# EchoLife HG510 Home Gateway

User Manual

# HUAWEI

EchoLife HG510 Home Gateway

User Manual

## V100R001

EchoLife HG510 Home Gateway

User Manual

**Manual Version** V1.10

**Product Version** V100R001

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## About This Manual

### Release Notes

This manual applies to HG510 V100R001.

### Related Manuals

The related manuals are listed in the following table.

| Manual | Content |
| --- | --- |
| **EchoLife HG510 Home Gateway User Manual** | It is used for assisting you in data configurations and typical applications. |
| EchoLife HG510 Home Gateway Quick Quide | It will guide you to install HG510 quickly. |

### Organization

The manual introduces the system structure, hardware description, configuration guide of the HG510.

There are four chapters in the manual.

**Chapter 1 System Overview** profiles the system characteristics, main functions, system structure, external interfaces and networking applications of the HG510.

**Chapter 2 Hardware Description** focuses on the hardware modules of the HG510. It discusses in detail the structure and configuration of the hardware system of the equipment. This chapter covers the front panel, real panel and the HG510 connection.

**Chapter 3 Configuration Guide** presents the service configuration of the HG510 step by step.

**Chapter 4 Appendix** includes two parts. It list the default setting and collects the abbreviations and acronyms used in this manual.

## Intended Audience

The manual is intended for the following readers:

- Technical marketing specialists
- Installation engineers and technicians
- Operation and maintenance personnel

## Conventions

The manual uses the following conventions:

### I. General conventions

| Convention | Description |
|---|---|
| Arial | Normal paragraphs are in Arial. |
| **Boldface** | Headings are in **Boldface**. |

## II. GUI conventions

| Convention | Description |
|---|---|
| < > | Button names are inside angle brackets. For example, click the <OK> button. |
| [ ] | Window names, menu items, data table and field names are inside square brackets. For example, pop up the [New User] window. |
| / | Multi-level menus are separated by forward slashes. For example, [File/Create/Folder]. |

## III. Symbols

Eye-catching symbols are also used in this manual to highlight the points worthy of special attention during the operation. They are defined as follows:

⚠ **Caution**, **Warning**, **Danger:** Means reader be extremely careful during the operation.

🕮 **Note**, **Comment**, **Tip**, **Knowhow**, **Thought:** Means a complementary description.

## Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

# Table of Contents

# Chapter 1 System Overview

Welcome to purchase the EchoLife HG510 Home Gateway device(the HG510 for short). With your HG510, you can access the Internet using your high-speed ADSL connection.

This User Manual will show you how to install and set up the HG510.

## 1.1 System Features

- Internal ADSL modem for high speed internet access
- 10/100Base-T Ethernet router to provide Internet connectivity to all computers on your LAN
- Network Address Translation (NAT) and IP filtering functions to provide firewall protection for your computers
- Network configuration through DHCP
- Configuration program you access through an HTML browser

## 1.2 System Requirements

In order to use the HG510 ADSL/Ethernet router, you need to have the following:

- ADSL service up and running on your telephone cable, with at least one public Internet address for your LAN
- One or more computers each containing an Ethernet 10Base-T/100Base-T network interface card (NIC)

- For system configuration using the supplied web-based program: a web browser such as Internet Explorer V5.0 or later, or Netscape V4.7 or later

# Chapter 2 Hardware Description

In addition to this manual, the HG510 shall arrive with the following:

| Item | Quantity |
|---|---|
| HG510 | 1 |
| Power adapter | 1 |
| Network cable | 1 |
| Phone cable | 1 |
| Splitter | 1 |
| Qualitication Card | 1 |
| *EchoLife HG510 Home Gateway Quick Quide* | 1 |

**Note:**

Each carton is deliered with one *EchoLife HG510 Home Gateway User Manual*.

## 2.1 Front Panel

The front panel provides LEDs that indicate the status of the HG510.

**Table 2-1** lists the LED indicators.

| Label | Color | Function |
|---|---|---|
| ALARM | Red | Flashes on/off rapidly during the training mode<br>Flashes on/off slowly: No ADSL link<br>Off: The ADSL link is established and active |
| ADSL LINK | Green | On: The ADSL link is established and active<br>Off: No ADSL link |
| ADSL ACT | Green | Flashes during ADSL data transfer<br>On: No data transfer |
| LAN1-4 | Green | On: The LAN link is established and active<br>Off: No LAN link<br>Flashes during data transfer |
| PWR | Green | On: The device is powered on<br>Off: The device is powered off |

## 2.2 Rear Panel

The rear panel provides ports for the HG510 to receive/send data and get power supply.

**Table 2-2** lists ports function

| Label | Function |
|---|---|
| *ADSL* | RJ-11 connector: connects the device to a telephone jack using the supplied cable |
| *On/Off* | Switches the device on and off |

| Label | Function |
|---|---|
| RST | To reset to default settings, Hold the Reset button for more than 5 seconds and then release the button. |
| *PWR* | Connects to the supplied power cable |
| *LAN1-4* | RJ-45 connector: connects the device to your computer's Ethernet port, or to the uplink port on your LAN's hub, using the cable provided. |

## 2.3 Connecting the HG510

You need to connect the HG510 to the phone jack, the power outlet, and your computer or network.

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**Caution:**

Before cable connection, turn off power of your computer(s), LAN hub/switch (if applicable), and the HG510.

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Figure 2-1illustrates the cable connections. Refer to the steps that follow for specific instructions.

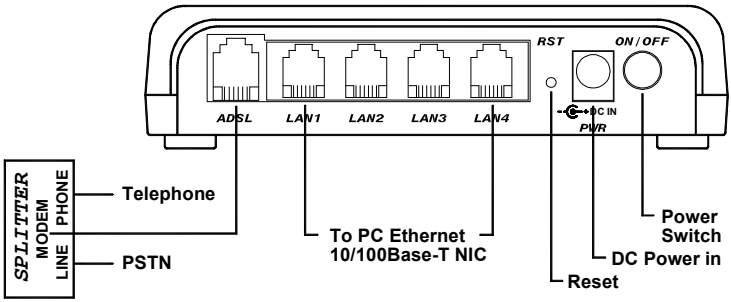


**Figure 2-1** Cable connection

Follow the steps listed below to install it.

| Stage | Description | See in |
|---|---|---|
| 1 | Connect the ADSL line. | 2.3 I. |
| 2 | Connect the Ethernet cable. | II. |
| 3 | Attach the power adapter. | III. |
| 4 | Turn on the HG510 and power up your computer and LAN devices. | IV. |
| 5 | Configure the HG510 through the Web interface. | V. |
| 6 | Save the configuration and reboot. | VI. |

**I. Connect the ADSL line.**

**Method one**: Plug one end of the twisted-pair ADSL cable into the ADSL port on the rear panel of the HG510 and insert the other end into the wall socket.

**Method two**: You can use a separate splitter. External splitter can divide the data and voice, then you can access the Internet and make calls at the same time.The external splitter has three ports:

- LINE: connects to the wall jack;
- PHONE: connects to the phone sets;
- MODEM: connects the ADSL port of the HG510.

Plug one end of the twisted-pair ADSL cable into the ADSL port on the rear panel of the HG510 and insert the other end into the MODEM port of the external splitter.

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 **Caution:**

Although you use the same type of cable, The ADSL and PHONE ports are **not** interchangeable. Do not route the ADSL connection through the PHONE port.

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**II. Connect the Ethernet cable.**

If you are connecting a LAN to the HG510 ADSL/Ethernet router, attach one end of a provided Ethernet cable to a regular hub port and the other to the Ethernet port on the HG510.

**III. Attach the power adapter.**

Connect the AC power adapter to the PWR connector on the back of the device and plug in the adapter to a wall outlet or power strip.

**IV. Turn on the HG510 and power up computers and LAN devices.**

Press the Power switch on the rear panel of the device down.

Turn on and boot up your computer(s) and any LAN devices such as hubs or switches.

**V. Configure the HG510 through the Web interface**

The detailed steps are described in ”Chapter 3 Configuration Guide”.It will help you configure the HG510 to meet your need.

**VI. Save the configurations and Reboot.**

To make the settings you made on the HG510 take effect, save the configurations and reboot.

# Chapter 3 Configuration Guide

## 3.1 Preparing Configuration

- Connect the HG510 and computer with a cross-over/ straight-through Ethernet cable.
- Power on the HG510.
- The default IP of the HG510 is 192.168.1.1.

## 3.2 Establishing the Connection

Enter the IP address (default is 192.168.1.1) of the HG510 from the Web Browser.

1) In the dialog box displayed, as shown in Figure 3-1, enter the user name and password. By default, the user name and password are admin.


**Figure 3-1** Authentication

2) Then click <OK>.

If the authentication passes, the home page “Device Info - Summary” will be displayed on the browser. Refer to Figure 3-2.

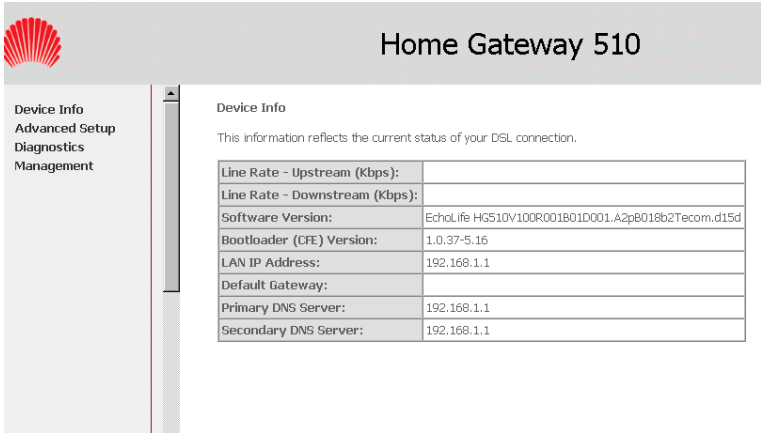


**Figure 3-2** HG510 home page

## 3.3 Configuring the HG510

The system administrator can configure the HG510 remotely or locally through a Web Browser. Network configuration need to be planned and decided before starting the configuration procedure.

Quick Setup allows system administrator to select the appropriate operation mode and configure the corresponding settings step by step to create a connection. The following five operation modes are supported:

- PPP over Ethernet (PPPoE)
- IP over ATM (IPoA)
- Bridging
- MAC Encapsulation Routing (MER)
- PPP over ATM (PPPoA)

### 3.3.1 Configuring PPPoE

Click<Quick Setup> in the left frame, and follow the steps below to create a PPPoE connection.

Follow the steps listed below to configure.

| Stage | Description | See in |
|---|---|---|
| 1 | Configure ATM PVC | 3.3.1 I. |
| 2 | Select Connection type and encapsulation mode | 3.3.1 II. |
| 3 | Configure PPP username and password | 3.3.1 III. |
| 4 | Enable IGMP multicast and WAN service | 3.3.1 IV. |
| 5 | Configure LAN Service | 3.3.1 V. |
| 6 | WAN setup-summary | 3.3.1 VI. |

## I. Configure ATM PVC

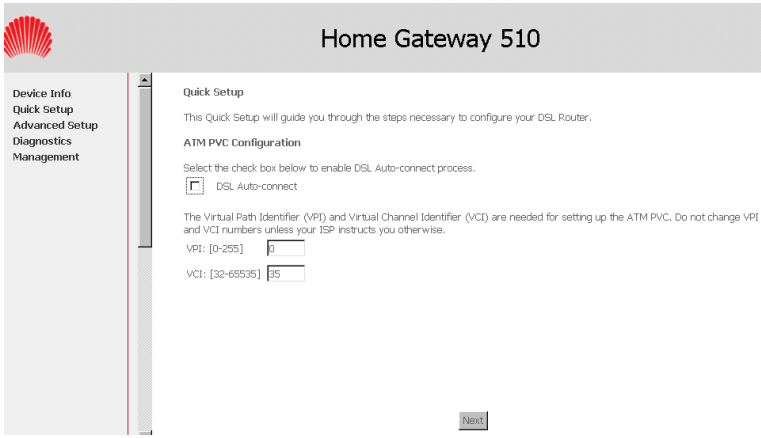


**Figure 3-3** Quick Setup – ATM PVC Configuration

1) Enter the VPI/VCI values. The actual parameter is provided by your ISPs,you can contact them to get the detailed information.
2) Click <Next> to go to next step.

## II. Select Connection Type and Encapsulation Mode

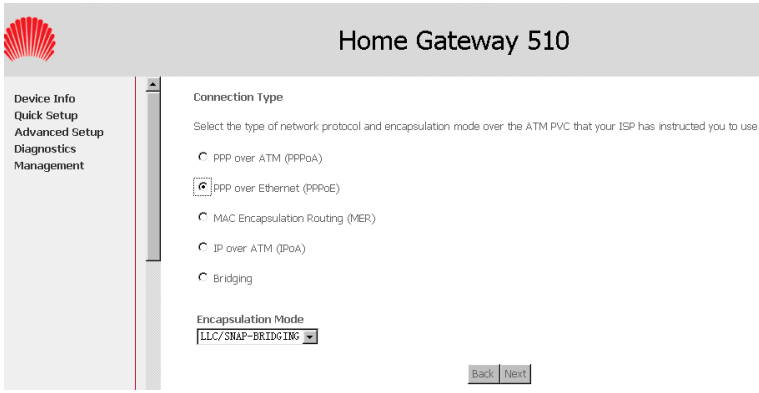


**Figure 3-4** Quick Setup – Connection Type and Encapsulation Mode

1) Select Connection type ”PPP over Ethernet (PPPoE)”, and select the appropriate “Encapsulation Mode”.
2) Click<Next> to go to next step.

### III. Configure PPP Username and Password

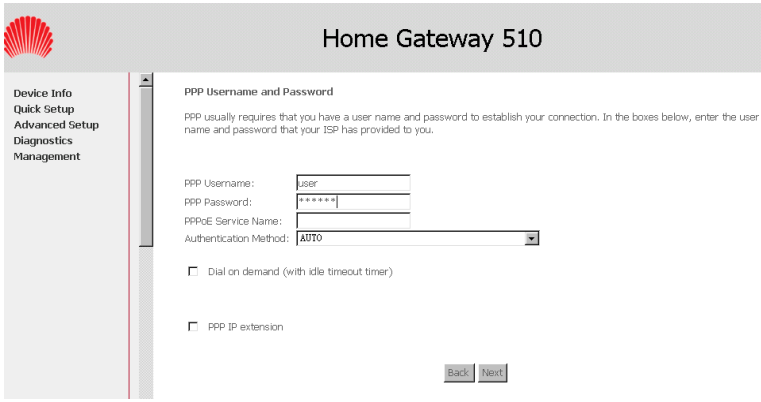


**Figure 3-5** Quick Setup – PPP Username and Password

Enter “PPP Username”, “PPP Password”, “PPPoE Service Name”, and select “Authentication Method” (AUTO/PAP/CHAP/MSCHAP). The actual parameter is provided by your ISP,you can contact them to get the detailed information.

The “Dial on demand (with idle timeout timer)” function, if checked, a new setup parameter “Inactivity Timeout (minutes) [1-4320]” will appear for the HG510 to tear down the PPP link automatically if there is no outgoing packet for the programmed period of time.

The HG510 sets up PPPoE connection automatically when the PPPoE connection is not set up and users want to send data to ISP.

The user is able to assign some specific ATM PVC(s) to run PPPoE, when the HG510 has multiple ATM PVC connection.

Click<Next> to go to next step.

### IV. Enable IGMP Multicast and WAN service

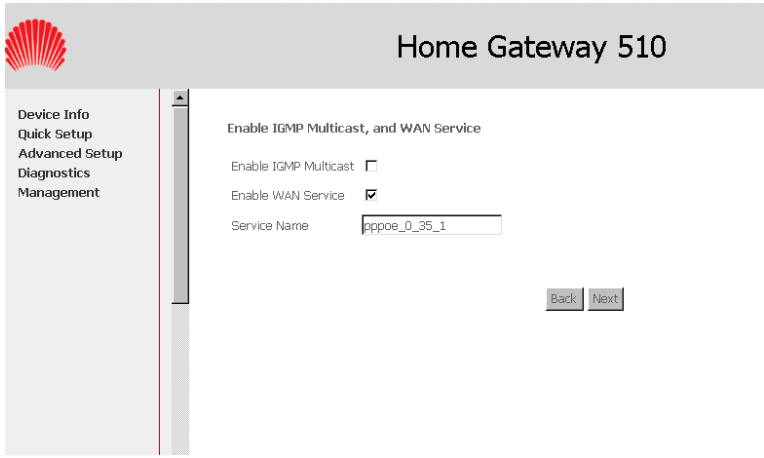


**Figure 3-6** Quick Setup – IGMP Multicast, WAN service

1) Check Enable/Disable IGMP Multicast and WAN Service.
2) Click<Next> to go to next step.

## V. Configure LAN Service

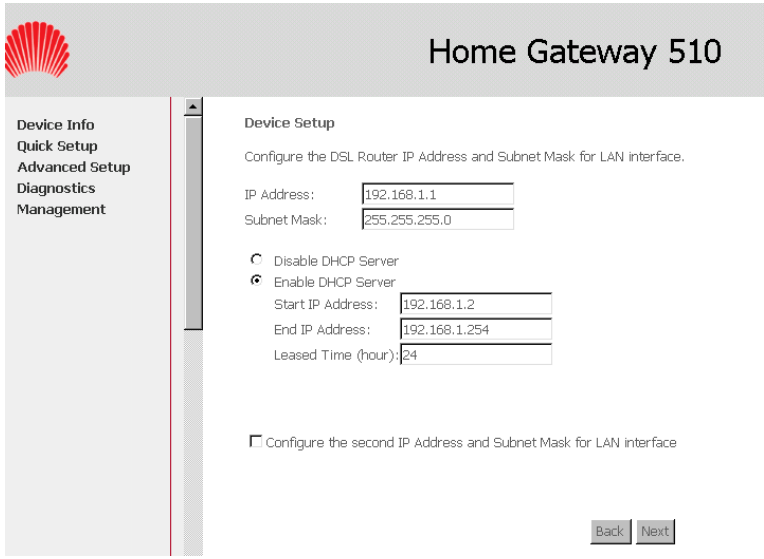


**Figure 3-7** Quick Setup – Device Setup

1) Enter the IP (LAN IP, default 192.168.1.1) address and Subnet Mask (default 255.255.255.0).
2) Select Disable/Enable DHCP Server, if enable DHCP Server , configure the DHCP server parameters.If select Configure the second IP Address and Subnet Mask for LAN interface,configure related settings for that mode.
3) Click<Next> to go to next step.

**Note:**

NAT function is by default enabled and is not showing on the page to prevent it from being disabled

### VI. WAN Setup – Summery

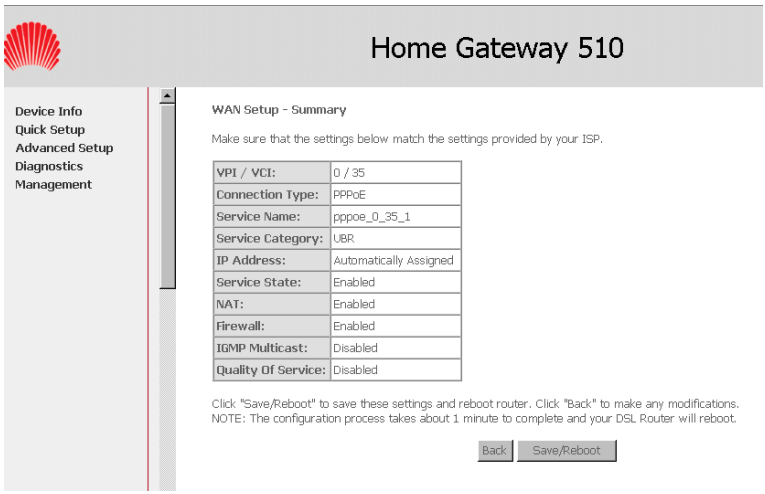


**Figure 3-8** Quick Setup – WAN Setup – Summary

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISP, and then Click<Save/Reboot> to complete the configuration procedure.

### 3.3.2 Configuring IPoA

Click<Quick Setup> in the left frame, and follow the steps below to create a IPoA connection.

Follow the steps listed below to configure.

| Stage | Description | See in |
|---|---|---|
| 1 | Configure ATM PVC | 3.3.2 I. |
| 2 | Select Connection type | 3.3.2 II.<br>3.3.2 II. |
| 3 | Configure WAN IP settings | 3.3.2 III. |
| 4 | Enable NAT, IGMP Multicast, and WAN service | 3.3.2 IV. |
| 5 | Configure LAN Service | 3.3.2 V. |
| 6 | WAN setup--Summary | 3.3.2 VI. |

## I. Configure ATM PVC

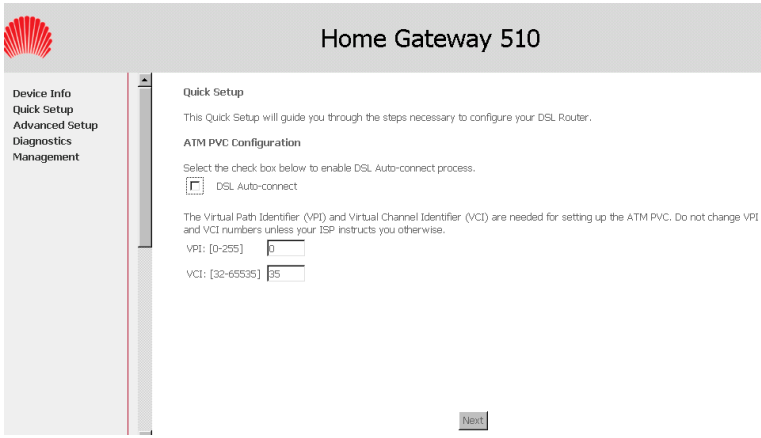


**Figure 3-9** Quick Setup – ATM PVC Configuration

1) Enter the VPI/VCI values. The actual parameter is provided by your ISPs,you can contact them to get the detailed information.
2) Click<Next> to go to next step.

## II. Select Connection Type

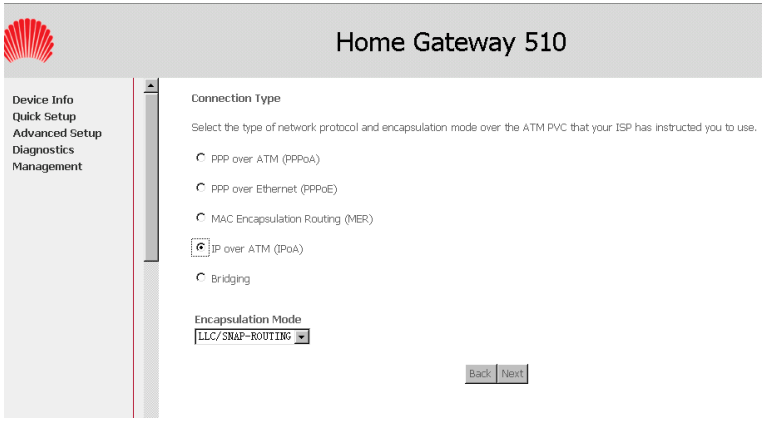


**Figure 3-10** Quick Setup – Connection Type and Encapsulation Mode

1) Select “IP over ATM (IPoA)”, and the “Encapsulation Mode”. The actual parameter is provided by your ISPs,you can contact them to get the detailed information.
2) Click<Next> to go to next step.

## III. Configure WAN IP Settings

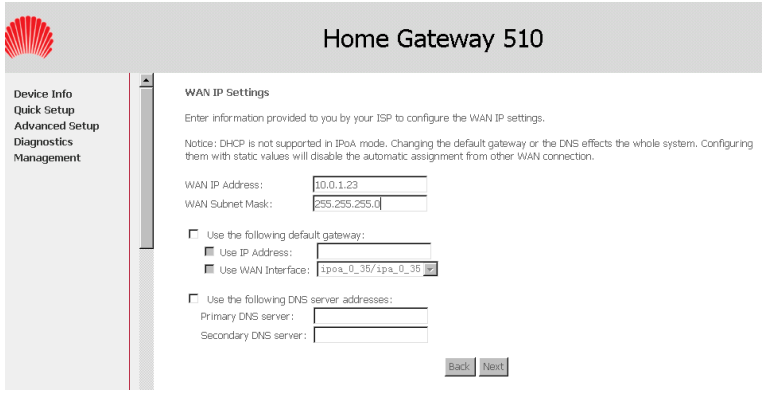


**Figure 3-11** Quick Setup– WAN IP Settings

1) Obtain the WAN IP/Subnet Mask, Default Gateway and DNS Server automatically or set them manually.The actual parameter is provided by your ISPs,you can contact them to get the detailed information..
2) Click<Next> to go to next step.

## IV. Enable NAT, IGMP Multicast, and WAN Service

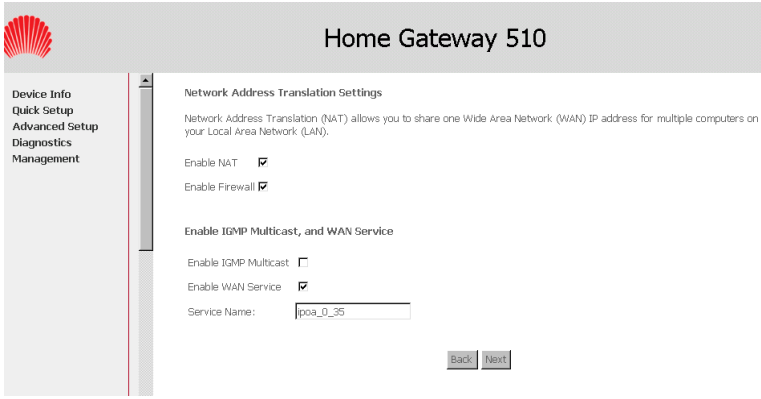


**Figure 3-12** Quick Setup – IPoA – NAT, IGMP Multicast, WAN service

1) Check Enable/Disable NAT and Firewall functions.
2) Use Advanced Setup/Firewall to assign filter rules.
3) Check Enable/Disable IGMP Multicast, and WAN Service.
4) Click<Next> to go to next step.

## V. Configure LAN Service

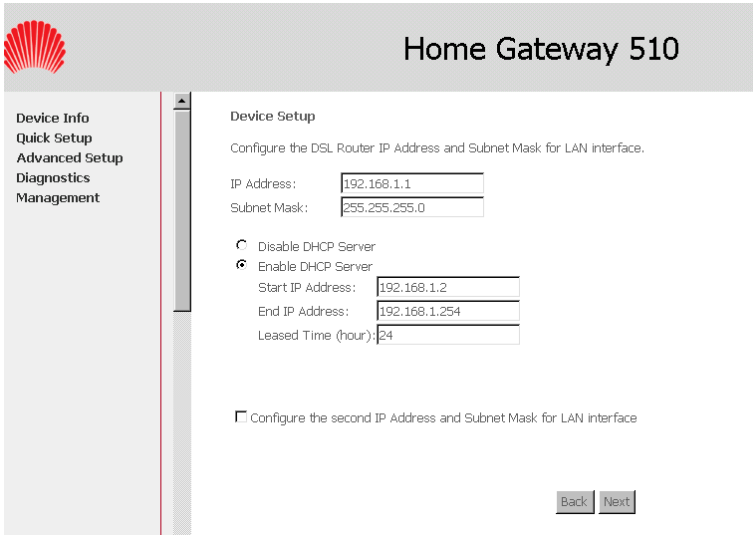


**Figure 3-13** Quick Setup – Device Setup

1) Enter the IP (LAN IP, default 192.168.1.1) address and Subnet Mask (default 255.255.255.0) .
2) Select Disable/Enable DHCP Server, if enable DHCP Server , configure the DHCP server parameters.If select Configure the second IP Address and Subnet Mask for LAN interface,configure related settings for that mode.
3) Click<Next> to go to next step.

### VI. WAN Setup – Summary

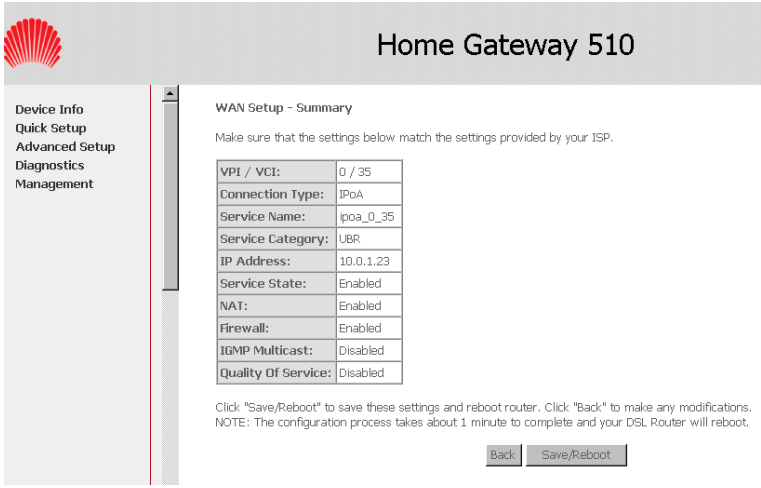


**Figure 3-14** Quick Setup – WAN Setup – Summary

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISPs, and then Click<Save/Reboot> to complete the configuration procedure.

## 3.3.3 Configuring Bridge

Click<Quick Setup> in the left frame, and follow the steps below to create a Bridging connection.

Follow the steps listed below to configure.

| Stage | Description | See in |
|---|---|---|
| 1 | Configure ATM PVC | 3.3.3 I. |
| 2 | Select Connection type | 3.3.3 II. |

| Stage | Description | See in |
|---|---|---|
| 3 | Configure WAN service | 3.3.3 III. |
| 4 | Configure IP Address | 3.3.3 IV. |
| 5 | WAN setup-Summary | 3.3.3 V. |

### I. Configure ATM PVC

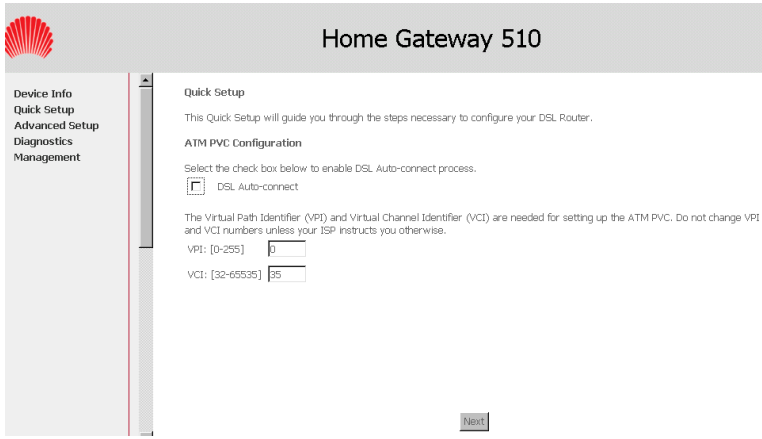


**Figure 3-15** Quick Setup – ATM PVC Configuration

1) Enter the VPI/VCI values. The actual parameter is provided by your ISPs,you can contact them to get the detailed information..
2) Click<Next> to go to next step.

## II. Select Connection Type

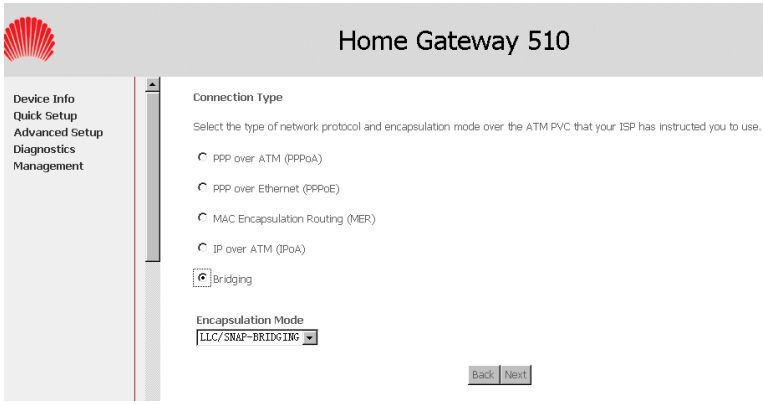


**Figure 3-16** Quick Setup – Connection Type and Encapsulation Mode

1) Select “Bridging”, and the “Encapsulation Mode”. The actual parameter is provided by your ISPs,you can contact them to get the detailed information..
2) Click<Next> to go to next step.

### III. Configure WAN Service

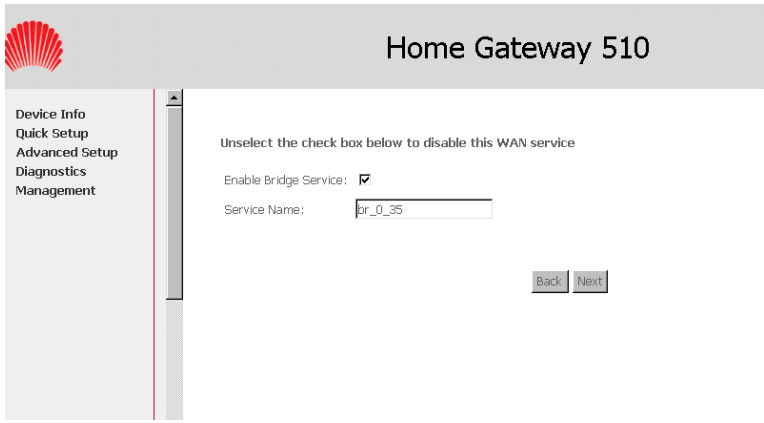


**Figure 3-17** Quick Setup – WAN Service

1) Enter a service name (default setting is br_0_33) and check the box to enable this WAN service.
2) Click<Next> to go to next step.

## IV. Configure IP Address

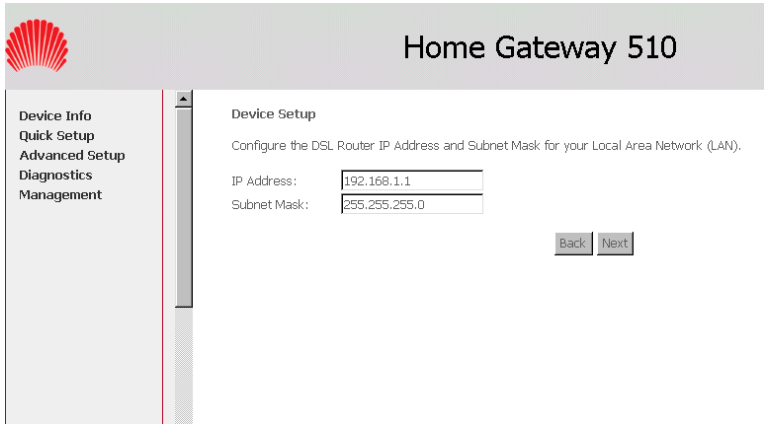


**Figure 3-18** Quick Setup – Device Setup

1) Enter the LAN IP (default 192.168.1.1) address and Subnet Mask (default 255.255.255.0).
2) Click<Next> to go to next step.

**V. WAN Setup – Summery**

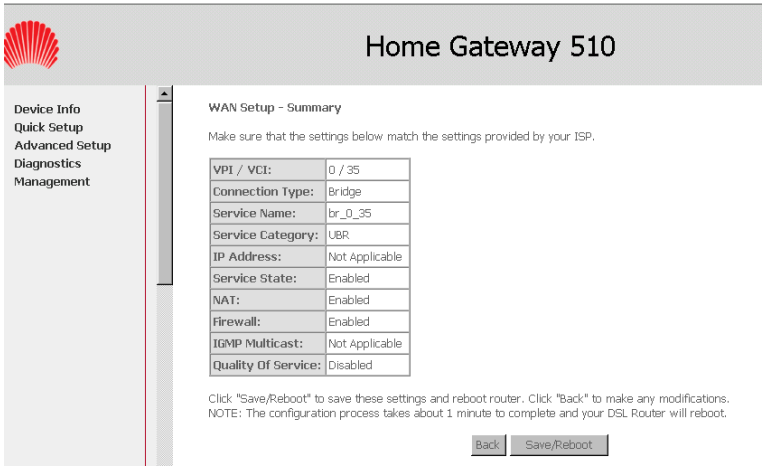


**Figure 3-19** Quick Setup – WAN Setup – Summary

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISPS, and then Click<Save/Reboot> to complete the configuration procedure.

## 3.3.4 Configuring MER

Click<Quick Setup> in the left frame, and follow the steps below to create a MAC Encapsulation Routing (MER) connection.

Follow the steps listed below to configure.

| Stage | Description | See in |
|---|---|---|
| 1 | Configure ATM PVC | 3.3.4 I. |

| Stage | Description | See in |
|---|---|---|
| 2 | Configure Connection type and Encapsulation Mode | 3.3.4 II. |
| 3 | Configure WAN IP settings | 3.3.4 III. |
| 4 | Enable NAT, IGMP Multicast, and WAN service | 3.3.4 IV. |
| 5 | Configure LAN Service | 3.3.4 V. |
| 6 | WAN setup-summary | 3.3.4 VI. |

### I. Configure ATM PVC

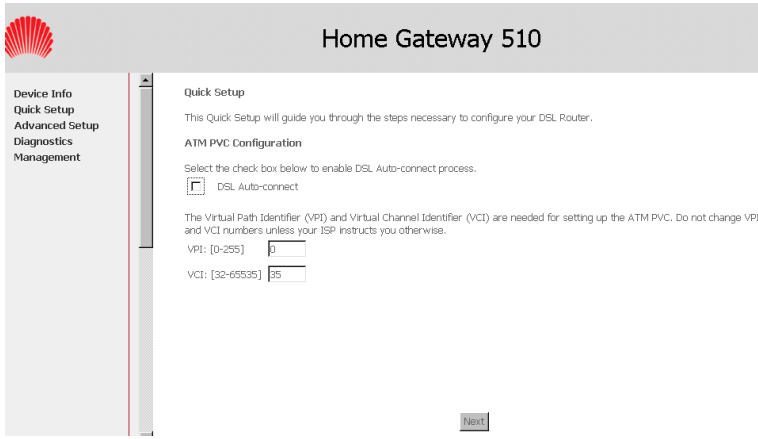


**Figure 3-20** Quick Setup – ATM PVC Configuration

1) Enter the VPI/VCI values. The actual parameter is provided by your ISPs,you can contact them to get the detailed information..
2) Click<Next> to go to next step.

### II. Configure Connection Type and Encapsulation Mode

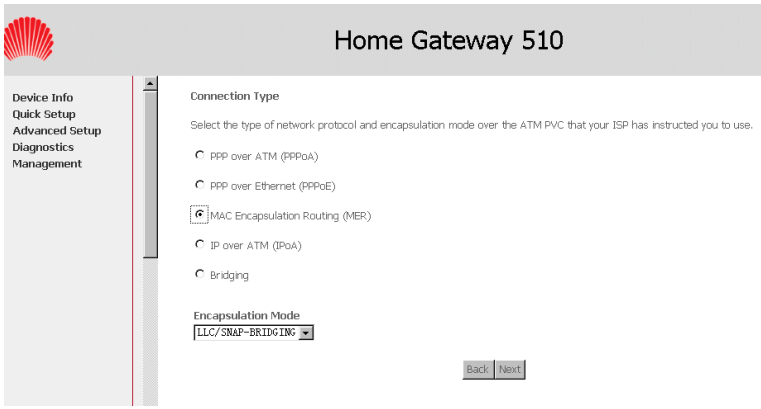


**Figure 3-21** Quick Setup – Connection Type and Encapsulation Mode

1) Select “MAC Encapsulation Routing ” and the “Encapsulation Mode”. The actual parameter is provided by your ISPs,you can contact them to get the detailed information..
2) Click<Next> to go to next step.

### III. Configure WAN IP Settings

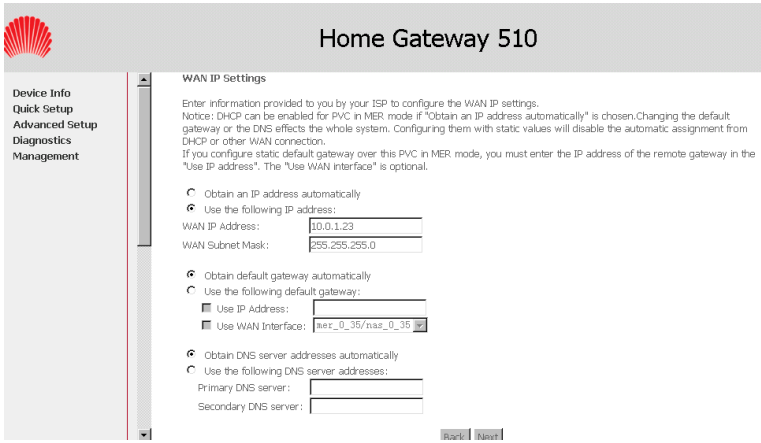


**Figure 3-22** Quick Setup – WAN IP Settings

1) Obtained automatically or set manually the WAN IP/Subnet Mask, Default Gateway and DNS Server.
2) Click<Next> to go to next step.

### IV. Enable NAT, IGMP Multicast, and WAN service

Refer to “3.3.2 IV. Enable NAT, IGMP Multicast, and WAN Service“.

### V. Configure LAN Service

Set device IP(LAN IP) and Subnet Mask, and DHCP related items. Refer to “3.3.2 V. Configure LAN Service”.

**VI. WAN Setup – Summery**

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISPS, and then Click<Save/Reboot> to complete the configuration procedure. Refer to “3.3.2 VI. WAN Setup – Summary”.

## 3.3.5 Configuring PPPoA

Click<Quick Setup> in the left frame, and follow the steps below to create a PPPoA connection. The following setting steps are all the same as PPPoE steps.

Follow the steps listed below to configure.

| Stage | Description | See in |
|---|---|---|
| 1 | Configure ATM PVC | I. |
| 2 | Select Connection type | II. |
| 3 | Configure PPP username and password | III. |
| 4 | Enable IGMP Multicast and WAN service | IV. |
| 5 | Configure LAN Service | V. |
| 6 | WAN setup-summary | VI. |

**I. Configure ATM PVC**

Enter the VPI/VCI values.

Refer to “3.3.1 I. Configure ATM PVC”.

**II. Select Connection Type**

Select “PPP over ATM (PPPoA)”.

Refer to “3.3.1 II. Select Connection Type and Encapsulation Mode”.

**III. Configure PPP Username and Password**

Enter PPP Username, PPP Password, and select “Authentication Method” (AUTO/PAP/CHAP/MSCHAP). The actual parameter is provided by your ISPs,you can contact them to get the detailed information.

Refer to "3.3.1 III. Configure PPP Username and Password”.

**IV. Enable IGMP Multicast and WAN service configuration**

Refer to “3.3.1 IV. Enable IGMP Multicast and WAN service”.

**V. Configure LAN Service**

Set device IP (LAN IP) and Subnet Mask, and DHCP related items.

Refer to “3.3.1 V. Configure LAN Service”.

**VI. WAN Setup – Summery**

The last page gives a summary of previous steps. Make sure that the settings match the settings provided by ISPS, and then Click<Save/Reboot> to complete the configuration procedure. Refer to “3.3.1 VI. WAN Setup – Summery”.

# 3.4 Advanced Setup

Advanced Setup allows system administrator to configure the following:

- WAN
- LAN
- NAT
- Security
- Routing
- DNS
- DSL

## 3.4.1 Configuring WAN

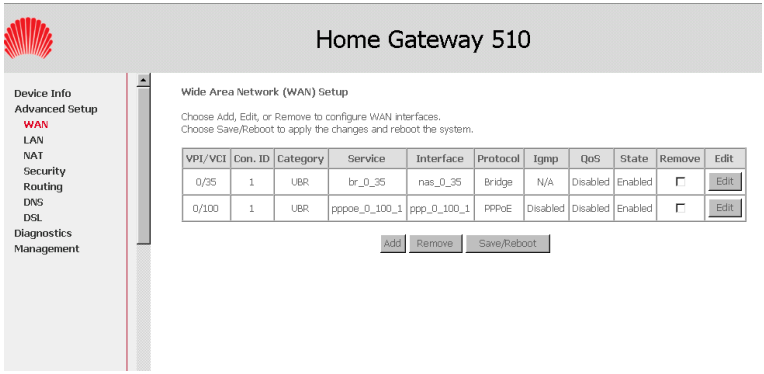


**Figure 3-23** Advanced Setup – WAN

This page shows the current existing WAN interfaces in the system. You can choose Add, Edit, or Remove to configure WAN interfaces. For details about Add and Edit procedure,refer to" 3.3 Configuring the HG510".

## 3.4.2 Configuring LAN

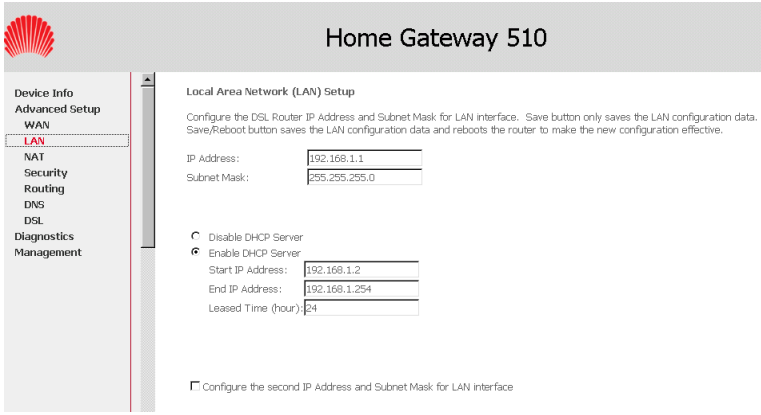


**Figure 3-24** Advanced Setup – LAN

Enter the IP address and Subnet Mask, enable/ disable DHCP Server.

Configure the second IP Address and Subnet Mask for LAN interface.

## 3.4.3 Configuring NAT

NAT settings include Virtual Servers, Port Triggering, and DMZ Host function settings.

## I. Virtual Servers

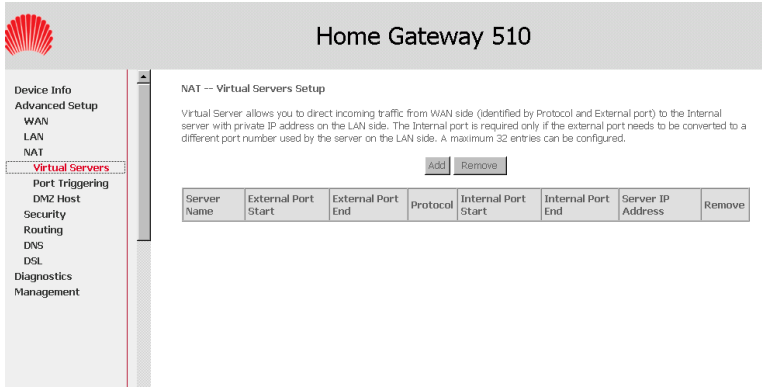


**Figure 3-25** Advanced Setup – NAT – Virtual Servers

Virtual Server allows you to direct incoming traffic from WAN side (identified by Protocol and External port) to the internal server with private IP address on the LAN side.

The internal port is required only if the external port needs to be converted to a different port number used by the server on the LAN side.

A maximum of 32 entries can be configured.

Click <Add>, select the service you need for this server, then enter the external/internal port and protocol rules(system will show you default configuration for this service). Click <Save/Apply> to finish and apply the new setting.

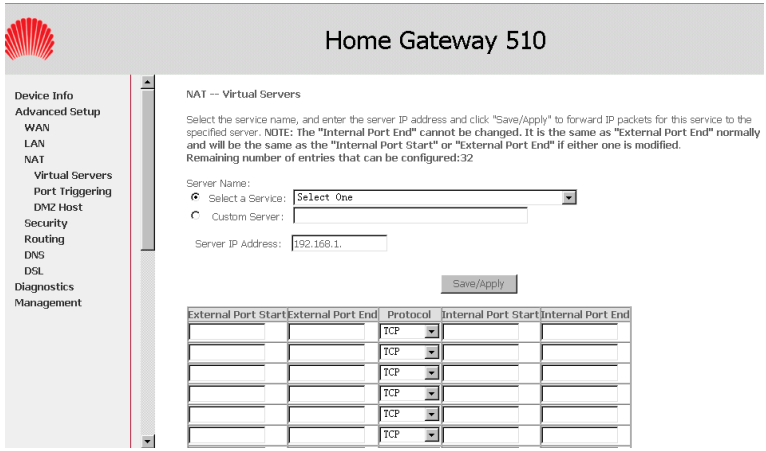


**Figure 3-26** Advanced Setup – NAT – Add new Virtual Server

## II. Port Triggering

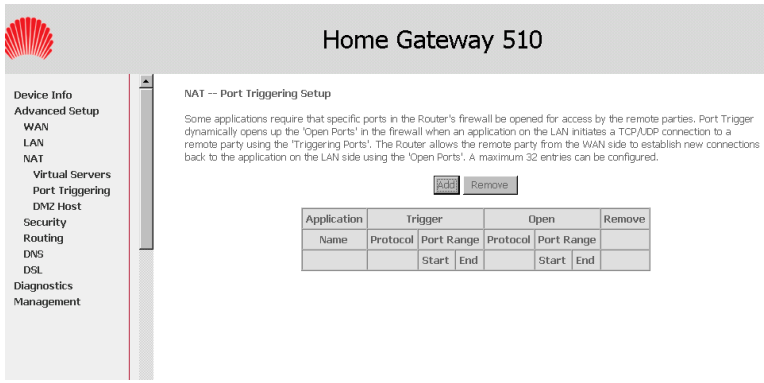


**Figure 3-27** Advanced Setup – NAT – Port Triggering

Some applications require that specific ports in the Router's firewall shall be opened for access by the remote parties.

Port Trigger dynamically opens up the “Open Ports” in the firewall when an application on the LAN initiates a TCP/UDP connection to a remote party using the “Triggering Ports”.

The Router allows the remote party from the WAN side to establish new connections back to the application on the LAN side using the “Open Ports”.

A maximum of 32 entries can be configured.

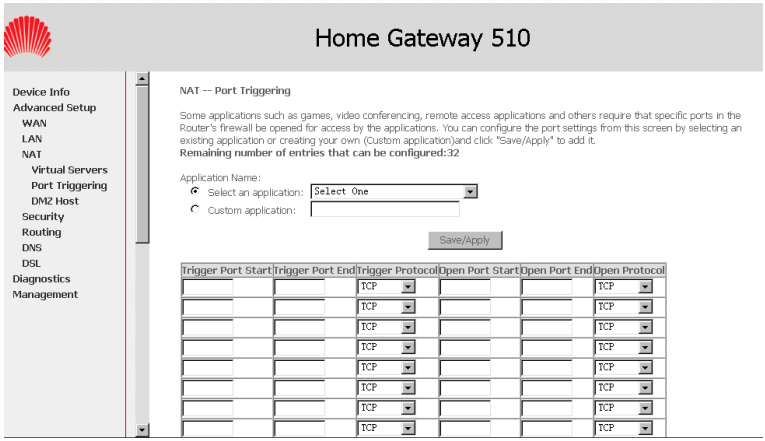


**Figure 3-28** Advanced Setup – NAT – Add new Port Triggering

Click<Add>, select the application you need, then enter the trigger/open port and protocol rules(system will show you the default configuration for this application). Click <Save/Apply> to finish and apply the new setting.

### III. DMZ Host

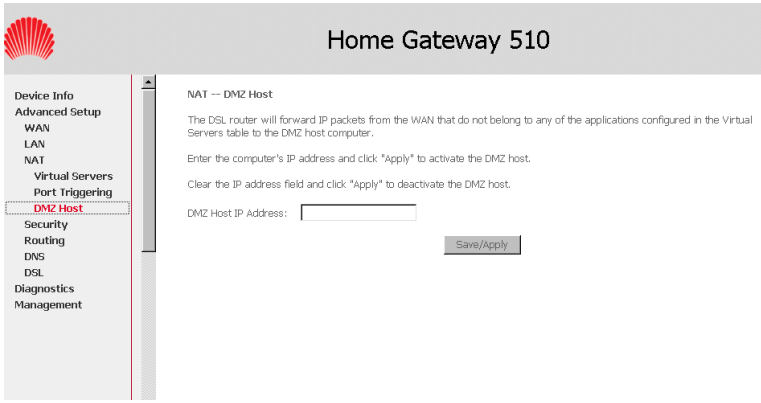


**Figure 3-29** Advanced Setup – NAT – DMZ Host

The DSL router will forward IP packets from the WAN that do not belong to any of the applications configured in the Virtual Servers table to the DMZ host computer.

1) Enter the computer's IP address and click <Save/Apply> to activate the DMZ host.
2) Clear the IP address field and click <Save/Apply> to deactivate the DMZ host.

## 3.4.4 Configuring Security

Two functions are supported in Security, Outgoing IP Filtering and Incoming IP Filtering.

## I. Outgoing IP Filtering

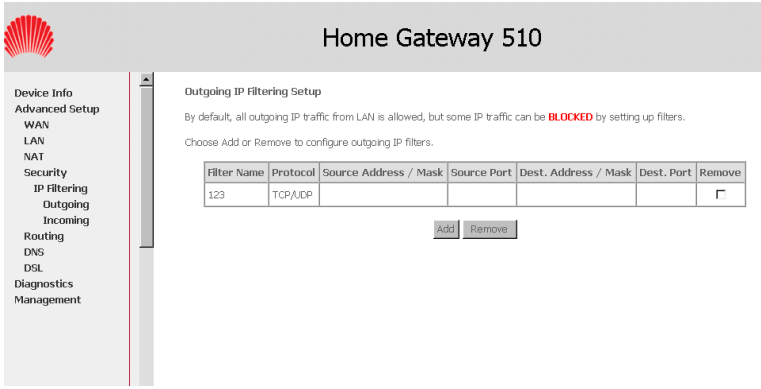


**Figure 3-30** Advanced Setup – Firewall – Outgoing IP Filtering Setup

By default, all outgoing IP traffic from LAN is allowed, but some IP traffic can be blocked by setting up filters.

Click<Add> or< Remove> to configure outgoing IP filters.

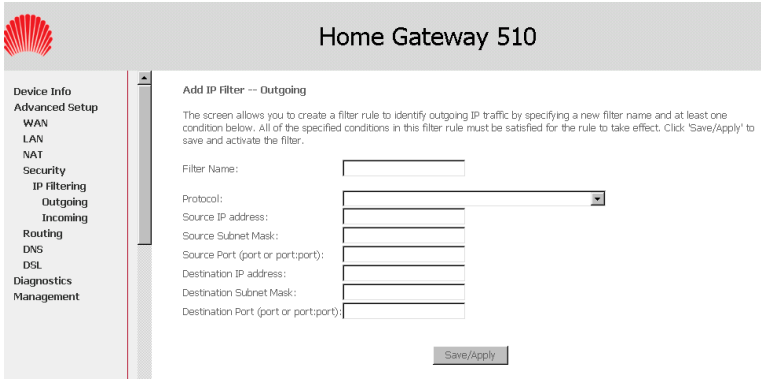


**Figure 3-31** Advanced Setup – Firewall – Add new Outgoing IP Filter

Click<Add> to create a filter to identify the outgoing IP traffic by specifying at least one condition below. If multiple conditions are specified, all of them take effect

### II. Incoming IP Filtering

By default, all incoming IP traffic from the WAN is blocked when the firewall is enabled. However, some IP traffic can be accepted by setting up filters.

Refer to “3.4.4 I. Outgoing IP Filtering”, and follow the same principle to add a new filter rule.

### III. MAC Filtering

MAC Filtering is only effective on ATM PVCs configured in Bridge mode. FORWARD means that all MAC layer frames will be forwarded except those matching with any of the specified rules in the following table.

BLOCKED means that all MAC layer frames will be blocked except those matching with any of the specified rules in the following table.

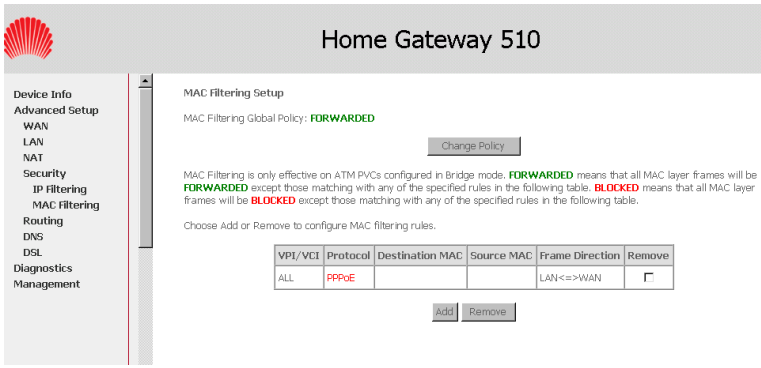


**Figure 3-32** Advanced Setup – Firewall – MAC Filtering Setup

Click<Add >to create a filter to identify the MAC layer frames by specifying at least one condition below. If multiple conditions are specified, all of them take effect.

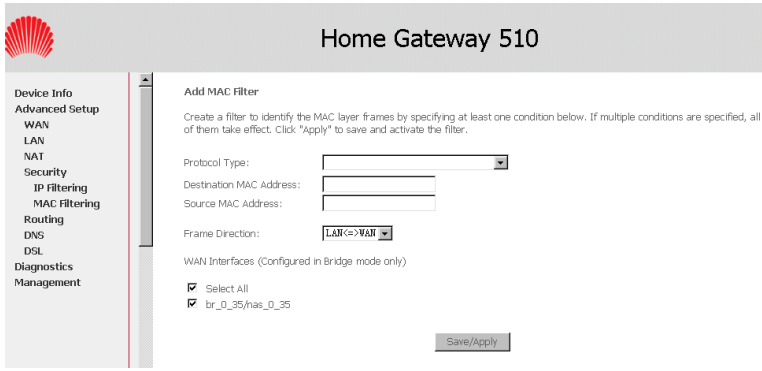


**Figure 3-33** Advanced Setup – Firewall – Add new MAC Filter

## 3.4.5 Configuring Routing

Three options related to routing information are included.

### I. Default Gateway

If Enable Automatic Assigned Default Gateway checkbox is selected, this router will accept the first received default gateway assignment from one of the PPPoA, PPPoE or MER/DHCP enabled PVC(s).

If the checkbox is not selected, enter the static default gateway AND/OR a WAN interface.

Click <Save/Apply> to save it.

**Note:**

To change the Automatic Assigned Default Gateway from unselected to selected, You need to reboot the router to get the automatic assigned default gateway.

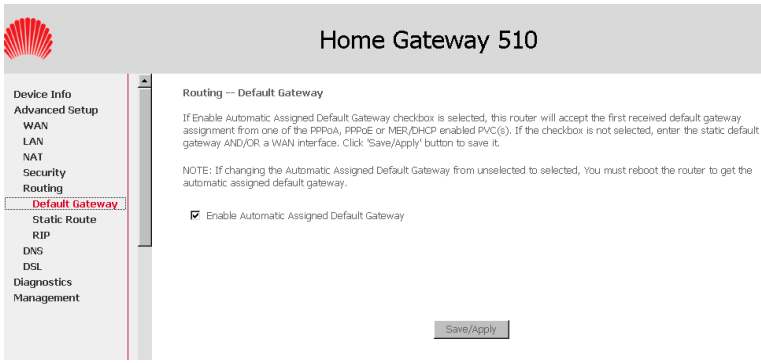


**Figure 3-34** Advanced Setup – Routing – Default Gateway

## II. Static Route Setup

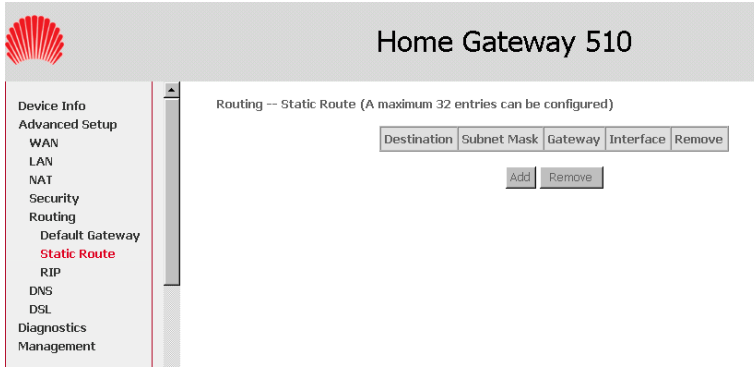


**Figure 3-35** Advanced Setup – Routing – Static Route

Click<Add> to create a new Static Route.

Enter the destination network address, subnet mask, gateway AND/OR available WAN interface and click <Save/Apply> to add the entry to the routing table.

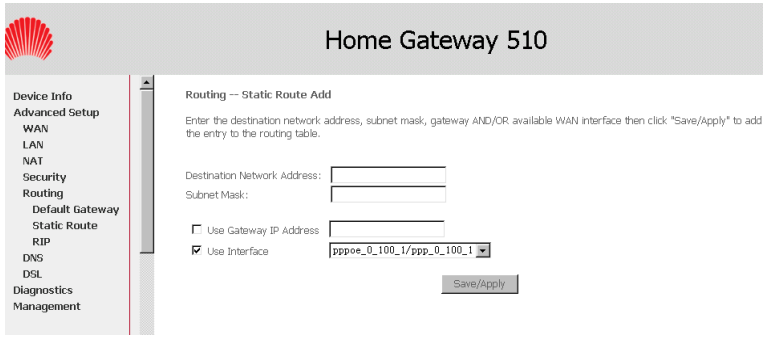


**Figure 3-36** Advanced Setup – Routing – Add new Static Route

## III. RIP Setup

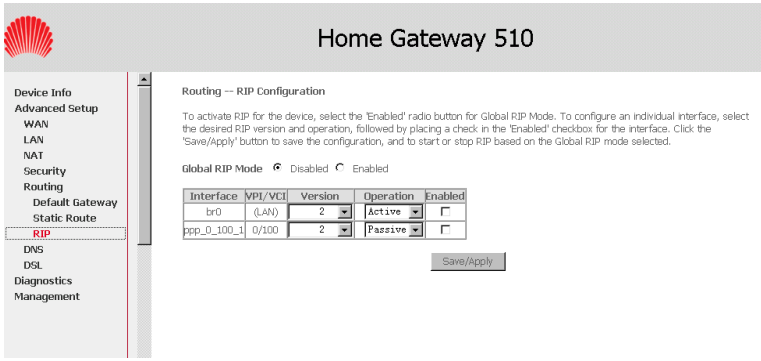


**Figure 3-37** Advanced Setup – Routing – RIP

To activate RIP for the device, select the “Enabled” radio for Global RIP Mode.

To configure an individual interface, select the desired RIP version and operation, followed by placing a check in the “Enabled” checkbox for the interface.

Click the <Save/Apply> to save the configuration, and to start or stop RIP based on the Global RIP mode selected.

## 3.4.6 Configuring DNS Server

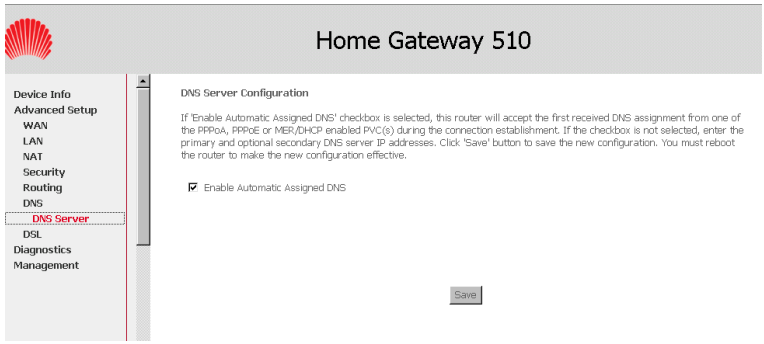


**Figure 3-38** Advanced Setup – DNS Server

If Enable Automatic Assigned DNS checkbox is selected, this router will accept the first received DNS assignment from one of the PPPoA, PPPoE or MER/DHCP enabled PVC(s) during the connection establishment.

If the checkbox is not selected, enter the primary and optional secondary DNS server IP addresses.

Click <Save> to save it. You need to reboot the router to make the new configuration effective.

### 3.4.7 Configuring DSL

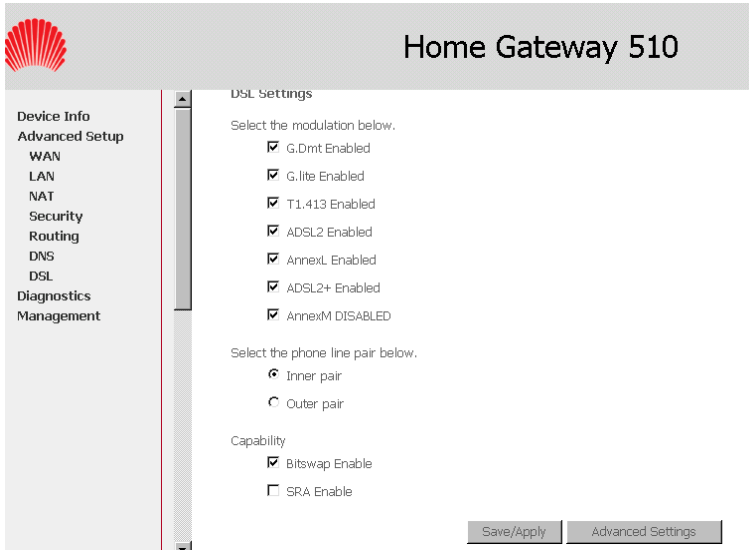


**Figure 3-39** Advanced Setup – DNS Server

This page allows you to select the DSL modulation support, telephone cable pair setting, and DSL capability.

DSL knowledge is required to configure these settings. Consult your ISPs and make sure that the settings match the settings provided by it.

## 3.5 Configuring Diagnostics

This page allows users to test the Ethernet port connection, DSL port connection, and connection to the Internet Service Provider.

If a test displays a failure status, click <Test> again to make sure the failure status is consistent.

If the test continues to fail, click <Help> to follow the troubleshooting procedure.

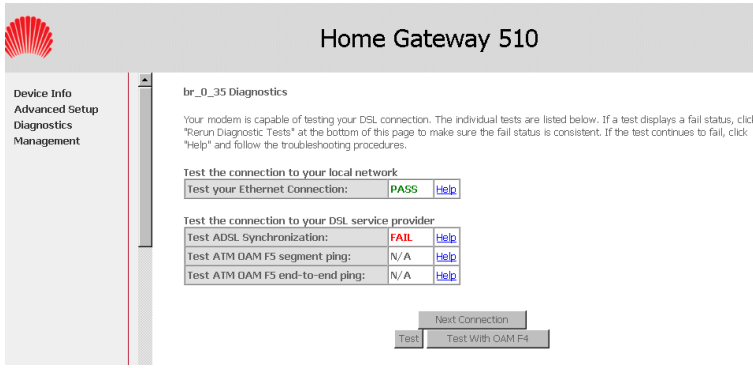


**Figure 3-40** Diagnostics

## 3.6 Management

The system administrator can carry out the following functions to manage the configurations, events, SNMP information, user accounts, and software update of the HG510.

- Settings - Backup/Update Settings and Reset to Default
- System Log
- SNMP Agent
- Access Control – Services, IP addresses, and Passwords
- Update Software
- Save / Reboot

### 3.6.1 Configuring Backing up/Updating/Resetting HG510 Settings

System Administrator can back up, update and restore the HG510 settings here.

The settings can be saved from the HG510 to computer. The saved setting file can also be loaded from computer to the HG510.

These two functions can help the system administrator to manage large amount of the HG510 efficiently.

By restoring default settings you can set the HG510 with the factory default configuration.

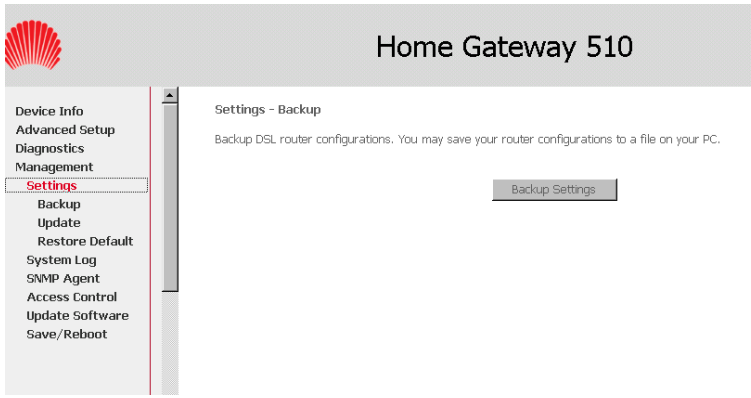


**Figure 3-41** Management-Setting-Backup

Click <Backup Settings> to save the settings to a file on the local computer.

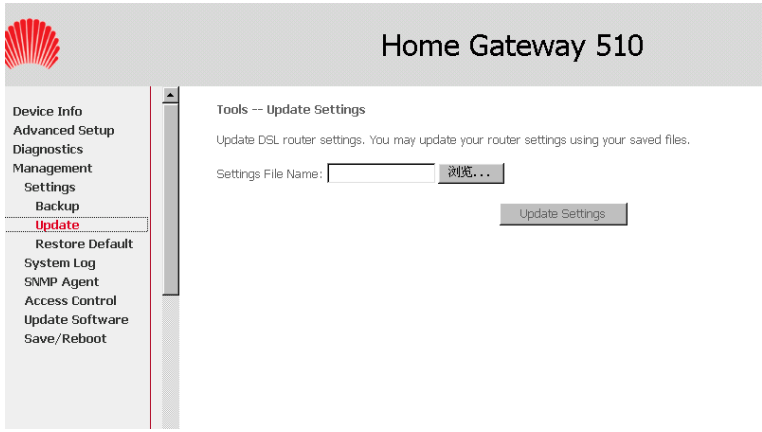


**Figure 3-42** Management-Setting-Update

Click <Browse> to locate the setting file saved on the Local computer.

Click <Update Settings> to apply the settings to the HG510 according to the setting file.

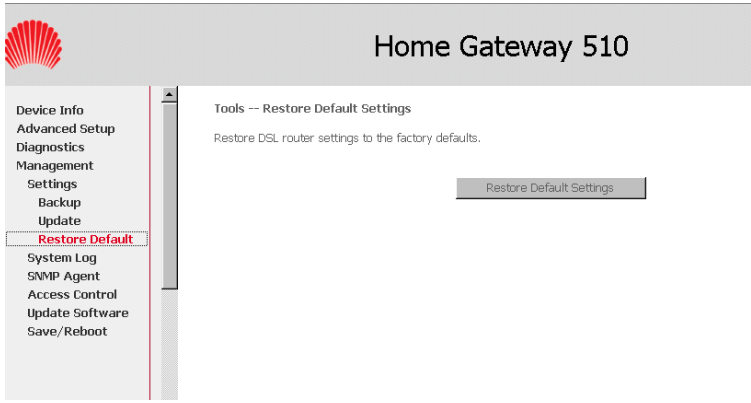


**Figure 3-43** Management-Setting-Restore Default

Click <Restore Default Settings> and then confirm the action.

## 3.6.2 Viewing System Log

This allows System Administrator to view the System Log and configure the System Log options.


**Figure 3-44** Management-System Log

Configure the System Log option.

There're 8 levels of Log Level and Display Level: Emergency, Alert, Critical, Error, Warning, Notice, Informational, and Debugging.

The Log Level implies that what log level is applied to the HG510 to keep the log.

The Display Level just shows the users the log message that they want to know.

As a result, Display Level is just a subset of the retrieved from the total log message which was logged according to the setting of the Log Level.

If the "Mode" is set to "Remote" or "Both", the log messages are sent to the specified UDP port of the specified log server.

## 3.6.3 Configuring SNMP Agent

System Administrator can enable or disable the embedded SNMP Agent here. SNMP Agent will allow a management application to retrieve statistics and status from the HG510.

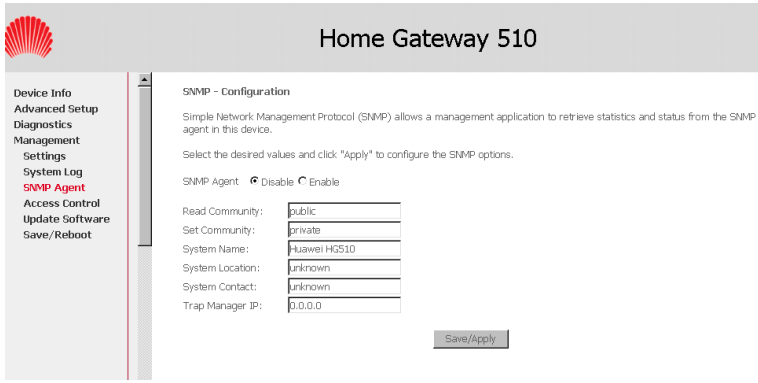


**Figure 3-45** Management-SNMP Agent

Enable or disable the SNMP Agent.

The detailed functions of the Read Community, Set Community, System Name, System Location, System Contact, Trap Manager IP are not be described here.

## 3.6.4 Configuring Access Control

The “Services” lists the service daemons (including FTP, HTTP, ICMP, SNMP, TELNET) that can be enabled for LAN side, WAN side, or both.

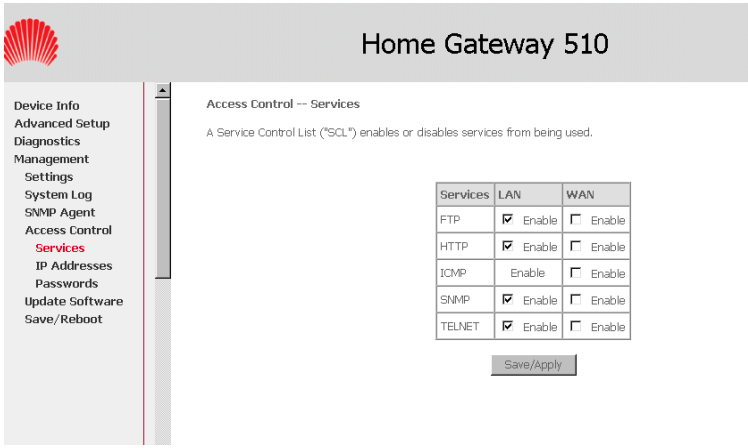


**Figure 3-46** Management-Access Control-Services

Enable the WAN and LAN for each service.

FTP, HTTP, ICMP, SNMP, TELNET are supported in the HG510.

The IP Address Access Control mode, if enabled, permits access to local management services from IP addresses contained in the Access Control List.

If the Access Control mode is disabled, the system will not validate IP addresses for incoming packets.

The services are the system applications listed in the Service Control List.

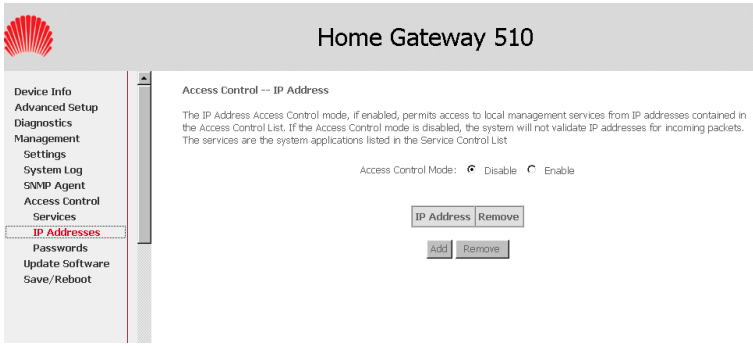


**Figure 3-47** Management-Access Control-IP Address

Click <Add> to add an IP address to the Access Control List.

Mark the Remove option of the specified IP address, then click <Remove> to remove the IP address from the ACL.

Access to your DSL router is controlled through three user accounts: admin, support, and user.

The user name "admin" has unrestricted access to change and view configuration of your DSL Router.

The user name "support" is used to allow an ISP technician to access your DSL Router for maintenance and to run diagnostics.

The user name "user" can access the DSL Router, view configuration settings and statistics, as well as, updating the router's software.

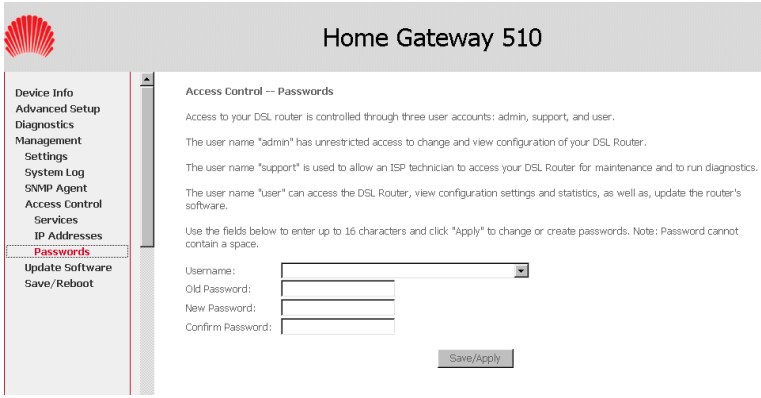


**Figure 3-48** Management-Access Control-Passwords

## 3.6.5 Updating Software

The new released software can be updated through HTTP.

Click <Browse> to locate the new software image file in the computer.

Then, click<Update Software> to proceed the software update.

The procedure takes about two minutes (do not power off the device during the period).

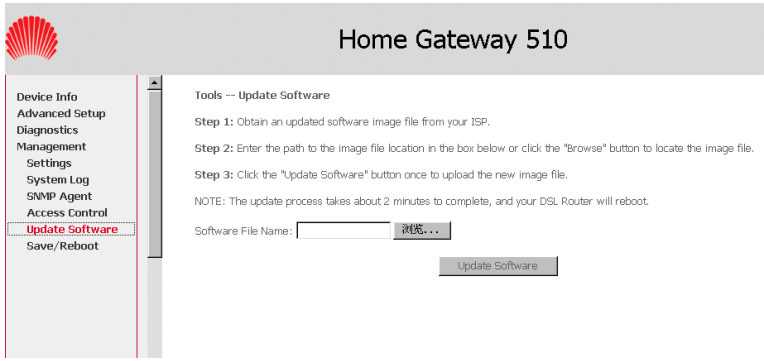


**Figure 3-49** Management-Update Software

## 3.6.6 Save / Reboot

Click <Save/Reboot> to reboot the HG510.

The HG510 will automatically save the configuration before reboot, so that modified settings will take effect after reboot.

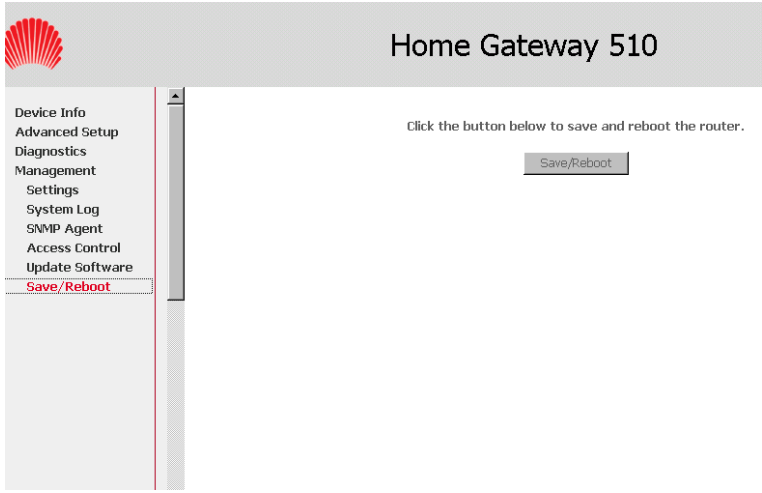


**Figure 3-50** Management-Save/Reboot

# Chapter 4 Appendix

| | |
|---|---|
| **A** | |
| ADSL | Asymmetric Digital Subscriber Line |
| ATM | Asynchronous Transfer Mode |
| **D** | |
| DHCP | Dynamic Host Configuration Protocol |
| DNS | Domain Name Server |
| DSLAM | Digital Subscriber Line Access Multiplex |
| **H** | |
| HTML | Hypertext Markup Language |
| **I** | |
| IP | Internet Protocols |
| IPoA | Internet Protocols Over ATM |
| ISP | Internet Service Provider |
| **L** | |
| LAN | Local Area Network |
| **M** | |
| MAC | Media Access Control |
| **N** | |
| NIC | Network Interface Card |

| | |
|---|---|
| **P** | |
| PPP | Point to Point Protocol |
| PPPoA | PPP over ATM |
| PPPoE | PPP over Ethernet |
| PVC | Permanent Virtual Connection |
| **R** | |
| RIP | Routing Information Protocol |
| **S** | |
| SNMP | Simple Network Management Protocol |
| **T** | |
| TCP | Transfer Control Protocol |
| **V** | |
| VCI | Virtual Channel Identifier |
| VPI | Virtual Path Identifier |
| **W** | |
| WAN | Wide Area Network |

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