime (in minutes).

Click **Apply** to save the settings or **Cancel** to discard changes.

Configuring PPPoE

To view the PPPoE settings, click **IPv6** then select **PPPoE**.

Address Mode

Select Static if your ISP assigned you the IP address, subnet mask, gateway, and DNS server addresses. In most cases, select Dynamic.

IP Address

Enter the IP address (Static PPPoE only).

User Name

Enter your PPPoE user name.

Password

Enter your PPPoE password.

Verify Password

Retype the your PPPoE password.

Service Name

Enter the ISP Service Name (optional).

Reconnect Mode

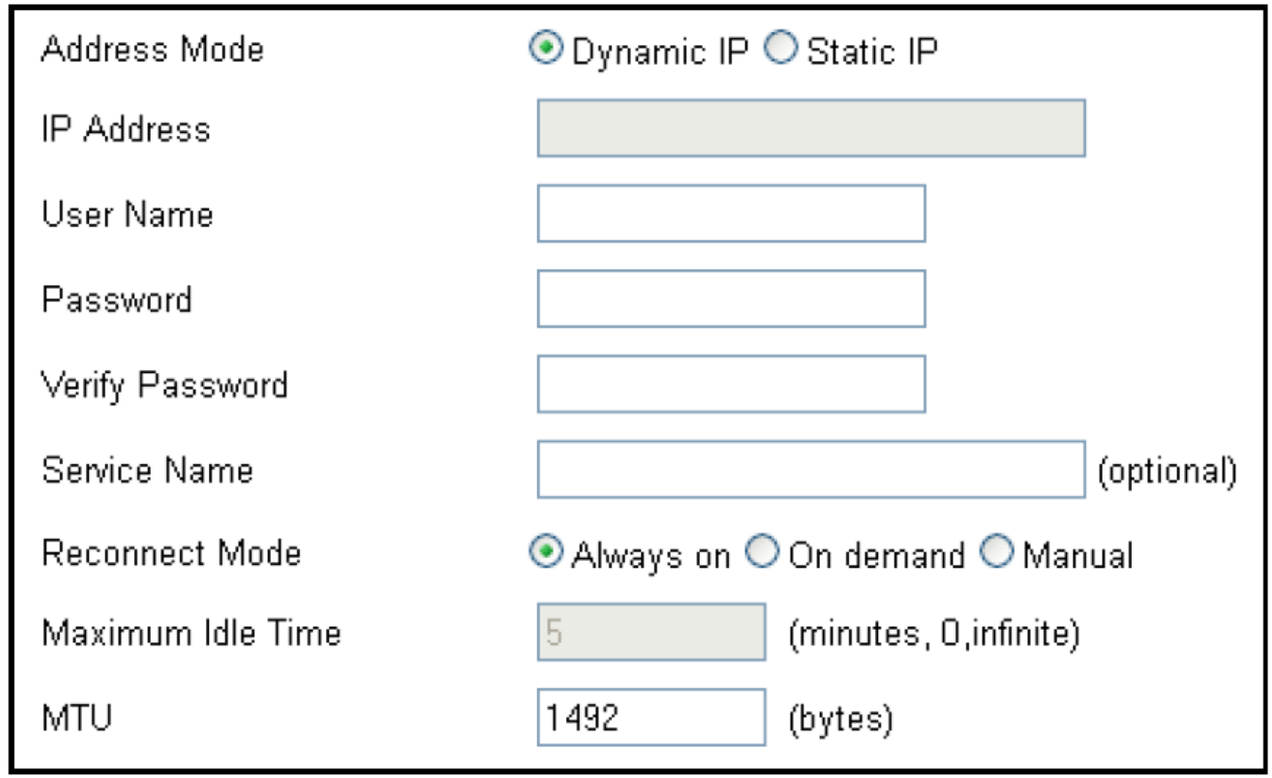
Select either Always-on, On-Demand, or Manual.

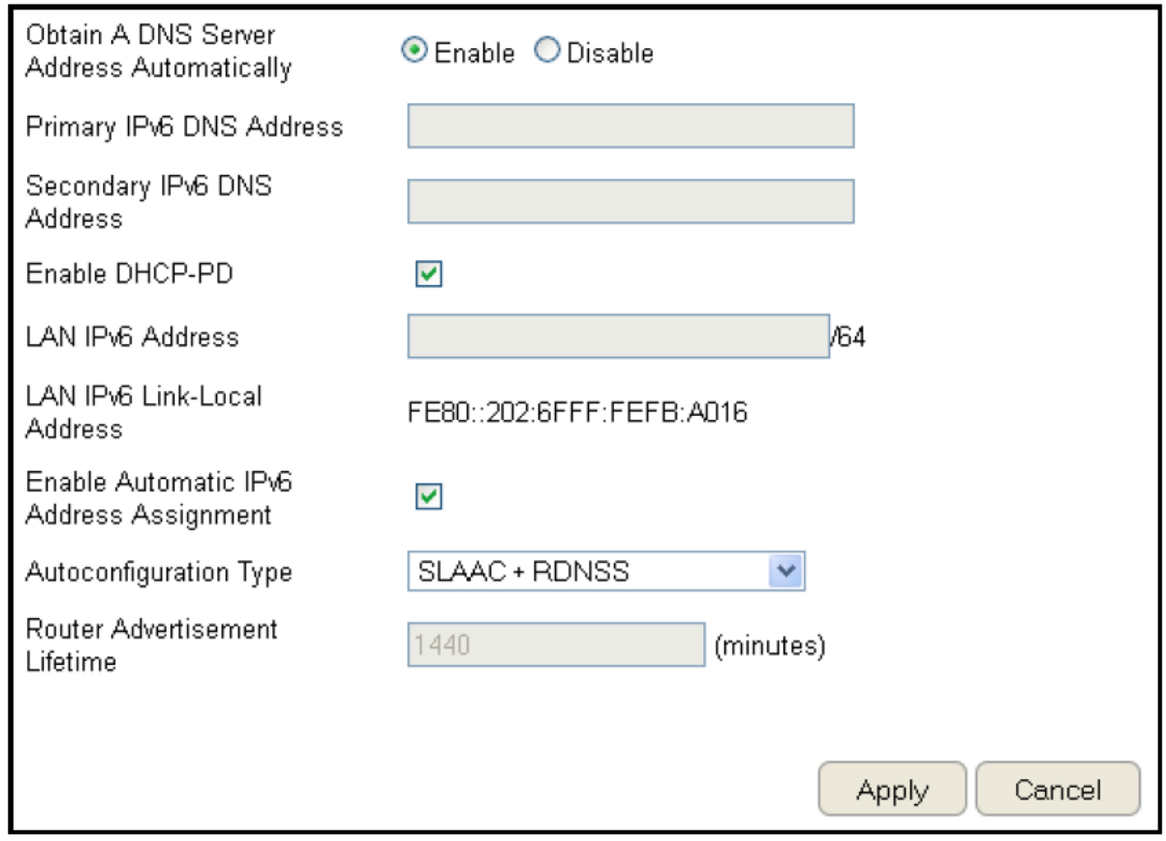
Maximum Idle Time

Enter a maximum idle time during which the Internet connection is maintained during inactivity. To disable this feature, enable Auto-reconnect.

MTU

Maximum Transmission Unit - you may need to change the MTU for optimal performance with your specific ISP. 1492 is the default MTU.





Obtain A DNS Server Address Automatically

Enable or disable obtaining a DNS server automatically.

Primary IPv6 DNS Address

Enter the primary IPv6 DNS address.

Secondary IPv6 DNS Address

Enter the secondary IPv6 DNS address.

Enable DHCP-PD

Enable or disable DHCP-prefix delegation (PD).

LAN IPv6 Address

Enter the LAN IPv6 address.

LAN IPv6 Link-Local Address

Enter the LAN IPv6 link-local address.

Enable Automatic IPv6 Address Assignment

Enable or disable automatic IPv6 address assignment.

Autoconfiguration Type

Enter the autoconfiguration type. (Default: SLAAC+RDNSS)

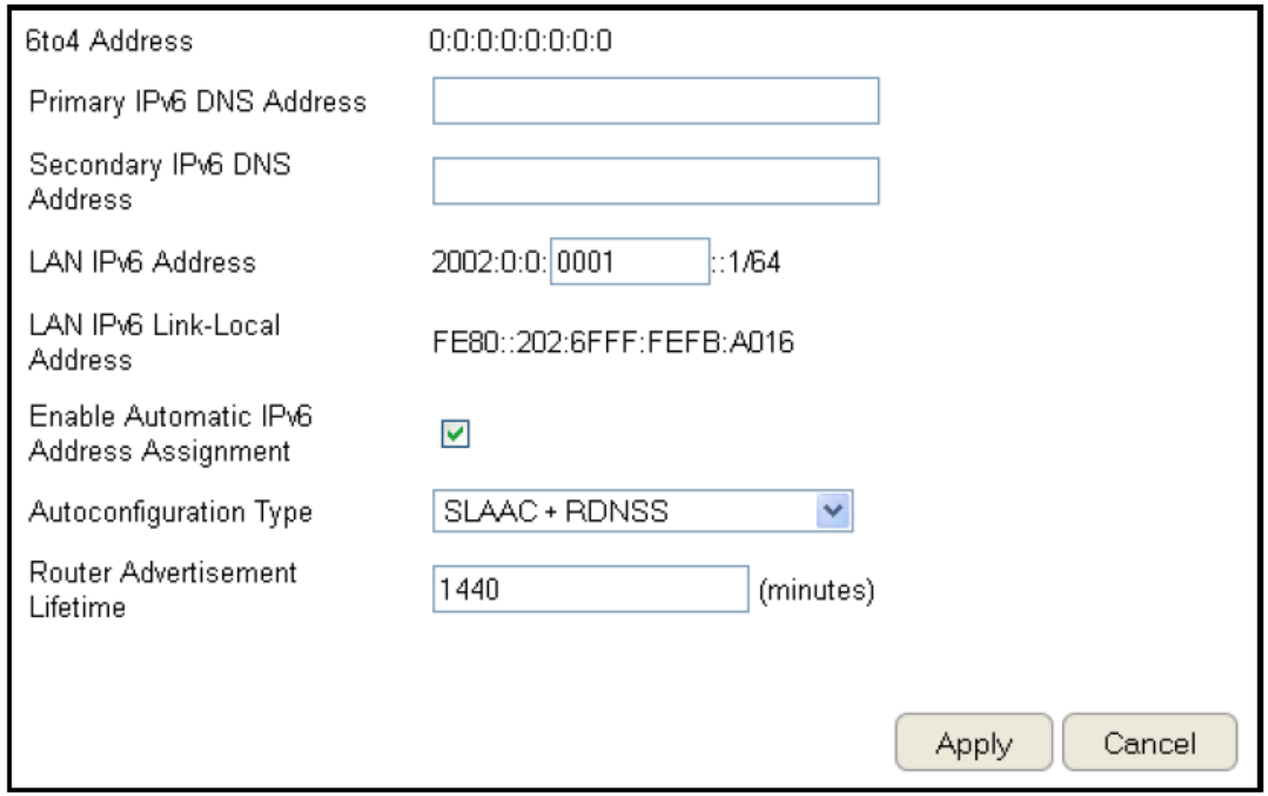
Router Advertisement Lifetime

Enter the IPv6 Address Lifetime (in minutes).

Click **Apply** to save the settings or **Cancel** to discard changes.

Configuring 6to4

To view the 6to4 settings, click **IPv6** then select **6to4**.



6to4 Address

Enter the 6to4 IP address.

Primary IPv6 DNS Address

Enter the primary IPv6 DNS address.

Secondary IPv6 DNS Address

Enter the secondary IPv6 DNS address.

LAN IPv6 Address

Enter the LAN IPv6 address.

LAN IPv6 Link-Local Address

Enter the LAN IPv6 link-local address.

Enable Automatic IPv6 Address Assignment

Enable or disable automatic IPv6 address assignment.

Autoconfiguration Type

Enter the autoconfiguration type. (Default: SLAAC+RDNSS)

Router Advertisement Lifetime

Enter the IPv6 Address Lifetime (in minutes).

Click **Apply** to save the settings or **Cancel** to discard changes.

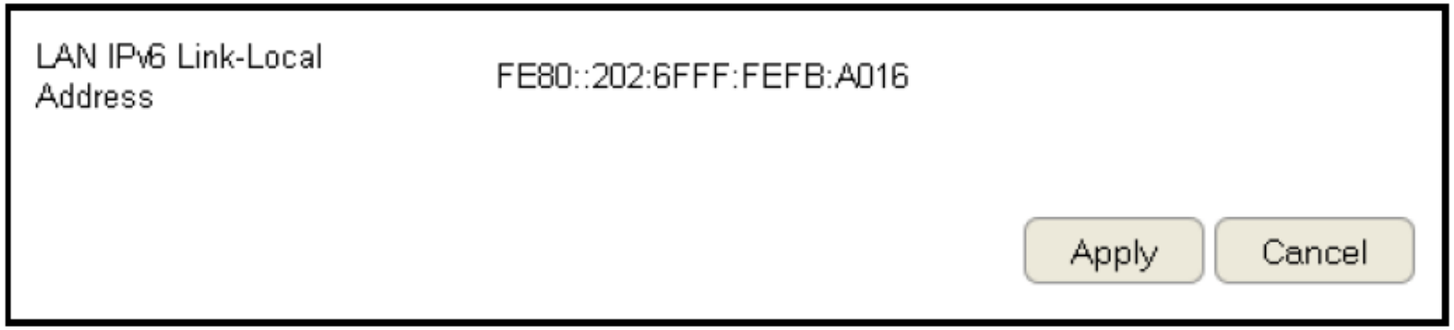
Viewing Local Connections

To view the Link Local settings, click **IPv6** then select **Link Local**.

LAN IPv6 Link-Local Address

Enter the LAN IPv6 link-local address.

Click **Apply** to save the settings or **Cancel** to discard changes.



Firewall Setup

Note: This section applies to Client Router mode.

Configuring Basic Settings

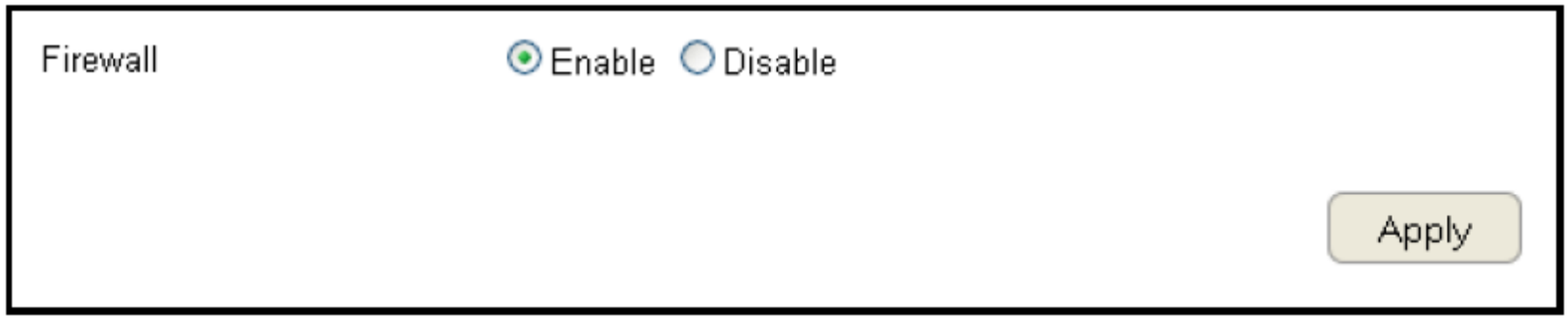
To view the Basic settings, click Firewall then select Basic.

The ESR Series Router firewall automatically detects and blocks Denial of Service (DoS) attacks. URL blocking, packet filtering and stateful packet inspection (SPI) are also supported. The details of the attack and the timestamp are recorded in the security log.

Firewall

Enable or disable the firewall of the ESR Series Router.

Click **Apply** to save the settings or **Cancel** to discard changes.

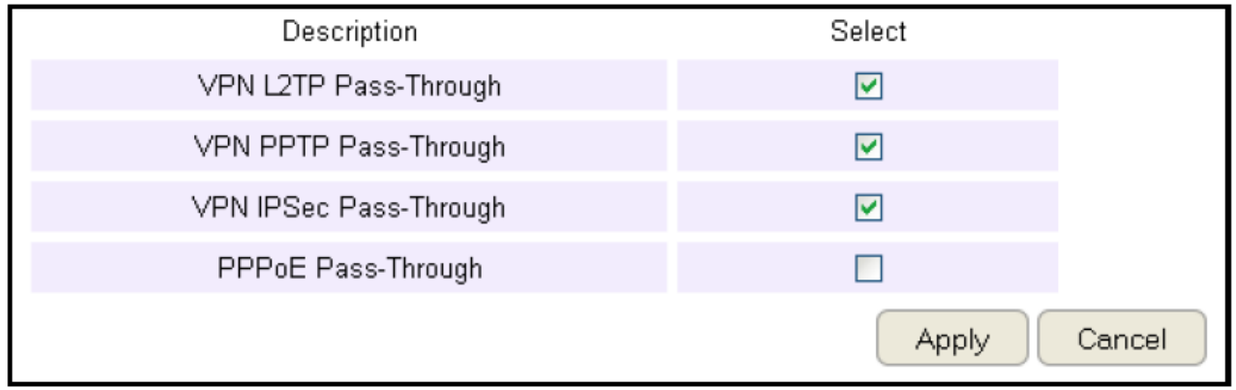


Configuring Advanced Settings

The router supports VPN pass-through which allows virtual private networking (VPN) packets to pass through the firewall.

To view the Advanced settings, click Firewall then select Advanced.

Note: VPN L2TP Pass-through, VPN PPTP Pass-through, and VPN IPSec Pass-through are enabled by factory default.



VPN L2TP Pass-through

Click Select to allow an L2TP connection method over a VPN.

VPN PPTP Pass-through

Click Select to allow a PPTP connection method over a VPN.

VPN IPSec Pass-through

Click Select to allow an IPSec connection method over a VPN.

IPv6 Pass-through

Click Select to allow IPv6 packets to pass through the firewall.

PPPoE Pass-through

Click Select to allow a PPPoE packets to pass through the firewall.

Click **Apply** to save the settings or **Cancel** to discard changes.

VPN L2TP Pass-through Click **Select** to allow an L2TP connection method over a VPN.
VPN PPTP Pass-through Click **Select** to allow a PPTP connection method over a VPN.
VPN IPSec Pass-through Click **Select** to allow an IPSec connection method over a VPN.
IPv6 Pass-through Click **Select** to allow IPv6 packets to pass through the firewall.
PPPoE Pass-through Click **Select** to allow PPPoE packets to pass through the firewall.

Description	Select
VPN L2TP Pass-Through	☑
VPN PPTP Pass-Through	☑
VPN IPSec Pass-Through	☑
IPv6 Pass-Through	☑
PPPoE Pass-Through	☐

Apply Cancel

Click **Apply** to save the settings or **Cancel** to discard changes.

Note: VPN L2TP Pass-through, VPN PPTP Pass-through, and VPN IPSec Pass-through are enabled by factory default.

Configuring Demilitarized Zone

Configuring a device on the LAN as a Demilitarized Zone (DMZ) host allows unrestricted two-way Internet access for Internet applications, such as online video games, to run from behind the NAT firewall. The DMZ function allows the router to redirect all packets going to the WAN port IP address to a particular IP address on the LAN. The difference between the virtual server and the DMZ function is that a virtual server redirects a particular service or Internet application, such as FTP, to a particular LAN client or server, whereas a DMZ redirects all packets, regardless of the service, going to the WAN IP address to a particular LAN client or server. A DMZ host allows a computer to have all its connections and ports completely open during data transmission.

WARNING! The PC defined as a DMZ host is not protected by the firewall and is vulnerable to malicious network attacks. Do not store or manage sensitive information on the DMZ host.

To view the DMZ settings, click **Firewall** then select **DMZ**.

Enabling DMZ

Click Enable DMZ to activate DMZ functionality.

Local IP Address

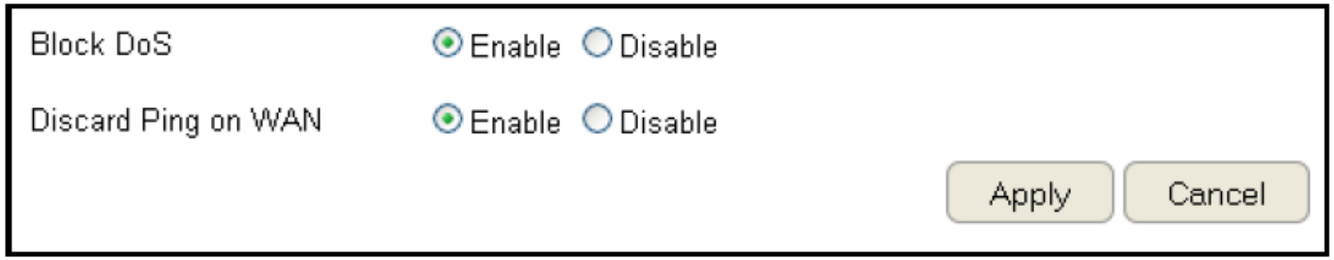
Enter an IP address of a device on the LAN.

Click **Apply** to save the settings or **Cancel** to discard changes.

Configuring Denial of Service

To enable blocking of denial of service (DoS) attacks, select the DoS option in the Firewall section. DoS attacks can flood the Internet connection with the continuous transmission of data. Blocking these attacks ensures that the Internet connection is always available.

To view the DoS settings, click **Firewall** then select **DoS**.



Block DoS
Enable or disable blocking DoS attacks.

Discard Ping on WAN
ICMP (ping) packages are blocked while Block DoS is enabled.

Enable Discard Ping on WAN if the WAN port is required.

Click **Apply** to save the settings or **Cancel** to discard changes.

Virtual Private Network Setup

A Virtual Private Network (VPN) provides a secure connection between two remote locations or two users over the Internet. It provides authentication to securely encrypt data communicated between the two remote endpoints. The Short Model Name supports up to 5 VPN tunnels, making it ideal for small-office / home-office users or employees who work from home but need to communicate securely back to the main office.

Viewing Status

To view the Status settings, click **VPN** then select **Status**.

No.	Name	Type	Gateway/Peer IP address	Transmit Packets	Received Packets	Uptime	Select

Connect Disconnect

No. (Number)

The sequence number of the VPN tunnel.

Name

The name of the VPN tunnel.

Type

The type of VPN tunnel.

Gateway/Peer IP Address

The VPN gateway or peer IP address.

Transmit Packets

The number of packets transmitted.

Received Packets

The number of packets received.

Uptime

The amount of time the VPN has been active.

Select

Indicates the device(s) that can have actions performed on them.

Configuring a VPN Tunnel Profile

To view the Status settings, click VPNthen select Status.

Manually configure a VPN tunnel profile.

Creating a Profile

- Click **Add** to create a new VPN tunnel profile.
- Click **Edit** to edit the settings of the selected profile.
- Click **Delete Selected** to delete the selected profile.
- Click **Delete All** to delete all current profiles.

General

For manually configuring a VPN tunnel profile.

Name: Enter the name for this profile.

Connection Type: Click the drop-down menu to select the connection type (PPTP, L2TP, IPSec, L2TP over IPSec).

Authentication Type: Click the drop-down menu to select the authentication type.

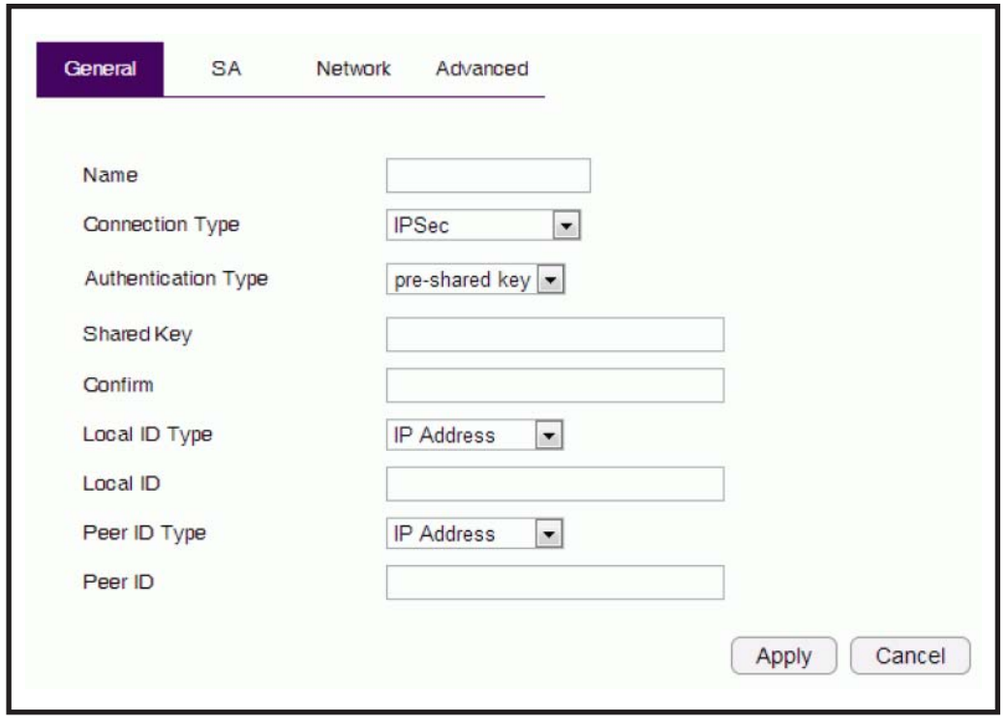
Shared Key: Enter the shared key to be used for this profile.

Confirm: Enter the shared key a second time to confirm the shared key.

Local ID Type: Click the drop-down menu to select the type of ID used for this profile (IP address, Domain Name, Email Address).

Local ID: Enter the local ID designation based on definition type from Local ID Type, previous field.

Peer ID type: Click the drop-down menu to select the type of Peer ID for this profile (IP address, Domain Name, Email Address).



Peer ID: Enter the Peer ID designation based on definition type from Peer ID Type, previous field.

Apply: Click **Apply** to save the changes.

Cancel: Click **Cancel** to delete the changes.

SA (Security Association)

IKE (Internet Key Exchange) is configured in two negotiations. Phase 1 authenticates the VPN Clients to each other by confirming the matching Pre-Shared Key with the two gateways. IPSec is the Phase 2 of the VPN process.

Manually configuring a VPN tunnel profile.

IKE (Phase 1) Proposal

Exchange: Click the drop-down menu to select the type of exchange (Main Mode, Aggressive Mode).

DH Group: Click the drop-down menu to select the DH group (group 1, group 2, group 5, group 14).

Encryption: Click the drop-down menu to select the type of encryption (DES, 3DES, AES128, AES192, AES256).

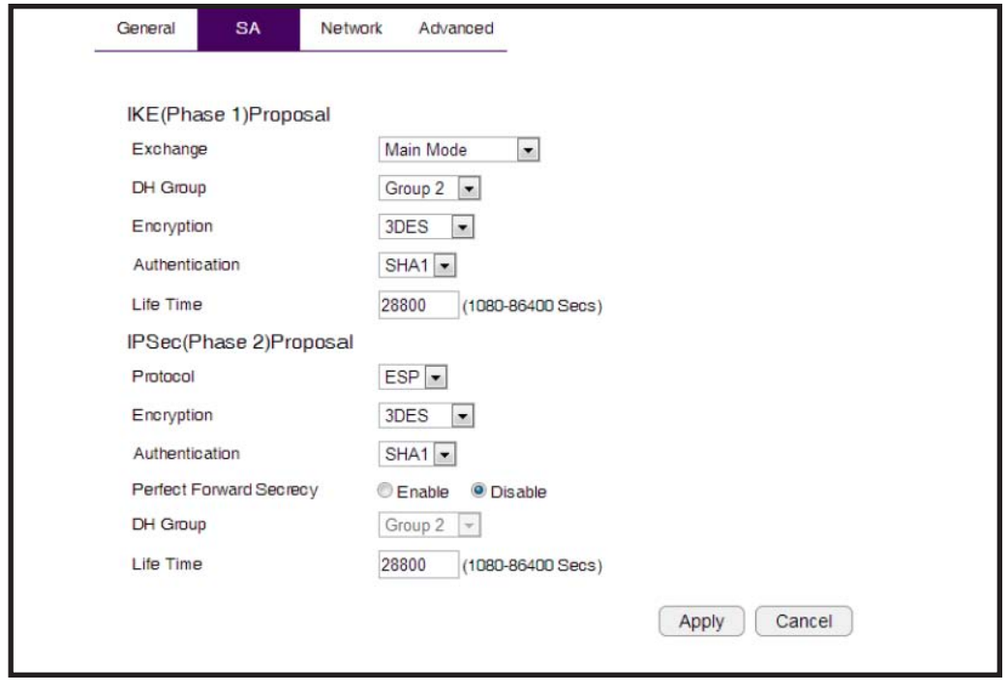
Authentication: Click the drop-down menu to select the authentication protocol (MD5, SHA1).

Life Time: Enter the life time value for Phase 1. The life time value should be greater than Phase 2 (IPSec). 86400 sec. (1day) is a common default and is a normal value for Phase 1.

IPSec (Phase 2) Proposal

Protocol: Click the drop-down menu to select the protocol type (ESP, AH)

Encryption: Click the drop-down menu to select the type of encryption (DES, 3DES, AES128, AES192, AES256).



Authentication: Click the drop-down menu to select the authentication protocol (MD5, SHA1).

Perfect Forward Secrecy (PFS): Select enable to enable PFS. A fresh DH key is generated during IKE phase II and renewed for each key exchange to eliminate dependencies between the keys.

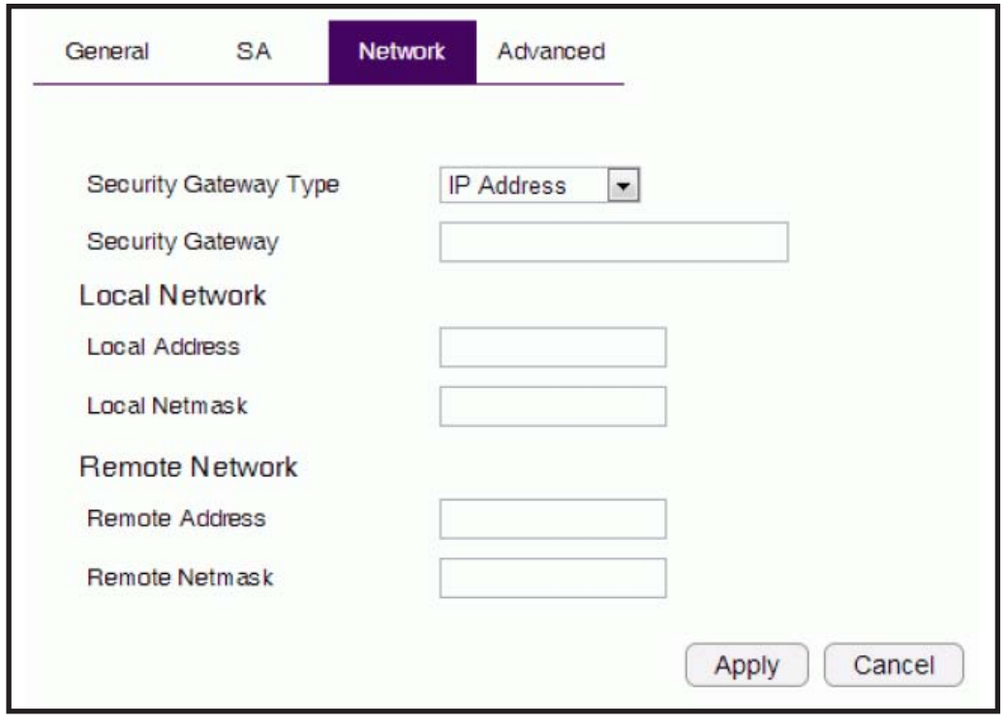
DH Group: Click the drop-down menu to select the DH group (group 1, group 2, group 5, group 14).

Life Time: Enter the life time value for Phase 2. The life time value should be smaller than Phase 1 (IKE). 3600 sec. (1 hour) is a common value for Phase 2.

Apply: Click **Apply** to save the changes.
Cancel: Click **Cancel** to delete the changes.

Network

Manually configuring a VPN tunnel profile.



Security Gateway Type: Click the drop-down menu to select the Security Gateway Type (IP Address, Domain Name)

Security Gateway: Enter the gateway value as defined in Security Gateway Type.

Local Network

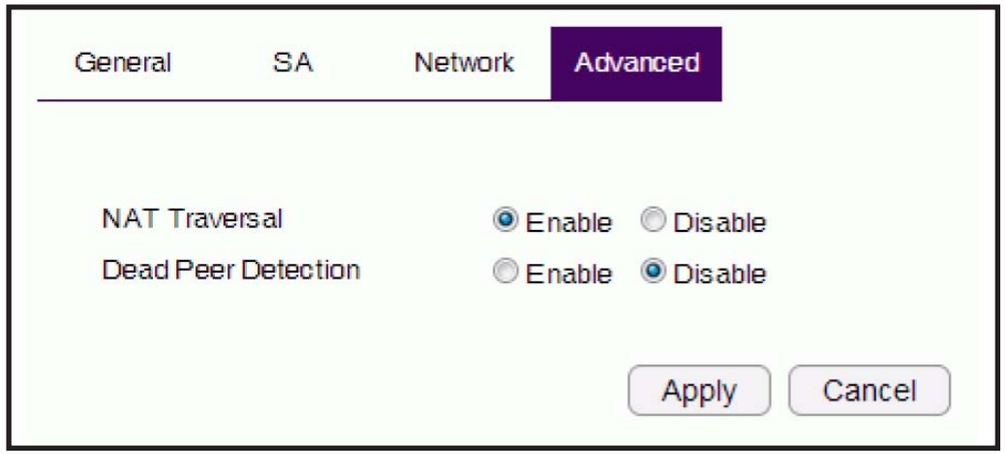
Local Address: Enter the IP address of the local PC.
Local Netmask: Enter the netmaks of the local PC.

Remote Network

Remote Address: Enter the IP address of the remote PC.
Remote Netmask: Enter the netmask of the remote PC.
Apply: Click Apply to save the changes.
Cancel: Click Cancel to delete the changes.

Advanced

Manually configuring a VPN tunnel profile.



NAT Traversal: Select enable to enable the NAT Traversal function in order to hide the private IP address from public view.

Note: Services such as VoIP require the use of a private IP address.

Dead Peer Detection:
Apply: Click Apply to save the changes.
Cancel: Click Cancel to delete the changes.

Configuring a User Setting

The User Setting function allows you to create user profiles inorder to setup login access to the VPN service.

Name

Enter the name of the new user profile.

Password

Enter the password for the user name.

Confirm

Enter the password a second time to confirm the setting.

Add

Click Add to accept the profile and add it to the Current VPN User Table.

Reset

Click Reset to clear the new settings.

Current VPN User Table

Displays the User ID, User Name and Selection status.

Delete Selected

Click to delete the selected user profile.

Delete All

Click to delete all the current user profiles.

Reset

Click to clear the selections from the Current VPN User Table.

Apply

Click to accept save the new settings.

Cancel

Click to clear the new changes.

USB Port

The EMR3000 router is equipped with a USB port for connecting a hard drive so media content can be accessed or transferred to other devices in the home or devices away from home.

Viewing EnShare

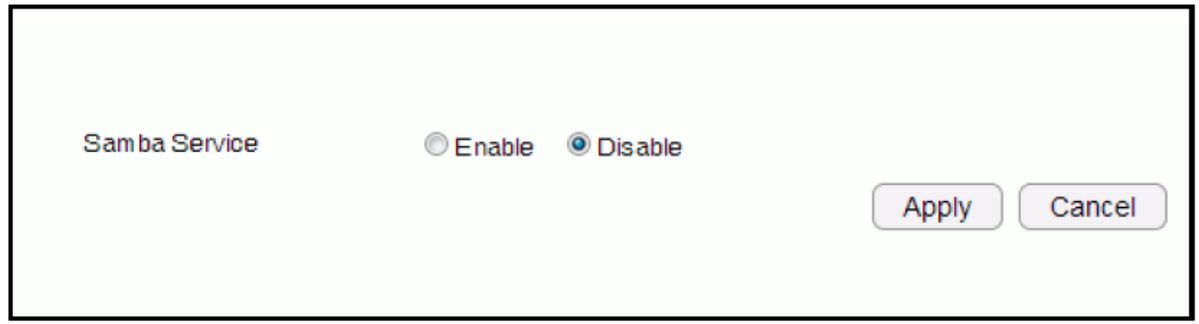
The EnShare feature allows you to access media content stored on a USB hard drive connected to the router's USB port in the home and when you are away from home when you have access to the Internet.
By default the EnShare feature is enabled.

To **view** the EnShare settings or **disable** EnShare, click **USB Port** then select **EnShare**.

1. Select **Disable** to disable the EnShare feature.
2. Click **Apply** to save the new settings.

File Sharing

The File Sharing function allows you to provide users the ability to share files over the network through the Samba service. **By default the EnShare feature is enabled.**



To view the File Sharing settings, click **USB Port** then select **File Sharing**.

1. Select **Enable** to enable the Samba Service function.
2. Click **Apply** to save the new settings, or click **Cancel** to delete the changes.

Viewing File Server

The File Server function allows you to provide network users FTP access to shared USB stored files.

To view the File Server settings, click **USB Port** then select **File Server**.

Enable FTP Service

Select this to enable the FTP service to share files on the USB device

Port Number

Define the port number (default: 21) to open for the FTP service.

Login Timeout

Define the period of inactivity (default: 90) before a user is logged out.

Stay Timeout

Define the lockout period (default: 90) before a user is allowed to attempt a login.

Login User

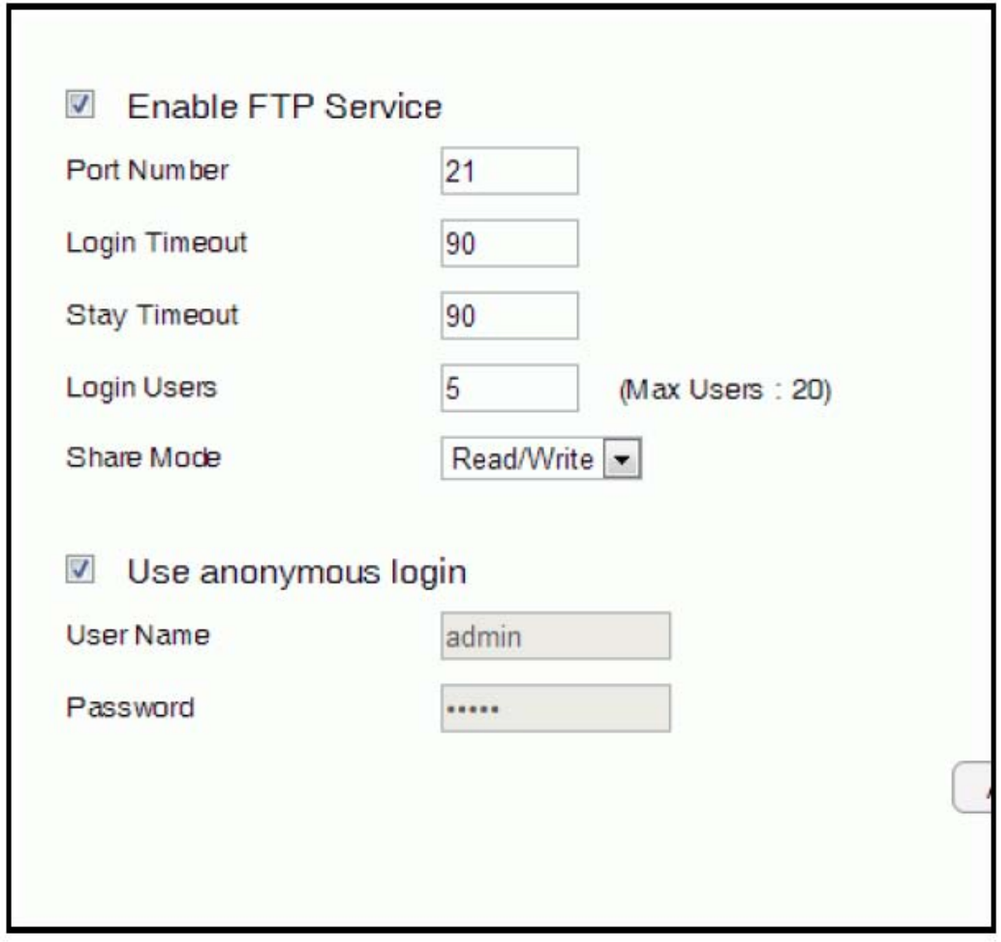
Define the number of concurrent users to access the service (Max: 20 users)

Share Mode

Define the type of share priviledge: Read/Write, Read only.

Use Anonymous Login

Select this to allow anonymous user login.



User Name

Enter the user name to login to the FTP service.

Password

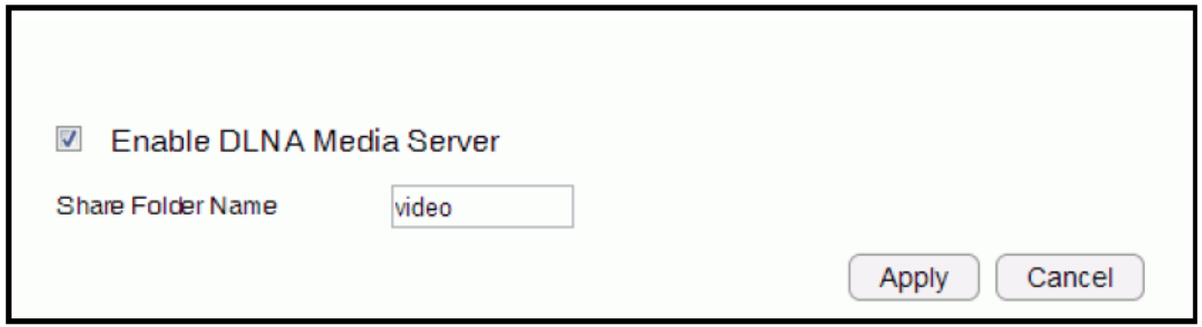
Enter the password to login to the FTP service.

Viewing DLNA

The DLNA Media Server function allows you to transfer photos, music and video between networked devices through the ESR Series Router.

To view the DLNA settings, click **USB Port** then select **DLNA**.

1. Select **Enable** to enable the DLNA Media Server function.
2. In the Share Folder Name, enter the name of the shared folder.
3. Click **Apply** to save the new settings, or **Cancel** to clear the changes.



Advanced Network Settings

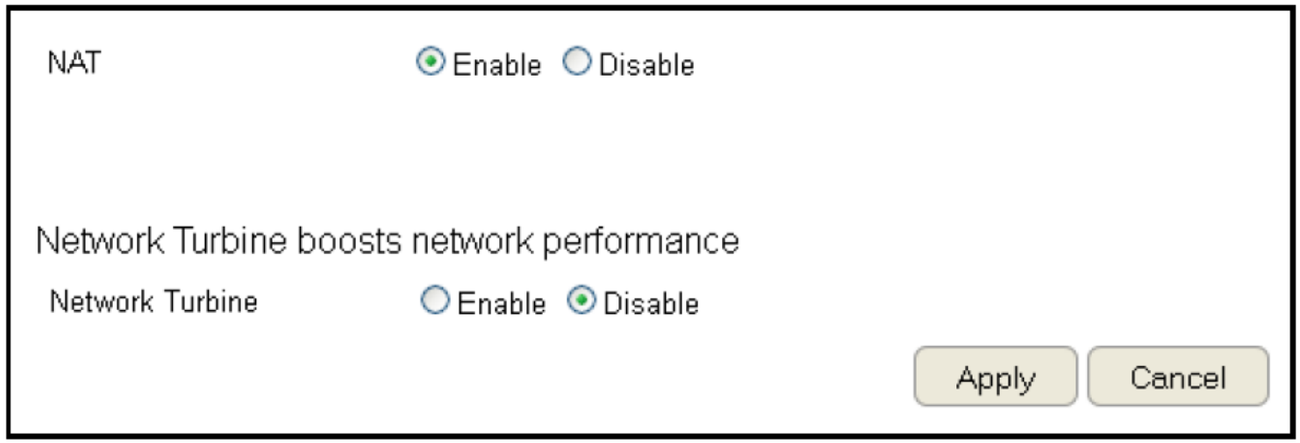
NAT Setup

Network Address Translation (NAT) allows users on the LAN to access the Internet through a single Public IP Address or multiple Public IP Addresses. NAT provides firewall protection from hacker attacks and allows for mapping LAN IP addresses to WAN IP addresses with key services such as websites, FTP, and video game servers.

To view the NAT settings, click **Advanced** then select **NAT**.

NAT
Enable or Disable the NAT.

Network Turbine
Enable or Disable the network turbine.



Note: The network turbine is designed to improve the router's performance. There is about 20~30% improvement when the network turbine is enabled.

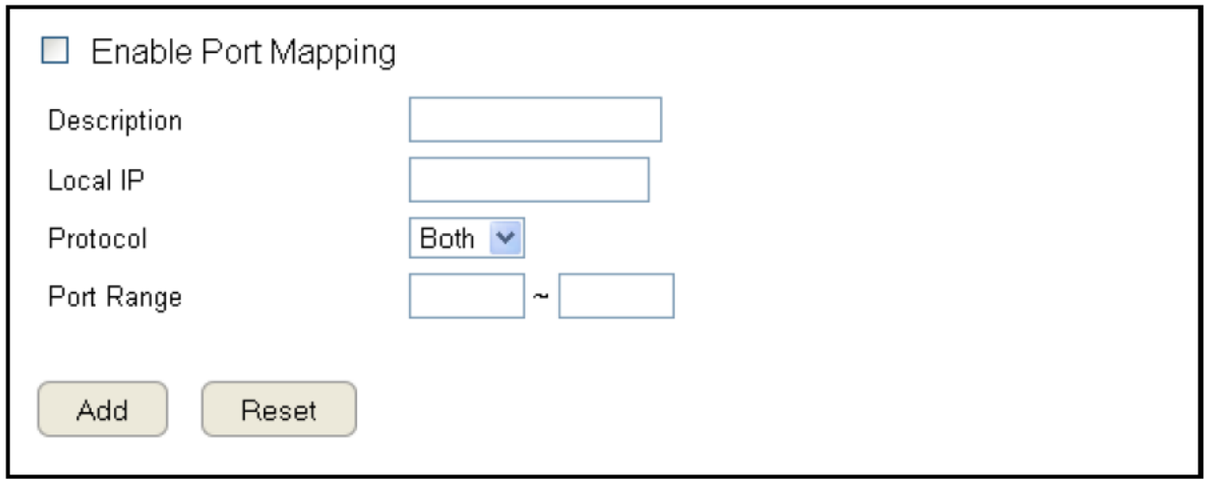
Note: The network turbine may cause problems with the Internet connection. Disable the network turbine function if you experience connection issues.

Click **Apply** to save the settings or **Cancel** to discard changes.

Port Mapping Setup

Port Mapping allows you to redirect a particular range of service port numbers from the WAN to a particular LAN IP address.

To view the Port Mapping settings, click **Advanced** then select **Port Mapping**.



Enable Port Mapping

Click Enable Port Mapping to activate port mapping.

Description

Enter notes or details about the mapped port range configuration.

Local IP

Enter the local IP address of the server behind the NAT firewall.

Protocol

Select the protocol to use for mapping from the following: TCP, UDP or Both.

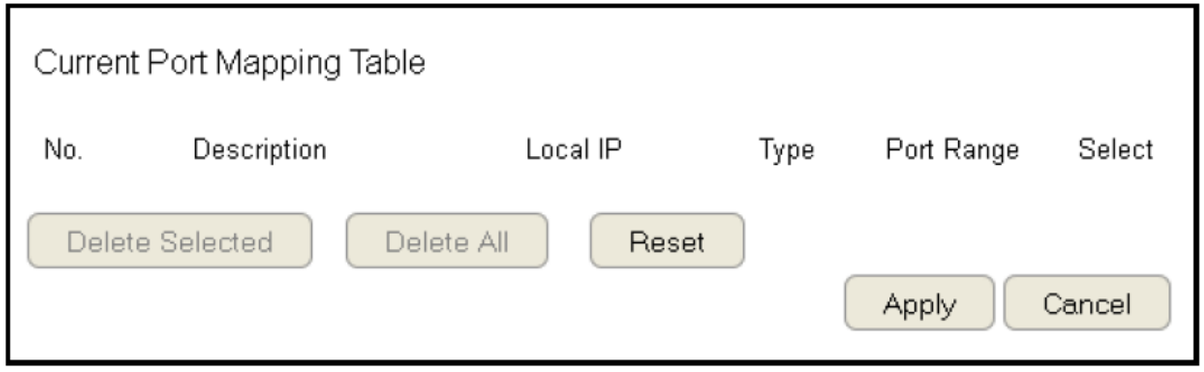
Port Range

Enter the range of ports to be forwarded.

Click **Add** to append a new device to the list or **Reset** to discard changes.

Current Port Mapping Table

Displays a list of mapped port ranges in use on the network.



No. (Number)

The sequence number of the mapped port range.

Description

Notes or details about the mapped port range.

Local IP

IP address of the server for the mapped port range.

Type

The protocol used to communicate with the WAN ports and LAN server.

Port Range

The range of mapped ports.

Select

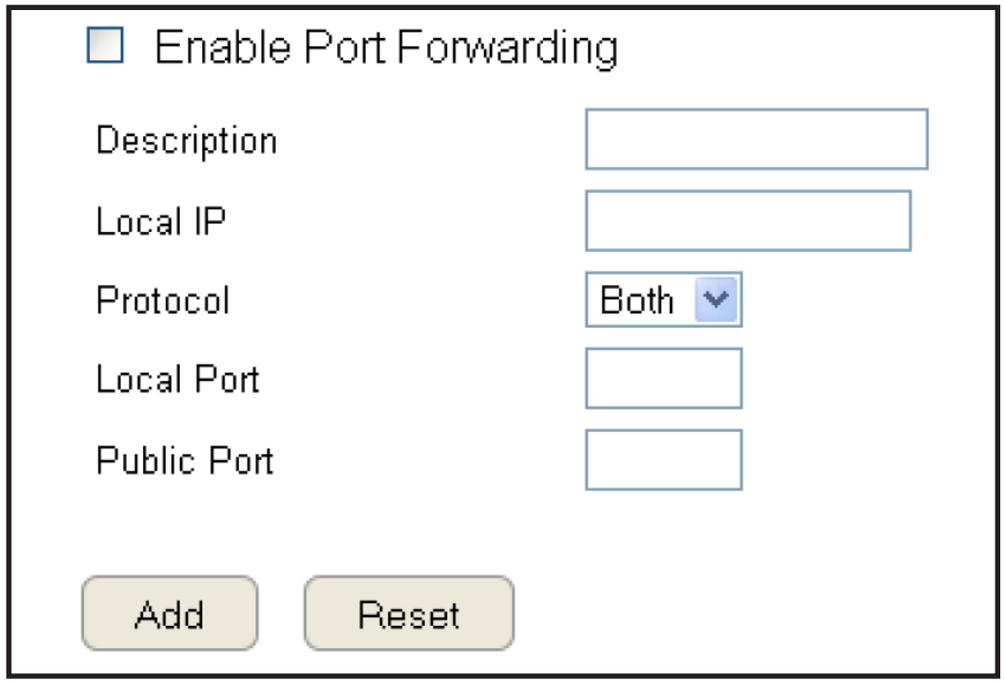
Indicates the device(s) that can have actions performed on them.

Click **Delete Selected** to remove selected devices from the list.
Click **Delete All** to remove all devices form the list.
Click **Reset** the discard changes.
Click **Apply** to save the settings or **Cancel** to discard changes.

Port Forwarding Setup

Port forwarding enables multiple server applications on a LAN to serve clients on a WAN over a single WAN IP address. The router accepts incoming client packets, filters them based on the destination WAN, or public, port and protocol and forwards the packets to the appropriate LAN, or local, port. Unlike the DMZ feature, port forwarding protects LAN devices behind the firewall.

To view the Port Forwardung settings, click **Advanced** then select **Port Forwarding**.



Enable Port Forwarding
Click Enable Port Forwarding to active port forwarding.

Description
Enter notes or details about the forwarded port configuration.

Local IP
Enter the local IP address of the server behind the NAT firewall.

Protocol
Select the protocol to use for mapping from the following: TCP, UDP or Both.

Local Port
Enter the LAN port number that WAN client packets will be forward to.

Public Port
Enter the WAN port number that clients will send their packets to.

Click **Add** to append a new configuration to the table or **Reset** to discard changes.

Current Port Forwarding Table

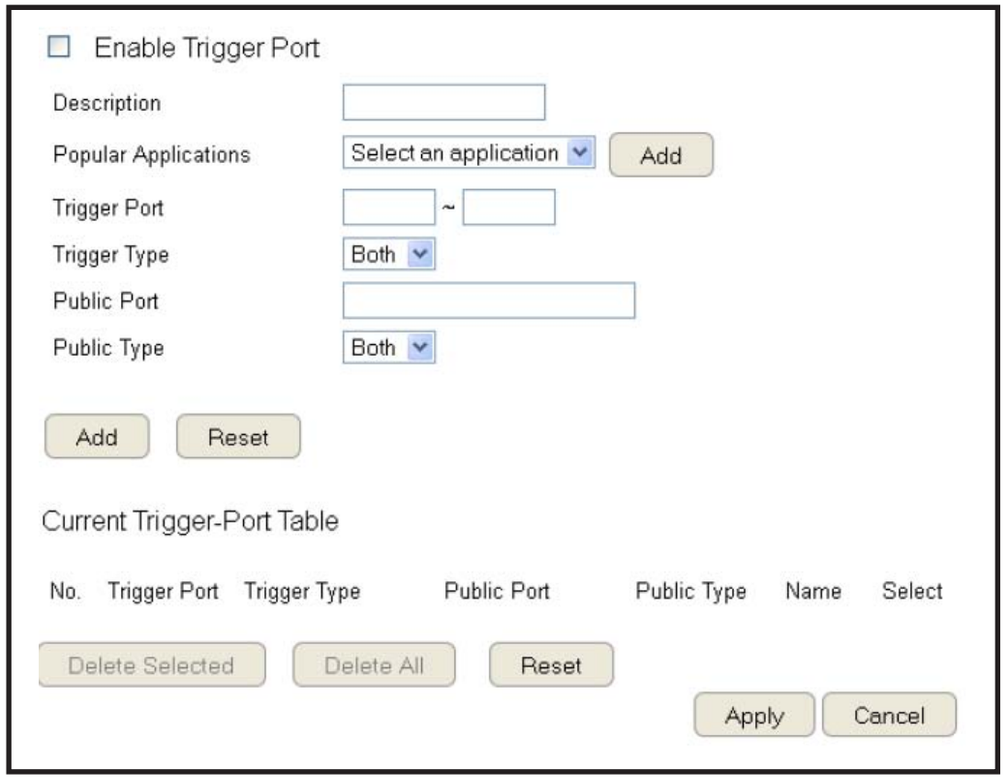
The table of current port forwarding configurations.

Click **Delete Selected** to remove selected devices from the list.
Click **Delete All** to remove all devices form the list.
Click **Reset** the discard changes.
Click **Apply** to save the settings or **Cancel** to discard changes.

Port Triggering Setup

Some applications, such as online games, videoconferencing and VoIP telephony, require multiple ports for inbound and outbound traffic. If an application requires simultaneous use of incoming and an outgoing ports, configure port triggering to map a local port or range of ports to a specific public port. Sending packets out over the local port triggers the router to open an incoming local port that is mapped to the same public port and application as the outgoing local port(s). The local application can communicate over the incoming and outgoing ports without the need for creating a fixed address.

To view the Port Triggering settings, click **Advanced** then select **Port Triggering**.



Enable Port Triggering

Click Enable Trigger Port to activate port triggering.

Description

Enter notes or details about the port triggered configuration.

Popular Applications

Select a default application or add a new one.

Trigger Port

Enter the application's outbound port number(s).

Trigger Type

Select the protocol to use for port triggering from the following: TCP, UDP or Both.

Public Port

Enter the inbound port(s) for the application in the following format: 2300-2400 or 47624.

Public Type

Select the protocol to use for the inbound port from the following: TCP, UDP or Both.

Click **Add** to append a new configuration to the table or **Reset** to discard changes.

Current Port Triggering Table

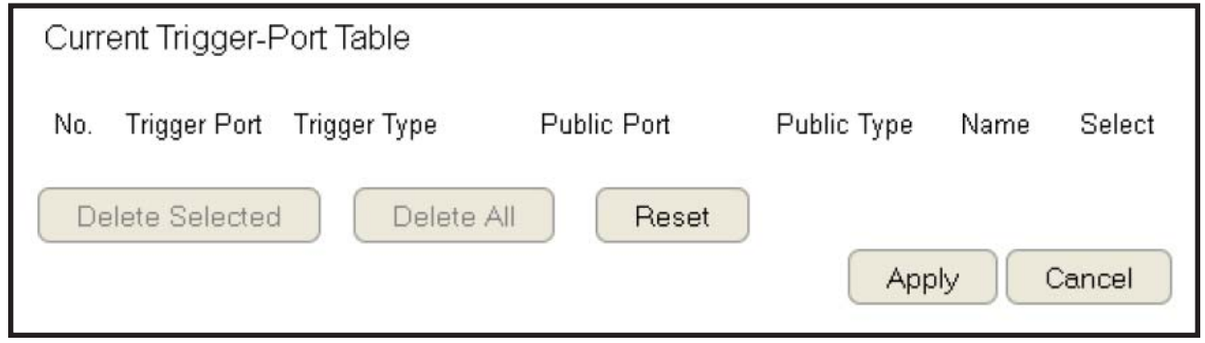
The list of current port triggering configurations.

Click Delete Selected to remove selected devices from the list.

Click **Delete All** to remove all devices form the list.

Click **Reset** the discard changes.

Click **Apply** to save the settings or Cancel to discard changes.



Application Layer Gateway Setup

The ALG (Application Layer Gateway) serves as a window between correspondent application processes so that they may exchange information on an open environment.

To view the ALG settings, click **Advanced** then select **ALG**.

Select the listed applications that need ALG support and then the router will authorize them to pass through the NAT gateway. Click **Apply** to save the settings or **Cancel** to discard changes.

Description	Select
TFTP	☐
IPsec	☐
FTP	☐
SIP	☐
RTSP	☐

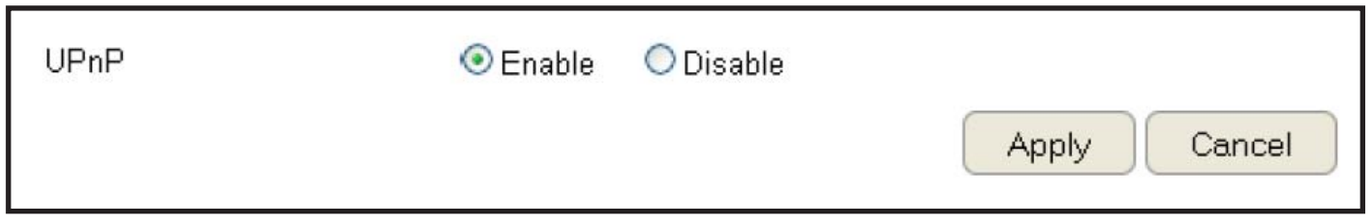
Apply Cancel

Universal Plug and Play Setup

UPnP helps internet devices, such as gaming and videoconferencing, to access the network and connect to other registered UPnP devices.

To view the UPnP settings, click **Advanced** then select **UPnP**.

Click **Enable** or **Disable** to activate or deactivate UPnP.
Click **Apply** to save the settings or **Cancel** to discard changes.



Internet Group Multicast Protocol Setup

Internet Group Multicast Protocol (IGMP) is a network-layer protocol used to establish membership in a multicast group.

To view the IGMP settings, click **Advanced** then select **IGMP**.

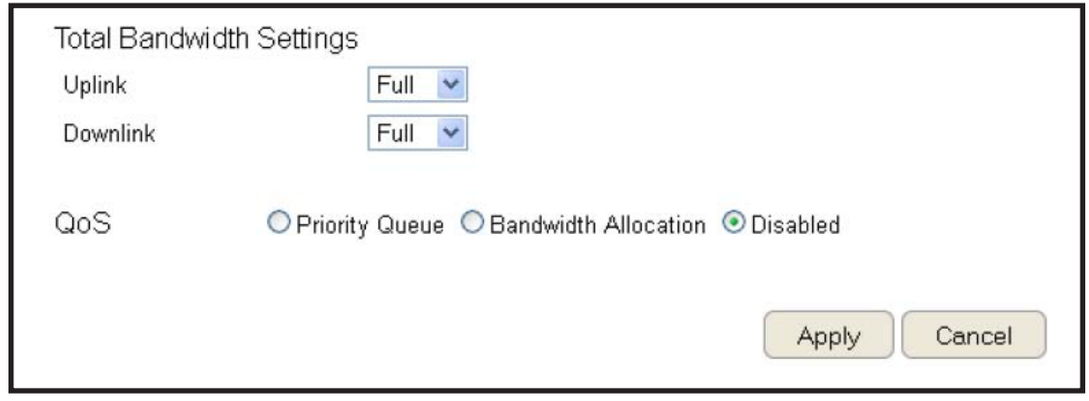
Click **Enable** or **Disable** to activate or deactivate IGMP.
Click **Apply** to save the settings or **Cancel** to discard changes.

Note: Disabling the Multicast function may cause IP based multimedia devices, such as an IP-STB or OTT box, may lose connectivity with the media streaming server.

Quality of Service Setup

QoS can prioritize bandwidth use such as video streaming, online gaming, VoIP telephony and videoconferencing to ensure stable and efficient network performance.

To view the QoS settings, click **Advanced** then select **QoS**.



Total Bandwidth Settings

Uplink Select the maximum bandwidth speed for outbound traffic.

Downlink Select the maximum bandwidth speed for inbound traffic.

Note: Click **Disabled** if you do not want to prioritize any data or protocol.

Priority Queue

Set network resource usage based on specific protocols or port ranges. Incoming packets are processed based on the protocols' position within the queue.

Unlimited Priority Queue

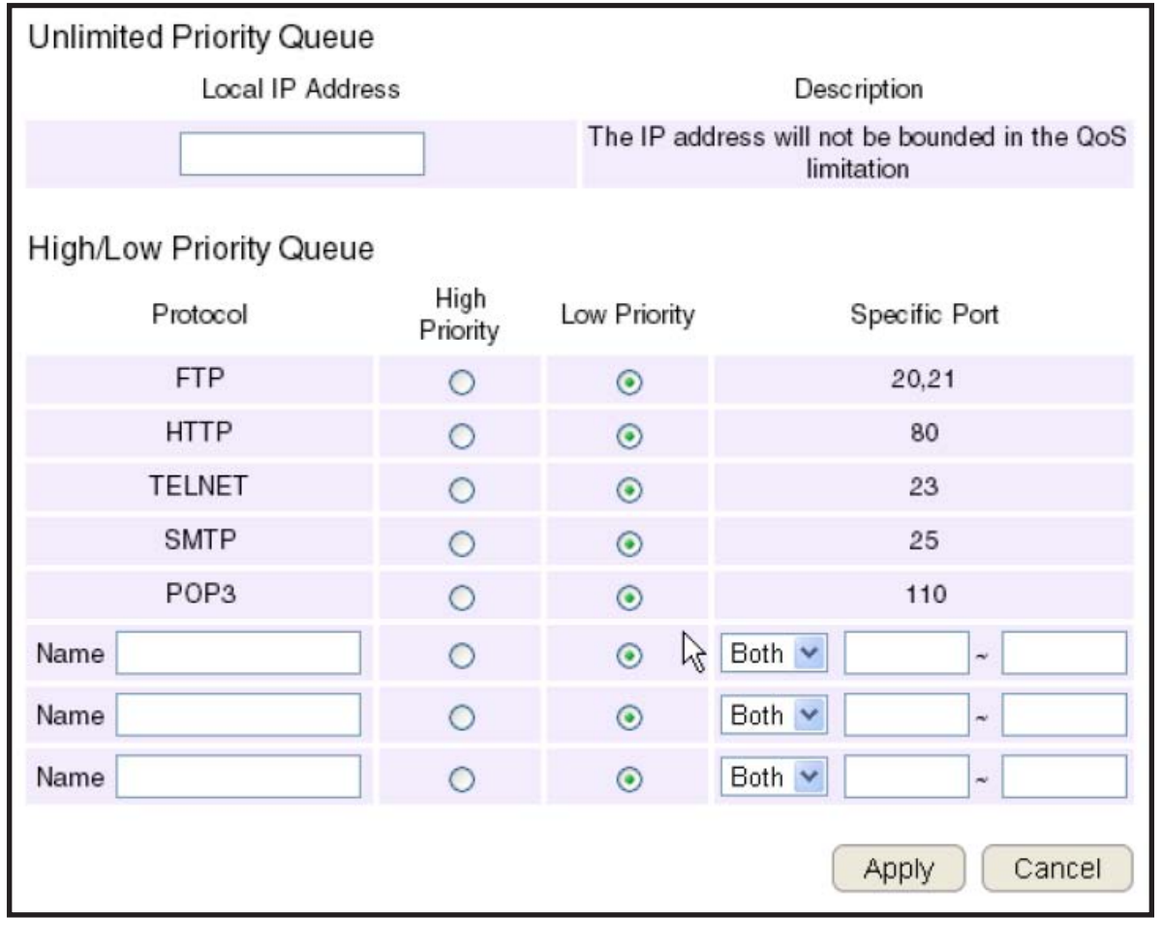
Local IP Address

Enter the local IP address of a device on the network. This device's activity is not restricted by the QoS feature.

High/Low Priority Queue

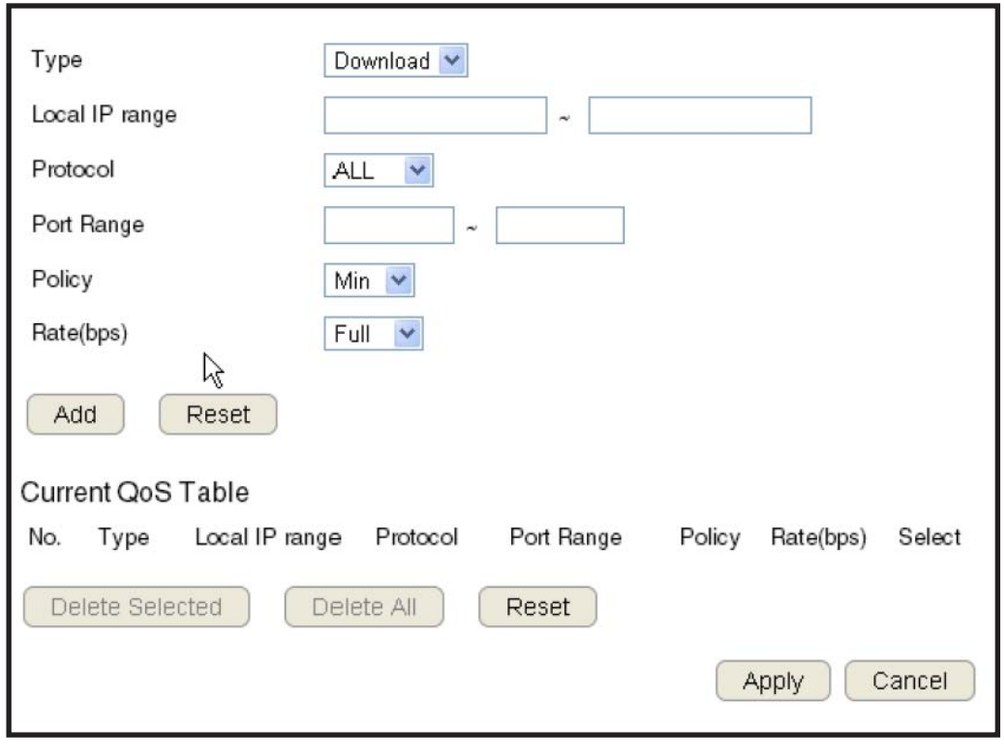
Specify the priority for different protocols. Additional protocols and port ranges can be added.

Click **Apply** to save the settings or **Cancel** to discard changes.



Bandwidth Allocation

Set network resource usage, for inbound and outbound traffic, based on local IP and port ranges.



Type

Select Download or Upload to specific the direction of packet traffic.

Local IP Range

Enter the local IP range of the current configuration.

Protocol

Select the protocol to manage for the current configuration.

Port Range

Enter the local port range of the current configuration.

Policy

Select Min or Max to specify the type of configuration policy.

Rate (bps)

Select the bandwidth rate, in bits per second (bps), of the current configuration.

Click **Add** to save the settings and list the configuration in the Current QoS table or **Reset** the discard changes.
Click **Apply** to save the settings or **Cancel** to discard changes.

Routing Setup

Typically static routing does not need to be setup because the router has adequate routing information after it has been configured for Internet access. Static routing is only necessary if the router is connected to network under a different subnets.

To view the Routing settings, click **Advanced** then select **Routing**.

Note: To enable a static routing, NAT must be disabled.
If the router is connected with a network under the different subnet, the routing setup allows the network connection within two different subnets.

Enable Static Routing

Click Enable Static Routing to activate the feature.

Destination LAN IP

Enter the LAN IP address of the destination device.

Subnet Mask

Enter the Subnet Mask of the destination device.

Default Gateway

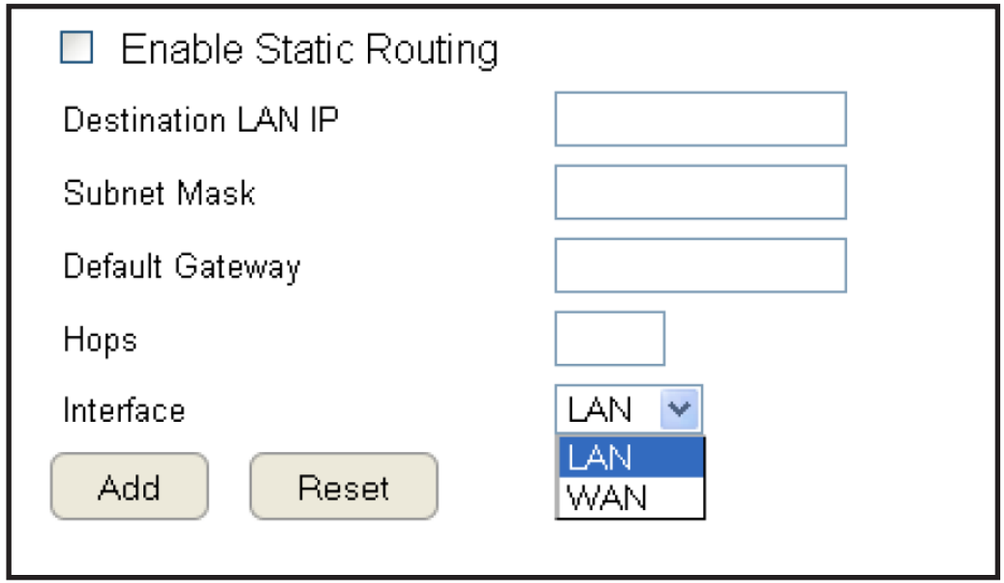
Enter the default gateway IP address for the destination device.

Hops

Enter the maximum number of hops within the static routing that a packet is allowed to travel.

Interface

Select LAN or WAN as the interface.



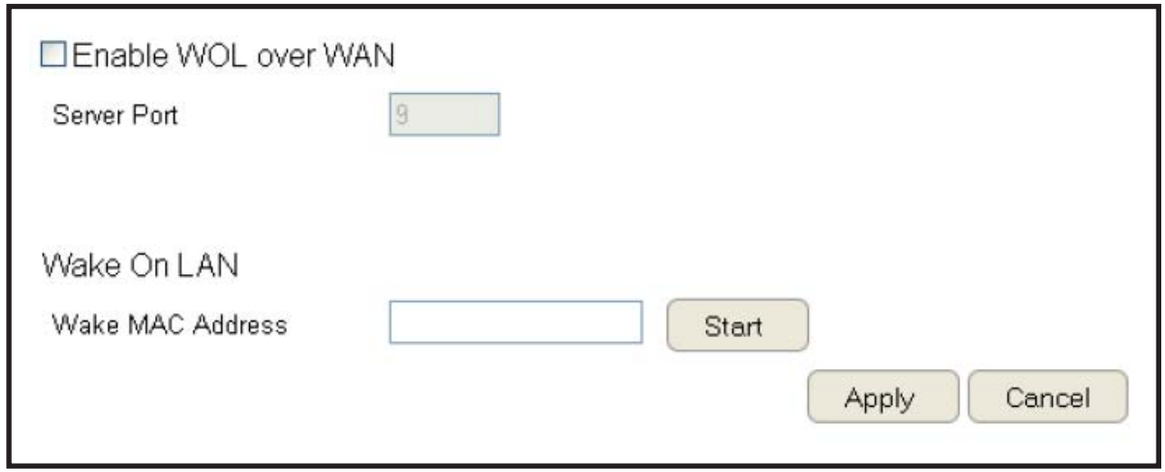
Click **Add** to save the settings and list the configuration in the Current Static Routing table or **Reset** the discard changes.

View and select devices in the Current Static Routing Table.
Click **Delete Selected** or **Delete All** to remove devices from the table. Click **Reset** to stop.
Click **Apply** to save the settings or **Cancel** to discard changes.

Wake on LAN Setup

Wake on LAN setup (WOL) allows the administrator to activate a computer over the network.

To view the WOL settings, click **Advanced** then select **WOL**.



Enabling WOL over WAN

Click **Enable WOL over WAN** to activate the feature.

Server Port

Enter the server port of the device to activate.

Wake MAC Address

Enter the MAC address of the device to activate.

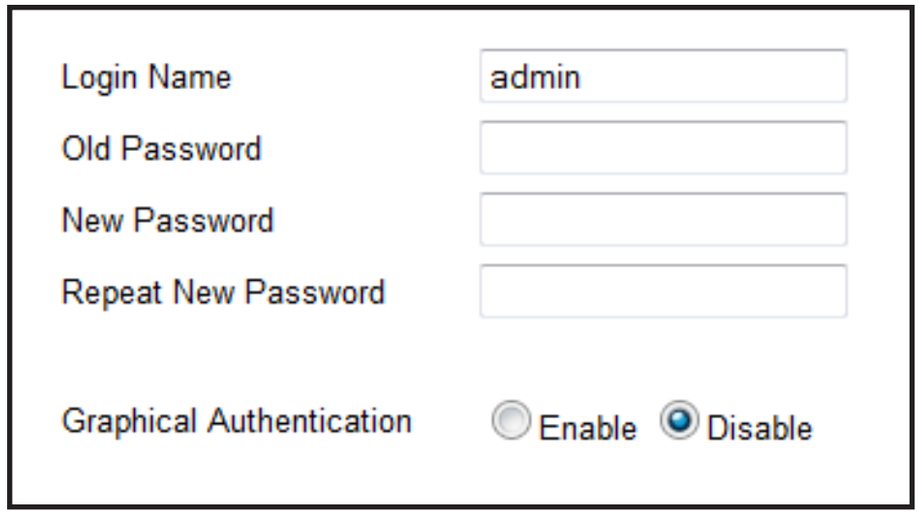
Click **Start** to activate the device.

Click **Apply** to save the settings or **Cancel** to discard changes.

Tools Setup

Configuring the Administrator Account

Change the router's system password as well as setup a device to remotely configure the settings.

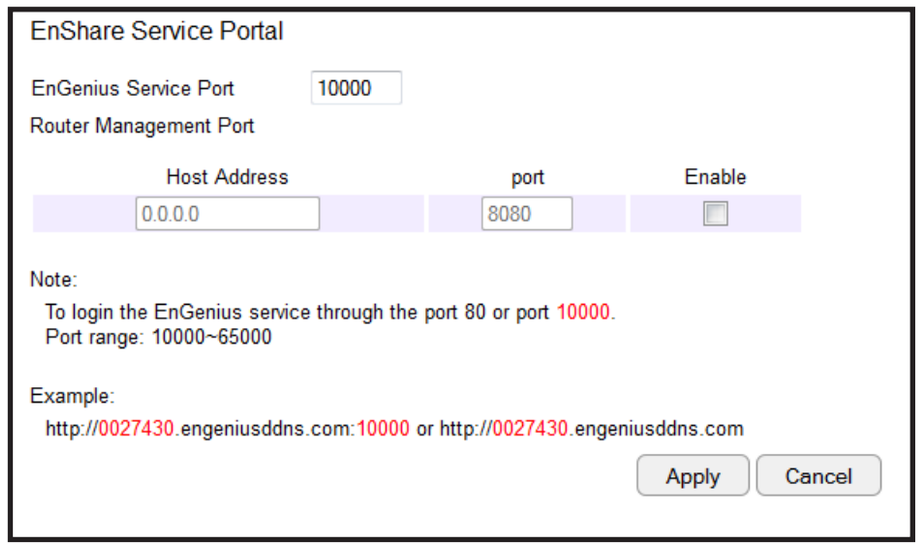


To view the Admin settings, click **Tools** then select **Admin**.

- **Login Name:** Keep or change existing login name
- **Old Password:** Enter the existing administrator password
- **New Password:** Enter the new administrator password
- **Repeat New Password:** Re-type the new administrator password
- **Graphical Authentication:** To enable or disable CAPTCHA

Remote Management

- **Host Address:** Enter the designated host IP Address.
- **Port:** Enter the port number (Default: **8080**) for remote accessing management web interface.
- **Enable:** Select to enable remote management.



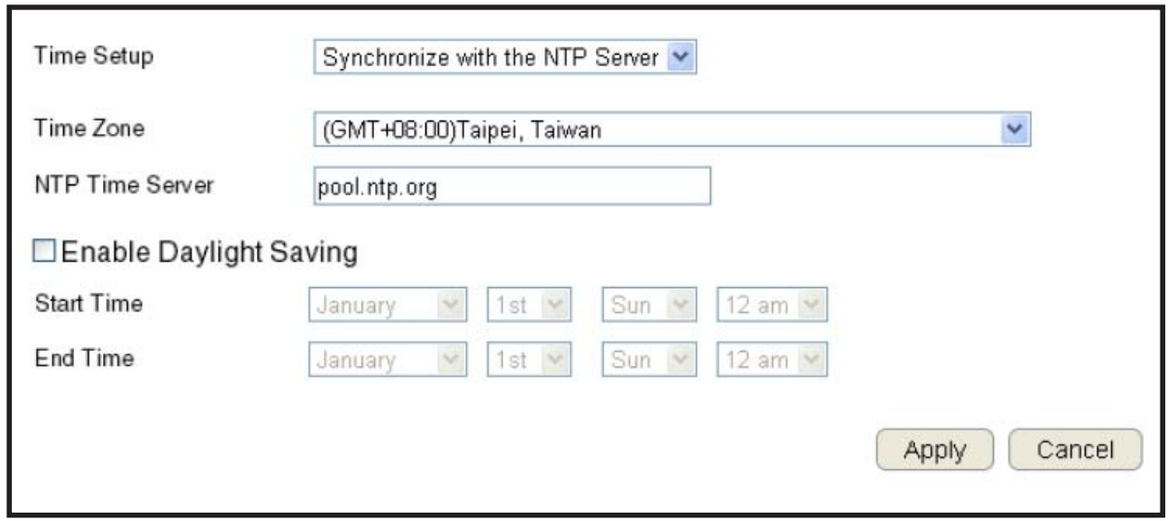
Click **Apply** to save the settings or **Cancel** to discard changes.

Note: To access the settings of the ESR Series Router remotely, enter the router's WAN IP address and port number.

System Time Setting

Change the system time of the ESR Series Router and setup automatic updates through a network time (NTP) protocol server or through a computer.

To view the Time settings, click **Tools** then select **Time**.



Synchronizing with an NTP Server

Time Setup

Select how the ESR Series Router obtains the current time.

Time Zone

Select the time zone for the ESR Series Router.

NTP Time Server

Enter the domain name or IP address of an NTP server.

Enabling Daylight Savings

Click to enable or disable daylight savings time.

Start Time

Select the date and time when daylight savings time starts.

End Time

Select the date and time when daylight savings time ends.

Click **Apply** to save the settings or **Cancel** to discard changes.

Synchronizing Time with a Computer

Time Setup

Select how the ESR Series Router obtains the current time.

Computer Date and Time

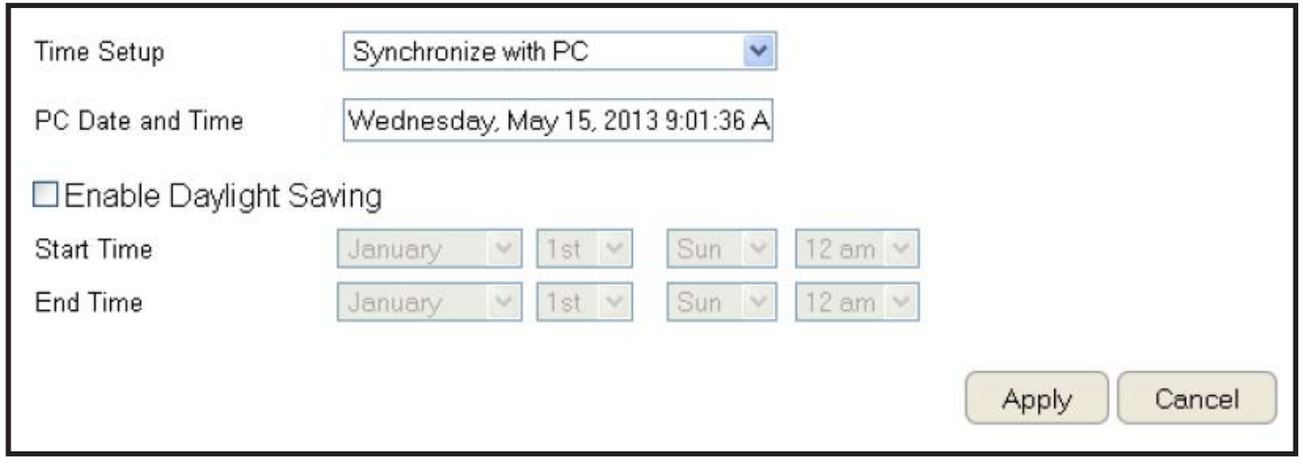
Displays system date and time from a computer.

Enable Daylight Saving

Click to enable or disable daylight savings time.

Start Time

Select the date and time when daylights savings time starts.



End Time

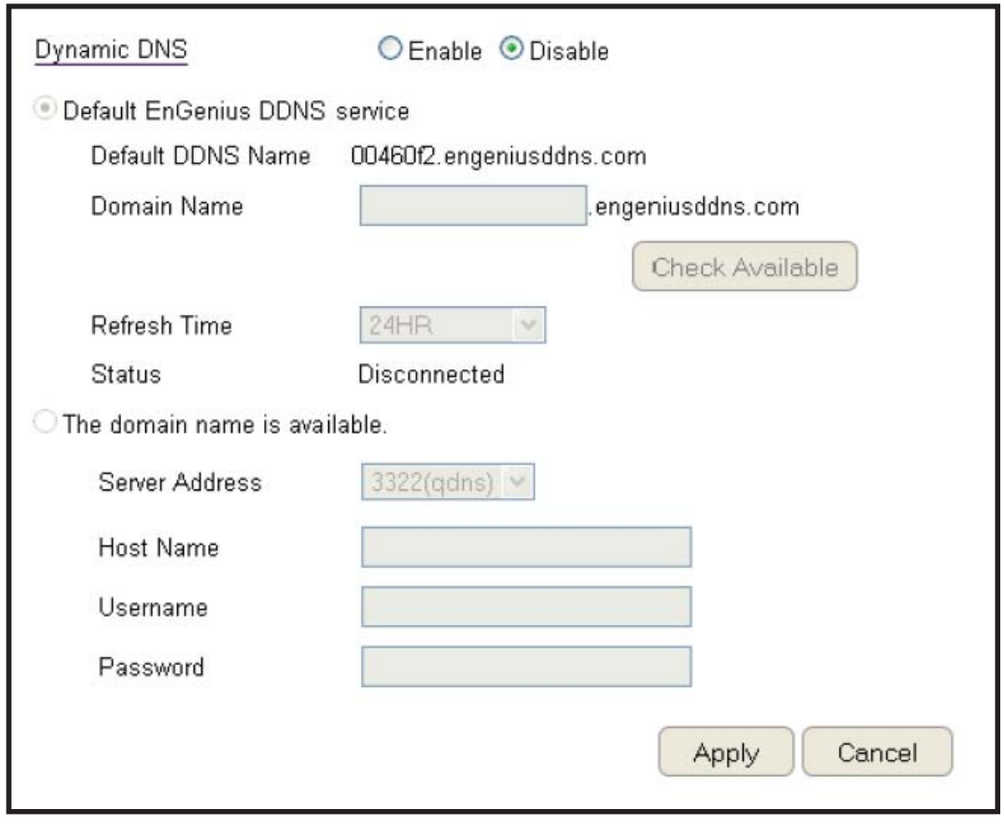
Select the date and time when daylights savings time ends.

Click **Apply** to save the settings or **Cancel** to discard changes.

Dynamic Domain Name Service (DDNS) Setup

The most common use for DDNS is in allowing an Internet domain name to be assigned to a computer with a varying (dynamic) IP address. This makes it possible for other sites on the Internet to establish connections to the machine without needing to track the IP address themselves.

To view the DDNS settings, click **Tools** then select **DDNS**.



Dynamic DNS

Click to enable or disable DDNS.

Server Address

Select the server address.

Host Name

Enter the host name.

Username

Enter a username for the host service.

Password

Enter a password for the host service.

Click **Apply** to save the settings or **Cancel** to discard changes.

Diagnosis that Client Devices Are Connected to the Router

The diagnosis feature allows the administrator to verify that a client device is available on the network and is accepting request packets. If the ping result returns alive, it means a device is connected. This feature does not work if the target device is behind a firewall or has security software installed.

To view the Diagnosis settings, click **Tools** then select **Diagnosis**.

Diagnosing a Network Connection Problem

Address to Ping
Enter IP address of the device to ping.

Ping Frequency
Select the interval, in seconds, that the ping message is sent out.
Click **Start** to begin the diagnosis.

Upgrading The Router's Firmware

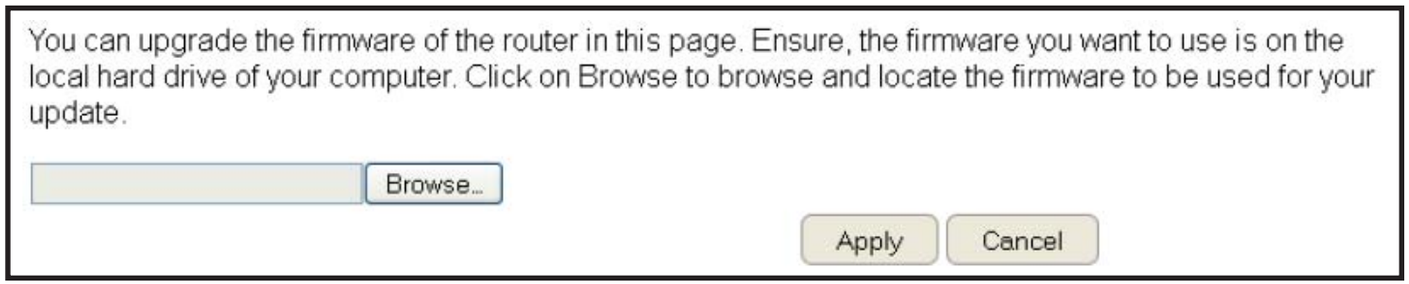
Firmware is the router's system software that operates and allows the administrator to interact with it.

To view the Firmware settings, click **Tools** then select **Firmware**.

WARNING! Upgrading firmware through a wireless connection is not recommended. Firmware upgrading must be performed while connected to an Ethernet (LAN port) with all other clients disconnected.

To update the firmware version, follow these steps:

1. Download the appropriate firmware approved by EnGenius from an EnGenius web site. See the **Downloads tab on the product page for this product**. For new products, new firmware may not be readily available.
2. Click **Choose File**.
3. Browse the file system and select the firmware file.
4. Click **Apply**.



Backing Up The Router's Settings

Save them as a configuration file on your computer.

To view the Back-up settings, click **Tools** then select **Back-up**.

Restoring to the router's Factory Default settings

Click Reset to restore the ESR Series Router to factory defaults.

Backup Settings

Click **Save** to save the current configuration on the router to a *.dlf file.

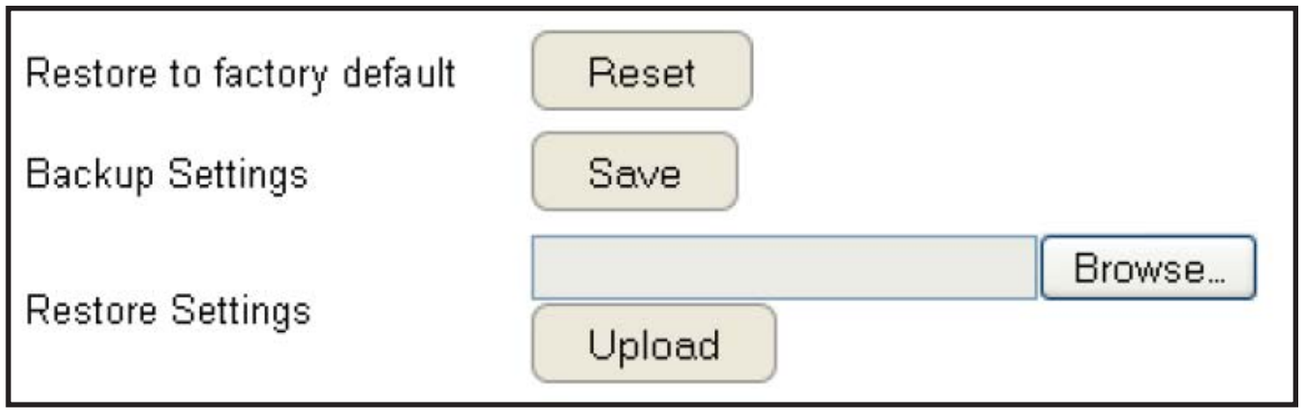
Restore Settings

To restore saved settings, do the following:

a. Click **Choose File**.

b. Browse the file system for location of the settings file (*.dlf).

c. Click **Upload**.

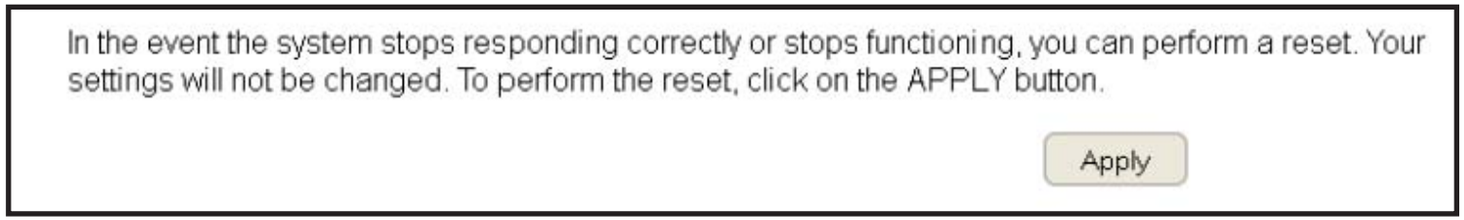


Rebooting the Router

This feature allows you to reboot the router in the event of a system hang up or other disruption to the network.

To view the Reset settings, click **Tools** then select **Reset**.

Click **Apply** to reset the device.



Appendix

Wall Mounting The Router

The following are instructions if you choose to mount the router on a wall.

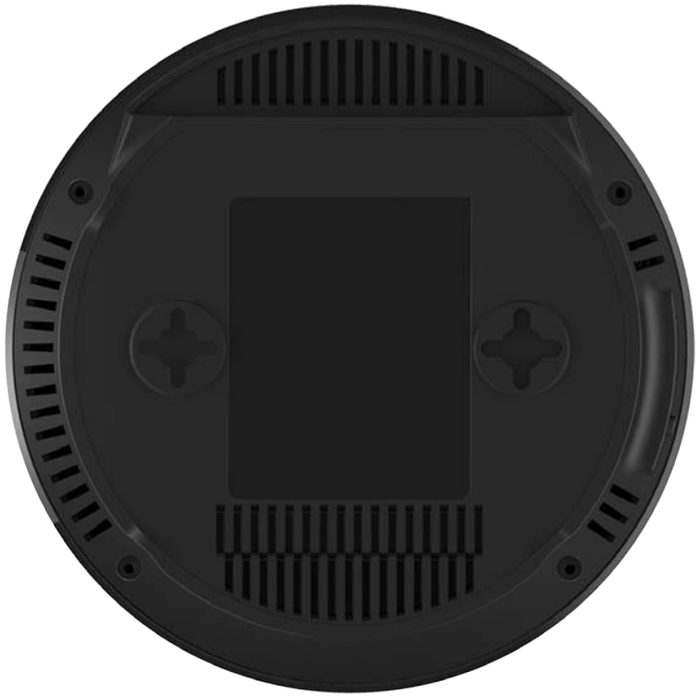
Note: Choose a location that is within reach of an electrical outlet for the AC adapter and the DSL or Cable modem.

To mount the device on the wall do the following:

1. Measure the distance from the middle of each mounting screw hole.
2. Mark the locations of the screw holes on the wall.
3. Drill a hole for each marked location and insert a screw in each.

Note: Make sure to leave enough of the screw head above the wall surface to secure the router.

4. Install and secure the mounts onto the router.
5. Install the router on the wall.



Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
Operations in the 5.15-5.25GHz band are restricted to indoor usage only.

FCC Radiation Exposure Statement

Important: This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 23cm between the radiator & your body.

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:

- EN60950-1
  Safety of Information Technology Equipment
- EN50385
  Generic standard to demonstrate the compliance of electronic and electrical apparatus with the basic restrictions related to human exposure to electromagnetic fields (0 Hz - 300 GHz)
- EN 300 328
  Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using spread spectrum modulation techniques; Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
- EN 301 893
  Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive
- EN 301 489-1
  Electromagnetic compatibility and Radio Spectrum Matters (ERM); ElectroMagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements
- EN 301 489-17
  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

This device is a 5GHz 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.

CE0560 ⓘ

Česky [Czech]	[Jméno výrobce] tímto prohlašuje, že tento [typ zařízení] je ve shodě se základními požadavky a dalšími příslušnými ustanoveními směrnice 1999/5/ES.
Dansk [Danish]	Undertegnede [fabrikantens navn] erklærer herved, at følgende udstyr [udstyrets typebetegnelse] overholder de væsentlige krav og øvrige relevante krav i direktiv 1999/5/EF.
Deutsch [German]	Hiermit erklärt [Name des Herstellers], dass sich das Gerät [Gerätetyp] in Übereinstimmung mit den grundlegenden Anforderungen und den übrigen einschlägigen Bestimmungen der Richtlinie 1999/5/EG befindet.
Eesti [Estonian]	Käesolevaga kinnitab [tootja nimi = name of manufacturer] seadme [seadme tüüp = type of equipment] vastavust direktiivi 1999/5/EÜ põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
English	Hereby, [name of manufacturer], declares that this [type of equipment] is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
Español [Spanish]	Por medio de la presente [nombre del fabricante] declara que el [clase de equipo] cumple con los requisitos esenciales y cualesquiera otras disposiciones aplicables o exigibles de la Directiva 1999/5/CE.
Ελληνική [Greek]	ΜΕ ΤΗΝ ΠΑΡΟΥΣΑ [name of manufacturer] ΔΗΛΩΝΕΙ ΟΤΙ [type of equipment] ΣΥΜΜΟΡΦΩΝΕΤΑΙ ΠΡΟΣ ΤΙΣ ΟΥΣΙΩΔΕΙΣ ΑΠΑΙΤΗΣΕΙΣ ΚΑΙ ΤΙΣ ΛΟΙΠΕΣ ΣΧΕΤΙΚΕΣ ΔΙΑΤΑΞΕΙΣ ΤΗΣ ΟΔΗΓΙΑΣ 1999/5/ΕΚ.
Français [French]	Par la présente [nom du fabricant] déclare que l'appareil [type d'appareil] est conforme aux exigences essentielles et aux autres dispositions pertinentes de la directive 1999/5/CE.
Italiano [Italian]	Con la presente [nome del costruttore] dichiara che questo [tipo di apparecchio] è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 1999/5/CE.
Latviski [Latvian]	Ar šo [name of manufacturer / izgatavotāja nosaukums] deklarē, ka [type of equipment / iekārtas tips] atbilst Direktīvas 1999/5/EK būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
Lietuvių [Lithuanian]	Šiuo [manufacturer name] deklaruoja, kad šis [equipment type] atitinka esminius reikalavimus ir kitas 1999/5/EB Direktyvos nuostatas.
Nederlands [Dutch]	Hierbij verklaart [naam van de fabrikant] dat het toestel [type van toestel] in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 1999/5/EG.

Malti [Maltese]	Hawnhekk, [isem tal-manifattur], jiddikjara li dan [il-mudel tal-prodott] jikkonforma mal-ħtiġijiet essenzjali u ma provvedimenti oħrajn relevanti li hemm fid-Dirrettiva 1999/5/EC.
Magyar [Hungarian]	Alulírott, [gyártó neve] nyilatkozom, hogy a [... típus] megfelel a vonatkozó alapvetõ követelményeknek és az 1999/5/EC irányelv egyéb elõírásainak.
Polski [Polish]	Niniejszym [nazwa producenta] oświadcza, że [nazwa wyrobu] jest zgodny z zasadniczymi wymogami oraz pozostałymi stosownymi postanowieniami Dyrektywy 1999/5/EC.
Português [Portuguese]	[Nome do fabricante] declara que este [tipo de equipamento] está conforme com os requisitos essenciais e outras disposições da Directiva 1999/5/CE.
Slovensko [Slovenian]	[Ime proizvajalca] izjavlja, da je ta [tip opreme] v skladu z bistvenimi zahtevami in ostalimi relevantnimi določili direktive 1999/5/ES.
Slovensky [Slovak]	[Meno výrobcu] týmto vyhlasuje, že [typ zariadenia] spĺňa základné požiadavky a všetky príslušné ustanovenia Smernice 1999/5/ES.
Suomi [Finnish]	[Valmistaja = manufacturer] vakuuttaa täten että [type of equipment = laitteen tyyppimerkintä] tyyppinen laite on direktiivin 1999/5/EY oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
Svenska [Swedish]	Härmed intygar [företag] att denna [utrustningstyp] står I överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 1999/5/EG.