H8951 3G SOHO Router

User Manual

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Manual Declaration

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CONTENTS

Chapter 1 About This Manual

This chapter briefly describes the function and role the this user manual has had, and gives the readers the information on how to read this user manual as the best guideline while Hongdian ®H8951 series products are installed and operated.

1. Purpose
2. Applicable scope
3. version information
4. Convention
5. Technical support
6. Acronyms and terms

1.1 Purpose

This user manual is developed mainly on the basis of H8951 V1.0, and is used as the guideline while Hongdian® H8951 series products are installed and tested.

1.2 Applicable scope

This user manual is applicable to those who have certain knowledge and skills on the computer communication network, electronic technology, and network device management and other relevant personnel that need to use Hongdian® H8951 Router.

Applicable product version: H8951 V1.0 version

1.3 Version information

Hongdian® H8951 Router may be adjusted functionally and updated technically from time to time according to the needs of the market and users. Meanwhile, the developers may not find out the incorrect content in this user manual in time due to various reasons. The above cases may cause change of the version of this user manual. The table below records the version information and revision reason of this user manual in different periods for the reader's reference.

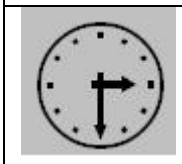
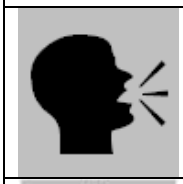
Table -1.1: Revision History

Version	Revised by	Involved dept.	Revised on	Description
V1.0.0	R&D Center		2008-12-23	First draft

1.4 Convention

For reading and using this user manual fast and conveniently, the following conventions are reached for some abbreviations, icons, notes, security warnings and tips that appear in this user manual:

Table -1.2: Convention Table

Item	Description	Note
H8951	Means Hongdian® H8951 GPRS/CDMA Router series products	Appears in the process after Chapter 2
H7000	Means Hongdian® Wireless DDN Communication System series products	Appears in the process after Chapter 2
	Means tips or experiences that can save time in the installation and testing process	Appears in the installation and testing process in this user manual
	Prompts the users or relevant readers to remember some important information or parameters descriptions	Appears in the use and operation process in the this user manual
	Warning: e.g. improper temperature, unstable voltage etc.	Generally appears in the product introduction and installation description process in this user manual
	Caution: informs the users of the invalid or improper operation in the operation and testing process.	Appears in the description process beyond Chapter 1 in user manual

1.5 Technical support

To help the users fast resolve the problem occurring in their operation process and obtain the correct solution of the problems on the hardware, operating system, installation and testing, we are available anytime in the following manner:

☎ Call service:

Tel (sales)	+86-755-88864288
Technical support:	+86-755-88864298
24Hours hotline	+86-13316996093
	+86-13672886484
Fax	+86-755-83404677
Post code	518048

✉ E-mail service:

Technical support:	support@hongdian.com
Service	service@hongdian.com

Website and BBS service:

Website:	www.hongdian.com
BBS:	http://www.mdtu.com/forum/default.asp

1.6 Acronym and term

In this user manual, the following acronyms and terms are used:

APN	Access Point Name
APP	Application
ATM	Asynchronous Transfer Mode
ATM	Auto Table Machine
AuC	Authentication Centre
BG	Border Gateway
BGP	Border Gateway Protocol
BSC	Base Station Controller
BSCC	Base Station Control Connection
BSS	Base Station System
BSSGP	BSS GPRS Protocol
BTS	Base Transceiver System
CDMA	Code Division Multiple Access
CDR	Call Detail Record
CGF	Charging Gateway Function
CSD	Circuit Switch Data
DDN	Digital Data Network
DDP	DTU DSC Protocol
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name System
DSC	Data Service Center
DTU	Data Terminal Unit
EGP	External/Exterior Gateway Protocol
EIGRP	External/Exterior Internet Group Routing Protocol
EMC	Electro Magnetic Compatibility
ESP	Electro Static Precautions

ETSI	European Telecommunications Standards Institute
GGSN	Gateway GPRS Support Node
GMSC	Gateway MSC
GPRS	General Packet Radio Service
GSM	Global System for Mobile Communications
GSN	GPRS Support Node
GTP	GPRS Tunneling Protocol
GTP-id	GTP Identity
HLR	Home Location Register
HSCSD	High Speed Circuit Switch Data
IGMP	Internet Group Management Protocol
IGRP	Internet Gateway Routing Protocol
IN	Intelligent Network
IP	Internet Protocol
IPv4	IP version 4
IPv6	IP version 6
IPSEC	IP Secure Protocol
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
L2TP	Layer 2 Tunneling Protocol
LA	Location Area
LLC	Logical Link Control
MAP	Mobile Application Part
MDNS	Mobile Domain Name System
MDTU	Mobile Data Terminal Unit
MIB	Management Information Base
MS	Mobile Station
MSC	Mobile Switching Center
MT	Mobile Terminal
MTBF	Mean Time Between Failure
MTTR	Mean Time To Recovery
N/A	Not Applicable
NAS	Network Access Server
NAT	Network Address Translation
NTP	Network Time Protocol
O&M	Operations & Maintenance
PAP	Password Authentication Protocol

PCF	Packet Control Function
PDP	Packet Data Protocol
PDN	Packet Data Network
PDSN	Packet Data Service Node
PLMN	Public Land Mobile Network
POS	Point of Sales
PTM-G	Point-to-Multipoint Group Call
PTM-M	Point-to-Multipoint Multicast
QoS	Quality of Service
RA	Routing Area
RADIUS	Remote Authentication Dial In User Service
RIP	Routing Information Protocol
RSC	Register Service Center
RTOS	Real Time Operating System
RTP	Real-time Transport Protocol
RTU	Remote Terminal Unit
RSVP	Resource reSerVation Protocol
SCADA	Supervisory Control and Data Acquisition
SGSN	Serving GPRS Support Node
SIM	Subscriber Identify Module
SMS	Short Message Service
SMSC	Short Message Service Center
SNMP	Simple Network Management Protocol
STK	SIM Tool Kits
TCP	Transmission Control Protocol
TDMA	Time Division Multiple Access
TMN	Telecommunication Managed Network
UDP	User Datagram Protocol
UIM	User Identify Module
UMTS	Universal Mobile Telecommunication System
USSD	Unstructured Supplementary Service Data
UTK	UIM Tool Kits
VLR	Visitor Location Register
WAN	Wide Area Network
WAP	Wireless Application Protocol
WDDN	Wireless Digital Data Network

CHAPTER 2 Product Introduction

2.1 Galaxy 3G overview

Combining with the third generation of mobile communication technology and WLAN technology, Galaxy 3G mobile network data communication terminal product is designed as a high-tech 3G product upon the needs of SoHo users. It can provide data communication service for these users at any time and in any place.

Galaxy H8951 3G SOHO Router is characterized with excellent transmission reliability and a wide range of applicability. It is the ideal choice for various sectors as a special data communication system.

2.1.1 Product appearance

The appearance, installation position and dimension of the router are shown below. In consideration of different application sites, the installation accessories are provided on both sides. You can put it on table directly without using these accessories; while in industry, finance, public utilities and other related application sites, it is generally required to fix it with the installation accessories to comply with the industrial application requirements.

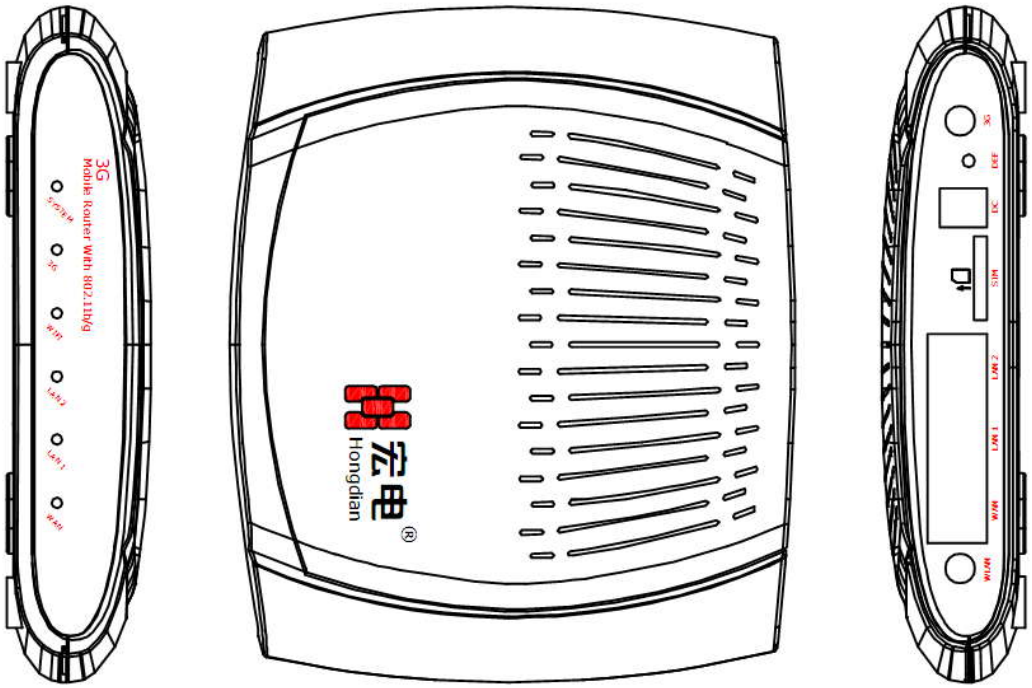


Fig. 2.1.1-1: H8951 Appearance

Panel introduction

Galaxy H8951 3G SOHO Router features black plastic shell on which there are indicators on its front panel as shown below:

Front panel

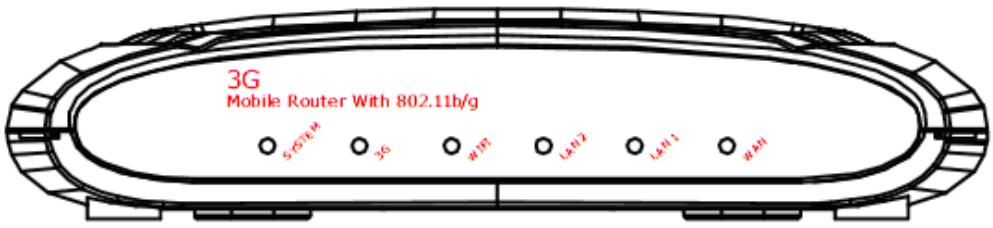


Fig. 2.1.1-2: Front Panel

The indicators on the front panel are described as the table below:

Indicator	Status Description
SYSTEM:	System status indicator. It is constantly on when the power supply is normal;
3G+:	Wireless Network Modem indicator. It flashes slowly under the normal working conditions;

WIFI:	WIFI working status indicator. It flashes slowly under the normal working conditions;
LAN1~2:	LAN port 1~LAN port 2 working status indicator. It is on under the normal network connection, otherwise is off. It flashes when the port receives/sends data;
WAN:	WAN port working status indicator. It is on under the normal network connection, otherwise is off. It flashes when the port receives/sends data.

Note: After the router is powered on, LAN1~LAN2 status changes in the following sequence: full on—full off—flash in turn—full on—full off.

Back panel interface

Galaxy H8951 3G SOHO Router's all interfaces are designed on the back panel as shown below:

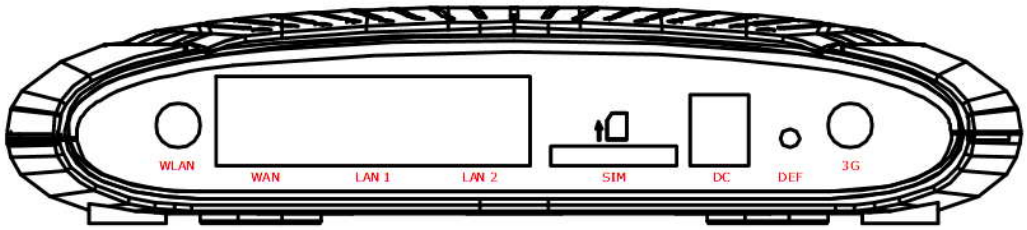


Fig. 2.1.1-3: Back Panel

The interfaces on the back panel are described as below:

- ANT: Antenna (SMA female) interface, match with standard WI-FI antenna;
- DC: DC power supply interface (generally +12VDC power supply. During power-on, please check whether the power supply voltage conforms to the requirements on router label);
- DEF: Reset button. Push DEF button for about 5s with sharp article like clip to make system reset. In this case, the system parameters reset to the factory default settings;
- RJ45: 10/100BaseT self-adaptive Ethernet interface, LAN port (2), WAN port (1);

2.1.2 Other fittings

For safe transportation purpose, Galaxy H8951 3G SOHO Router should be packaged properly. Pease keep the packaging materials well after the package is opened for future use in case of re-transportation.

Standard fittings

- Galaxy H8951 3G device 1 (packaged upon the order conditions)
- Wi-Fi antenna 1
- 3G antenna 1
- +12V power adapter 1
- User manual 1 (CD-ROM)
- Fast user guide 1
- Certificate of conformity and warranty card 1

Optional accessories

- 1.5m RJ45 cable 1

Check the amount of articles after open-package. For the specific amount, please refer to the user order contact.

2.1.3 Device installation

Note: Please don't install Galaxy H8951 3G SOHO Router while it is powered.

2.1.3.1 Environment requirements

The system can be used under the following conditions:

- Voltage: +12VDC
- Power consumption: 5W
- Max. working current : 350mA@+12VDC
- Idle status: 147mA@+12VDC
- Working temperature : 0~+50ºC
- Storage temperature : -20~+65ºC
- Relative humidity: 10%~95% (no condensation)

Galaxy H8951 3G SOHO Router can be placed in office, on wall or installed or fixed in any places, without special wiring and heat radiating requirements.

To ensure the long-term and stable operation of system, grounding measures and dust-proof measures should be taken on power supply, keep ventilation and a proper room temperature.

Caution:

1. This system cannot be used under severe condition, such as acid/alkali environment, strong magnetic field etc. In such environments, the normal operation of this system cannot be ensured. Any physical damage will not be included in the quality guarantee;

2. This product is a Class-A information product, which may cause radio interference in living environment when being used. In this case, the users are required to take some proper measures.

2.1.3.2 Wiring

RJ-45 - Ethernet interface

Standard 10/100BaseT Ethernet switch port, self-adaptive (hardware version>2.0)

DC - power supply interface, Galaxy H8951 3G router's power supply is generally +12VDC

ANT - antenna interface

The standard 5OΩ/SMA RF connector (female) is applied. In the environment of some industrial applications, the lightning protection measures should be taken. You can install the lightning protection device between this connector and antenna.

Note:

1. Keep this product away from any heating device;
2. Don't place this product in dusty or humid environment;
3. Keep it away from some possible interference sources such as metal wall, microwave oven etc;
4. To ensure that Wi-Fi network signal is received well, please pay attention to the position and the angle of antenna. Don't place antenna inside the shielded metal case.

2.2 Function and features

Galaxy series 3G mobile data communication terminal product features platform and modularization design. Upon the different demand from the users, the platform extension, modem combination and clipping are carried out to comply with various application demands of different clients. Combination of Broadcom hardware platform with Linux-based GOS (Galaxy Operation System) software platform is its core advantage.

The features of full-function Galaxy 3G mobile data communication terminal product include:

2.2.1 Hardware function

- BCM5354 processor, 2MB flash memory, 32MB memory
- LAN port X2
- WAN port X1
- Wi-Fi 802.11 b/g
- SYSTEM, 3G+, Wi-Fi, LAN1, LAN2 and WAN indicators
- Factory default configuration restoration button

2.2.2 Software function

- Internet access
  - Broadband network and private network access by WAN port
    - ✓ xDSL broadband network access by PPPoE dial
    - ✓ Private network access by static IP address
    - ✓ Dynamic access by DHCP Client
  - Connect to Mobile Network by Embedded Wireless Modem
    - ✓ Advanced Embedded Wireless Modem driver management
    - ✓ 2.5G+ (CDMA, GPRS, EDGE) wireless mobile network access
    - ✓ 3G+ (HSDPA/HSUPA, TD-SCDMA/HSDPA, EVDO etc.) wireless mobile network access
    - ✓ PPP automatic reconnection
  - Internet access management
    - ✓ Fast switch between cabled broadband network and wireless mobile network
- LAN networking
  - Wireless LAN networking by Wi-Fi 802.11 b/g
    - ✓ Wi-Fi wireless access service (Wi-Fi AP)
    - ✓ Provide wireless encryption methods like WEP, WPA-TKIP, WPA-AES, WPA-TKIP+AES, WPA2-TKIP, WPA2-AES, WPA2-TKIP+AES, and support SSID broadcast control
    - ✓ WLAN status information display
  - Cabled LAN networking by LAN port
    - ✓ Router host name setting
    - ✓ Router IP address and subnet management
    - ✓ LAN port status information display
  - LAN management
    - ✓ Realize bridging between LAN interface and Wi-Fi interface, and realize uniform management of cabled and wireless LANs by means of DHCP Server function
    - ✓ Bind IP address and MAC address by means of static DHCP function
- Packet forward function
  - Static router management

- ✓ Add/delete static router
- ✓ Inquire system router's route table in real-time manner

NAT/NAPT

- ✓ One-to-one address (IP address/port) mapping management
- ✓ Multi-to-one address (IP address /port) mapping management
- ✓ Free access to host from Internet and Intranet by DMZ host function

Route mode

- ✓ IP Masqurade (IP address masquerading)
- ✓ Shared Internet assess

- Packet filter function

Address filter

- ✓ IP address filter rule
- ✓ Port filter rule
- ✓ MAC address filter (access control based on MAC address)

Protocol filter

- ✓ TCP, UDP, ICMP filter

Enable/disable Ping function

Enable/disable WEB remote access function

- Service function

DDNS

- ✓ Well-known domestic servers like 88ip, 3322
- ✓ Well-known oversea servers like Zoneedit, Dnsexit, Changeip, Dyndns etc.

- Router management function

WEB configuration management interface

- ✓ Fast configuration wizard
- ✓ Basic configuration
- ✓ Login verification, online simple help documentation

System log management

- ✓ Local log classification and view
- ✓ Remote log forward

Login account management

Upgrade management

- ✓ WEB upgrade management
- ✓ PC tools upgrade

- parameters configuration backup and restoration function
- Reboot function
- Time management
  - ✓ Manual time setting
  - ✓ NTP synchronization
- Running status information management

2.3 System application

Galaxy H8951 3G SOHO Router has two fast and self-adaptive 10M/100M Ethernet switch ports (LAN port), and one fast 10/100M Ethernet WAN port. Also, it can provide Wi-Fi access, which is convenient for users to access Internet. You may find H8951 has diversified applications. For example: SoHo application.

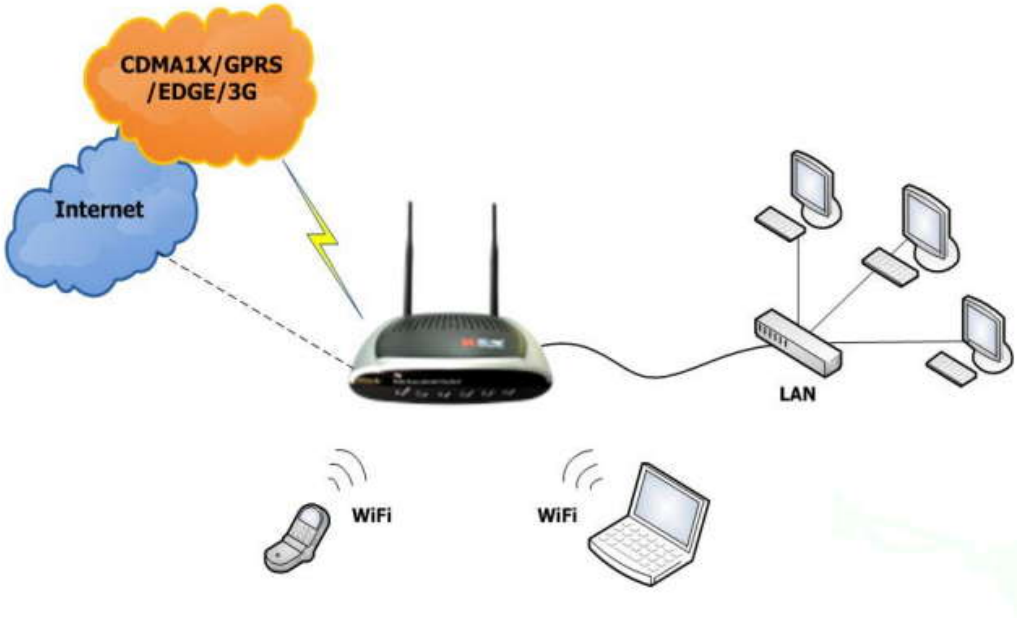


Fig. 2.3: SoHo Application

Chapter 3 Router Configuration

3.1 Overview

Galaxy H8951 3G SOHO Router features built-in WEB interface configuration, management and debugging tools. Before using Galaxy H8951 3G SOHO Router, users should configure relate parameters; during using, you can freely change related parameters and perform software upgrade and simple test etc.

When you enter Galaxy H8951 3G SOHO Router built-in WEB configuration interface, you can set and manage its parameters as described below.

3.2 Connection settings

3.2.1 Environment requirements

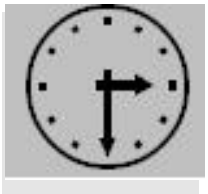
When you want to use Galaxy H8951 3G SOHO Router, a computer and a UIM/SIM card should be prepared according to the following requirements:

- Computer with Ethernet card and TCP/IP protocol

  1. IE6.0 or higher
  2. Support 1024x768 resolution display

3.2.2 Connection method

For your convenient use, we recommend you plug your SIM/UIM card into H8951's card slot before your configuration. Then power on H8951 and begin your configuration. Upon the actual conditions, connect and configure Galaxy H8951 3G SOHO Router by the following two methods:



Note:

You can configure H8951without any card, but you may not connect to the internet until you insert a SIM/UIM card.

Warning:

Never pull or plug your SIM/UIM card when H8951 is power on. Your card may be damaged.

3.2.2.1 Ethernet direct connection method

Using Ethernet cable with RJ-45 connector, directly connect the computer to one of LAN ports on Galaxy H8951 3G SOHO Router as shown in the figure below:

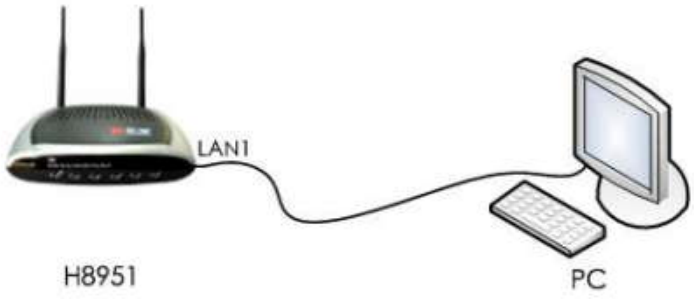


Fig. 3.2.2.1: Wiring Method 1

Note: Galaxy H8951 3G SOHO Router's LAN port is designed with self-adaptive cross connect technology, so the straight-through cable or cross cable can be both applied to connect devices for communication.

3.2.2.2 LAN connection method

When it is required to connect Galaxy H8951 3G SOHO Router to local network through HUB or switch, connect the hub or switch out-link port with any one of its switch ports as shown in the figure below.

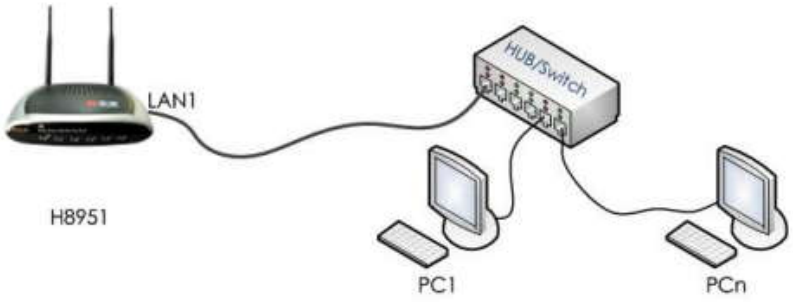


Fig. 3.2.2.2: Wiring Method 2

3.2.3 Network configuration

After the configuration environment is connected well as one of the connection methods, the local configuration computer IP address and other parameters should be set. Take the LAN connection method as an example to describe the network configuration procedure shown as below.

1. Configuration computer setting

First, enter the computer control panel of the selected computer, find "Network Connections" icon and double click it to enter, select "Local Area Connection"

corresponding to the network card on this page. Refer to the figure below.

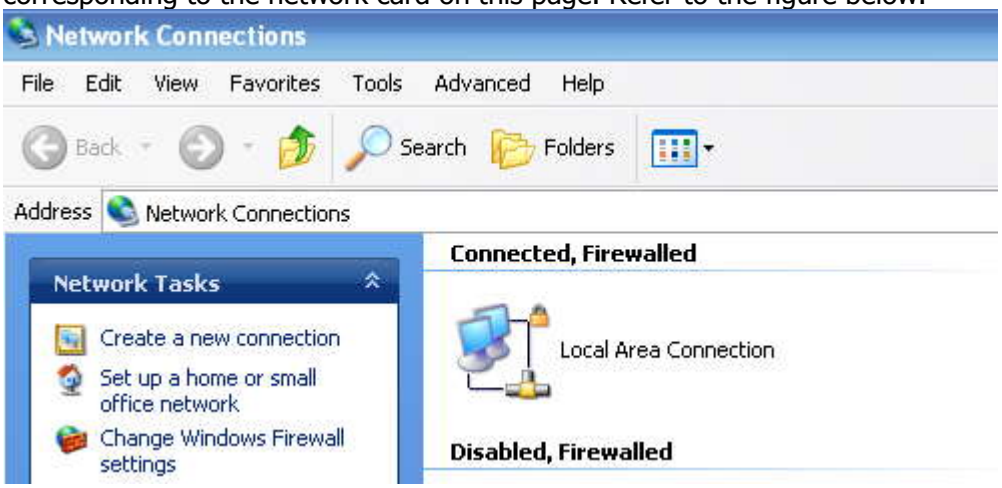


Fig. 3.2.3-1: Computer Local Connection Configuration

Enter (double click or right click) the "Local Area Connection"→"Property (R)" and enter the interface shown in the figure below:

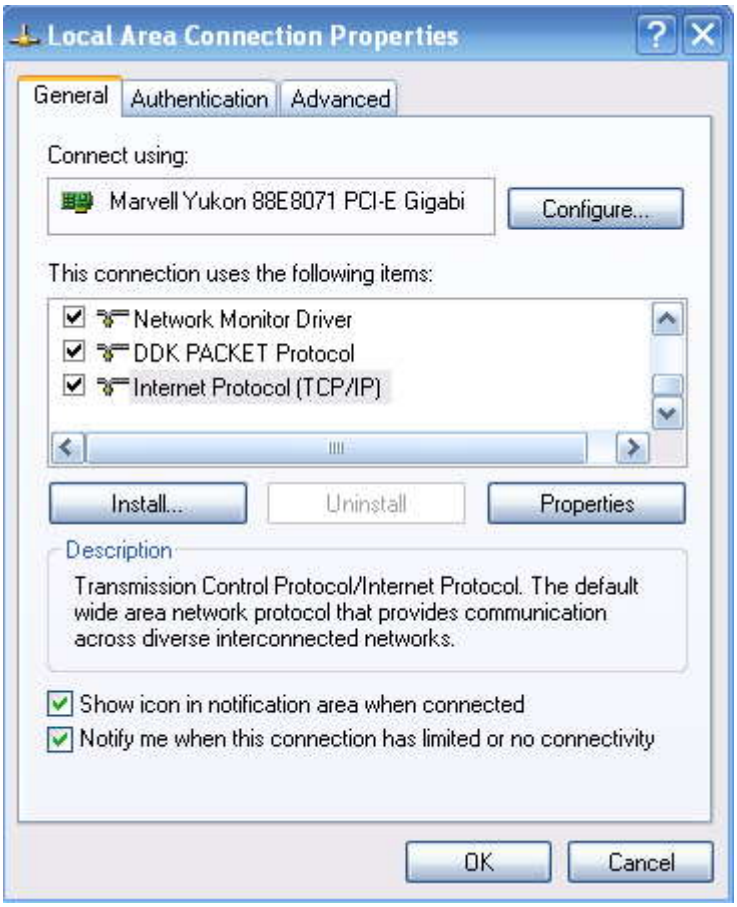


Fig. 3.2.3-2: Computer Local Connection Configuration

Select the "Internet Protocol (TCP/IP)", click the "Properties", and enter the interface as below:

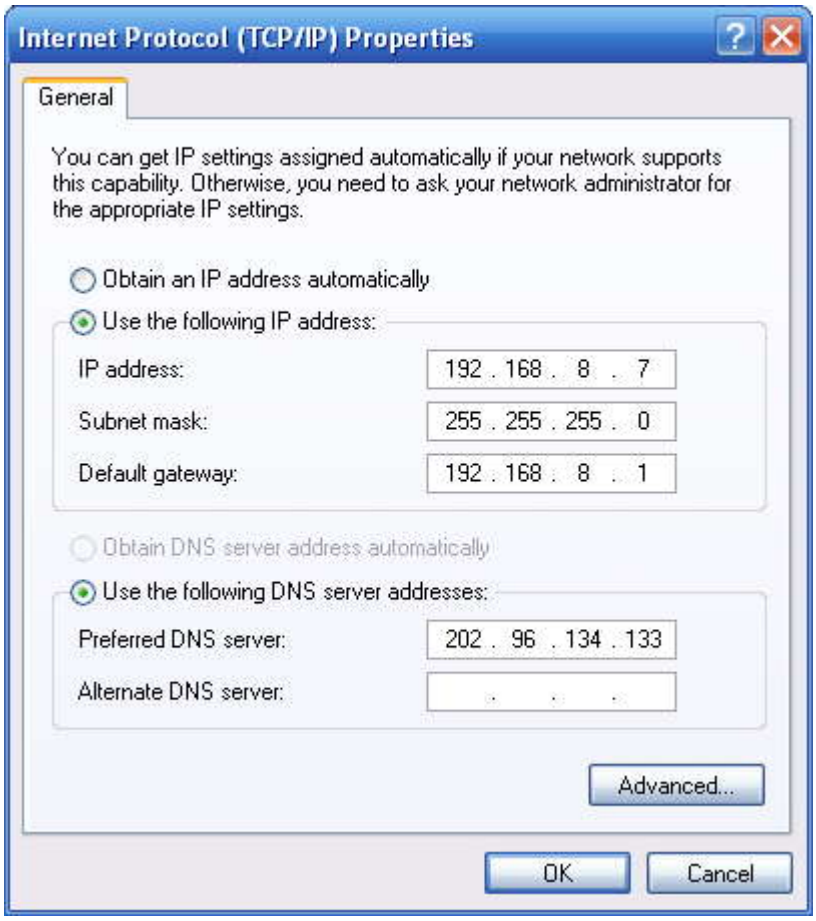


Fig. 3.2.3-3: TCP/IP Properties Configuration

Method 1: general configuration

This method will temporarily interrupts the communication between the computer under configuration and LAN, and the specific parameter configuration is shown as below:

IP address: 192.168.8.* (*indicates any integral between 2 to 254)
Subnet mask: 255.255.255.0
Default gateway: 192.168.8.1

Remember:
Galaxy H8951 3G SOHO Router LAN port factory default parameter:
IP address: 192.168.8.1;
Subnet mask: 255.255.255.0
Galaxy H8951 3G SOHO Router factory default login parameter:
Management interface login IP address: 192.168.8.1
Login name: admin
Login password: admin

Method 2: advanced configuration

If you don't want to interrupt local PC LAN communication and configure Galaxy H8951 3G SOHO Router when the former network configuration exists, it is required add route (IP).

The configuration operation is shown as below:

Click the "Advanced (V)…"button in Fig. 3.2-5 to enter the interface as below:

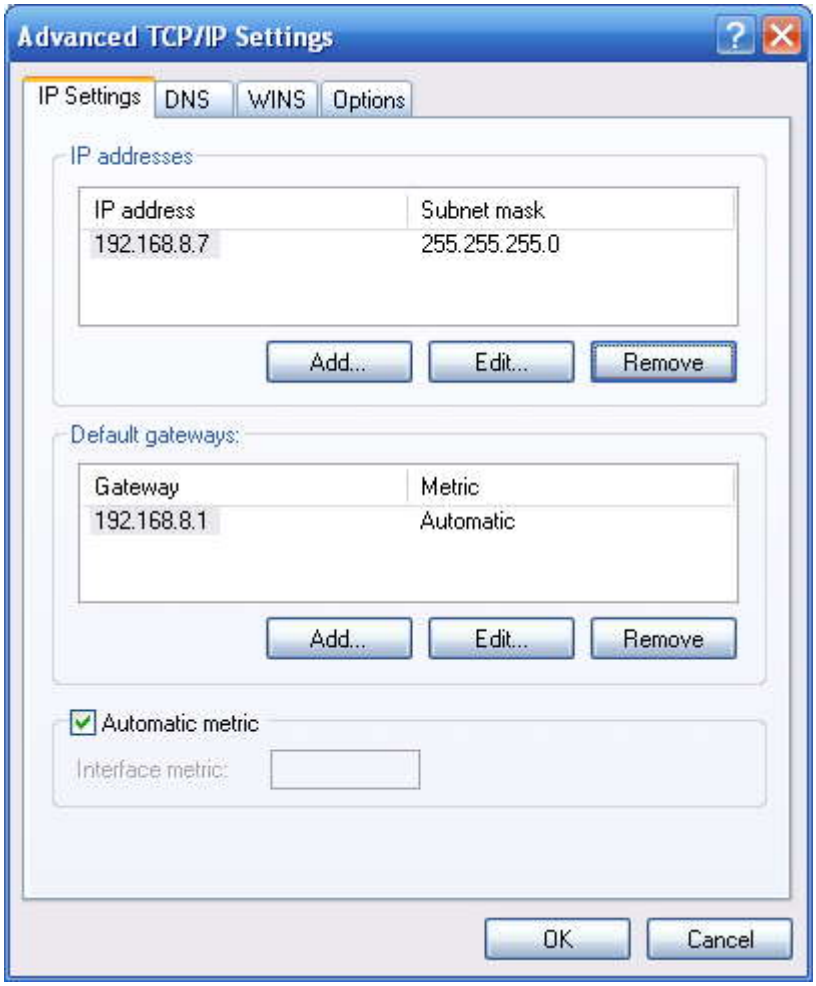


Fig. 3.2.3-4: Advanced TCP/IP Properties Configuration

Click the "Add (A)"button under the "IP address (R)", and fill in the IP address that you want to add:

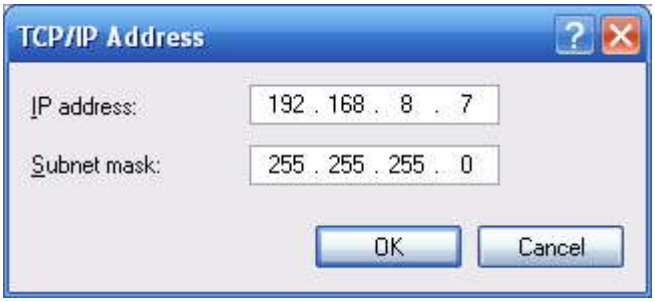


Fig. 3.2.3-5: Add TCP/IP Address

After the configuration is completed, click the "Add". By now the computer has a route to Galaxy H8951.

Note:

As shown in Fig. 3.2-3, "Default gateway" depends on whether the configuration computer connects with Internet through original local network configuration. If Internet is accessed through original local network, the default gateway setting does not need to be modified; if Galaxy H8951 3G SOHO Router + is used, you need to modify the default gateway and configure it as Galaxy H8951 3G SOHO Router's default LAN IP address 192.168.8.1.

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2. Network check

- Step 1: IP configuration check

Use the command of ipconfig to check whether the IP address is correctly set or added. You can enter DOS mode and key-in command: ipconfig, for instance:

C:\>ipconfig

Windows IP Configuration

Ethernet adapter local connection:

Connection-specific DNS Suffix. :
Auto configuration IP Address . . .: 192.168.8.7
Subnet Mask . . . . . .: 255.255.255.0
Default Gateway . . . . . : 192.168.8.1

- Step 2: connectivity check

After the configuration is completed, you can check the connectivity between it and Galaxy H8951 3G SOHO Router by ping command. Key-in ping command in system command line:

Ping 192.168.8.1

If the following information appears:

Pinging 192.168.8.1 with 32 bytes of data:
Reply from 192.168.8.1: bytes=32 time=2ms TTL=64
Reply from 192.168.8.1: bytes=32 time=2ms TTL=64

By now, it means that the configuration computer has been connected to the router. You can carry out configuration operation on it.

3.2.4 System login

Open the IE browser, and input http://192.168.8.1/ in address bar, as shown below:

Fig. 3.2.4-1: Web Login

And then you can enter user login identity authentication interface as shown below:

Fig. 3.2.4-2: User Login Verification

User should use default user name and password when log in for the first time:

- User name: admin
- Password: admin

Input correct user name and password, and enter the WEB configuration interface.

3.3 WEB-based configuration

Galaxy H8951 3G SOHO Routers can be configured in WEB mode. The WEB-based operation features visualization and simplicity, so it is recommended to perform parameter configuration and operation in WEB mode. Connect the PC and Galaxy router according to the description in the previous section. Start up IE (6.0 or higher) browser on your PC to carry out the configuration:

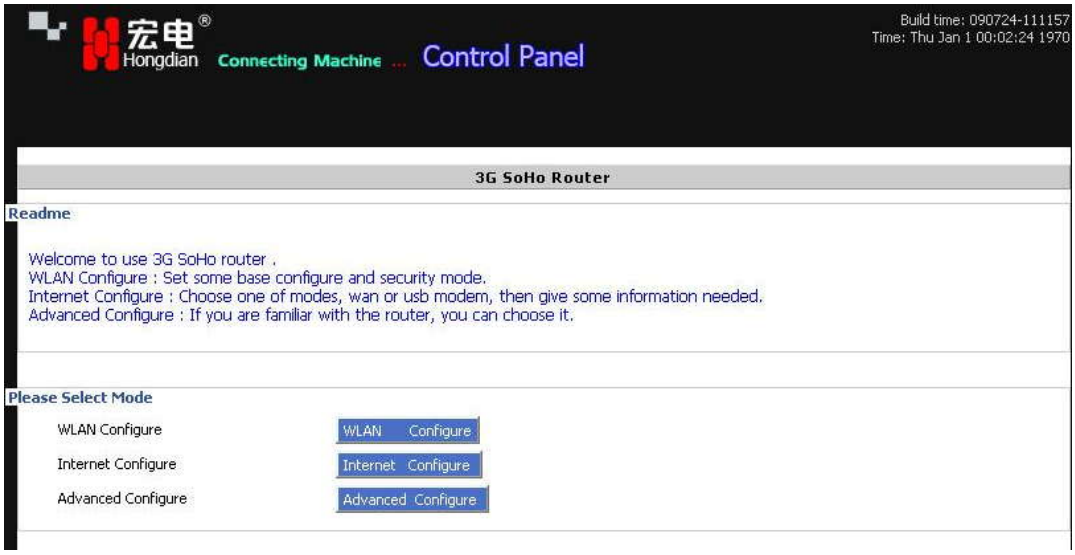


Fig. 3.3-1: System Configuration Interface

- WLAN Configure is to configure the wireless LAN quickly.
- Internet Configure is to configure Internet access quickly.
- Advance Configure is to configure all of the router's information.

Note:

WLAN Configure& Internet Configure are included in the Advance Configure.

Click the "Advance Configure" button to go to the configuration interface as shown below:

Menu description

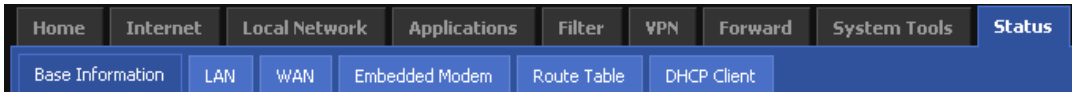


Fig. 3.3-2: Main Tab

Main tab includes the following items:

- Home
- Internet
- Local Network
- Applications
- Filter
- VPN
- Forward
- System Tools
- Status

Move the mouse pointer onto one tab; click this tab to enter the corresponding sub-tab list or configuration page. The function of each sub-tab and configuration page will be described in the following sections.

3.3.1 Home

When you click the "Home" tab, you will return to the page showed default.

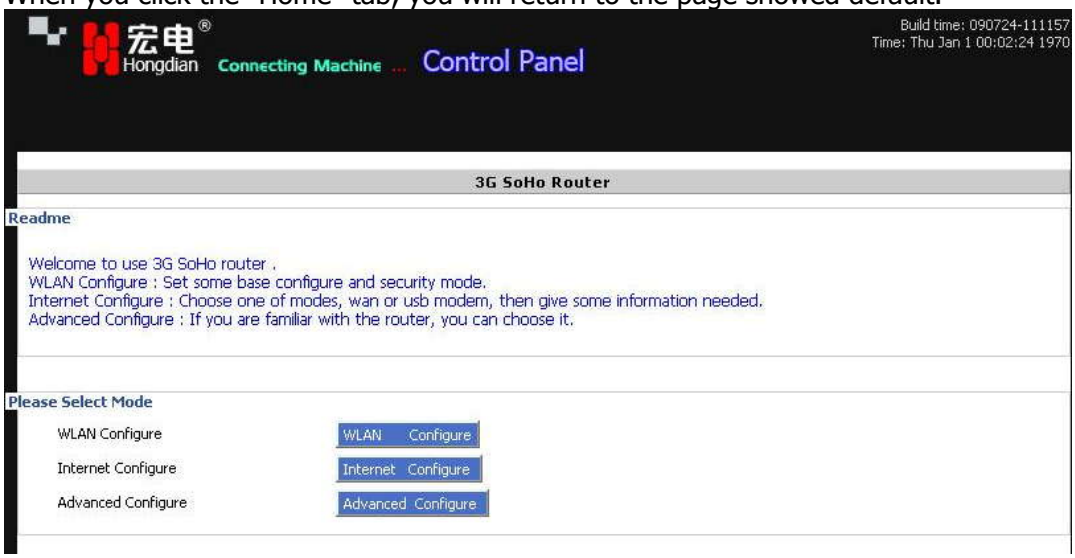


Fig. 3.3.1: Sub-tabs

3.3.2 Internet

When you click the "Internet" tab, the following sub-tabs appear on the page:

- Mobile Network(Embedded Modem)
- WAN
- Internet Connection Type

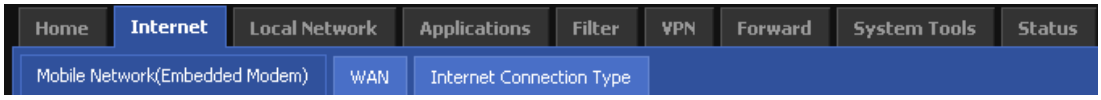


Fig. 3.3.2: Internet Configuration Tab

3.3.2.1 Mobile Network configuration

In the "Internet" main tab, click the "Mobile Network (Embedded Modem)" sub-tab to set the modem parameters and go to the following configuration interface:

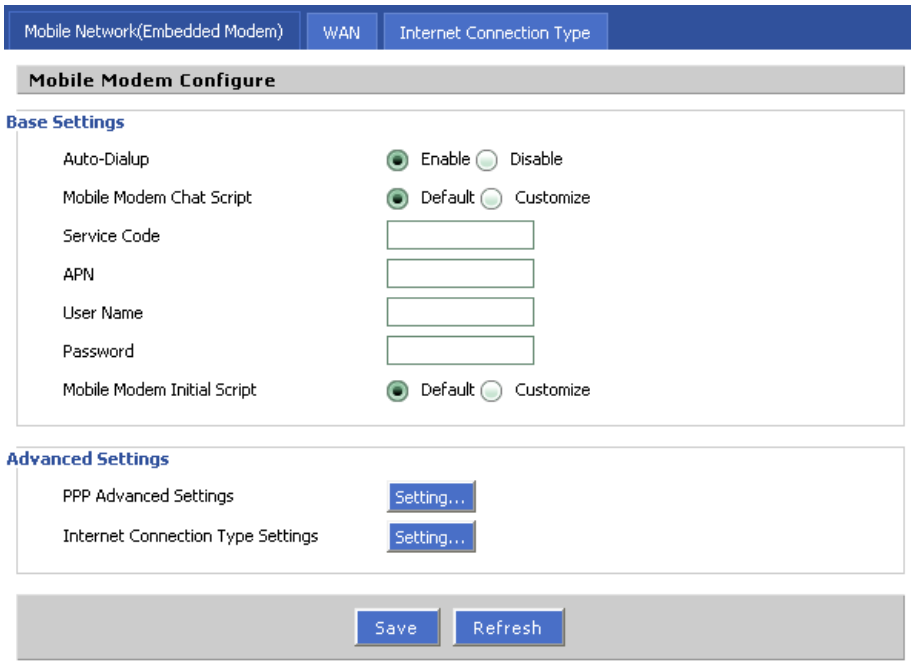
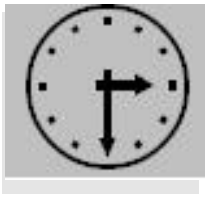


Fig. 3.3.2.1-1: Mobile Network

【Auto-Dialup】: Set the account number of 3G network service provided by ISP.
【Module Modem Chat Script】: Set the dial-up script chatting with Module Modem. Select the "Customize", and enter the dial-up script chatting with Module Modem in the input box. Normally you may select"Default".
【Service Code】: Set the name of 3G network service provided by ISP.
【APN】: Set the APN of the internet access service provided by ISP.
【User Name】: Set the account number of 3G network service provided by ISP.
【Password】: Set the password of account number of 3G network service provided by ISP.
【Module Modem Initial Script】: Set the initial script of Module Modem dial-up. Select the "Customize", and enter the initial script of Module Modem dial-up in the input box. Normally you may select"Default".
【Advanced setting】: Configure advanced parameter by dialing protocol.



Note:

"Embedded Modem" & "Module Modem" both mean the Modem embedded in H8951.

In the "Advanced setting" tab, it contains "PPP Advanced Settings" & "Internet Connection Type Settings", the interface of "PPP Advanced Settings" is as below:

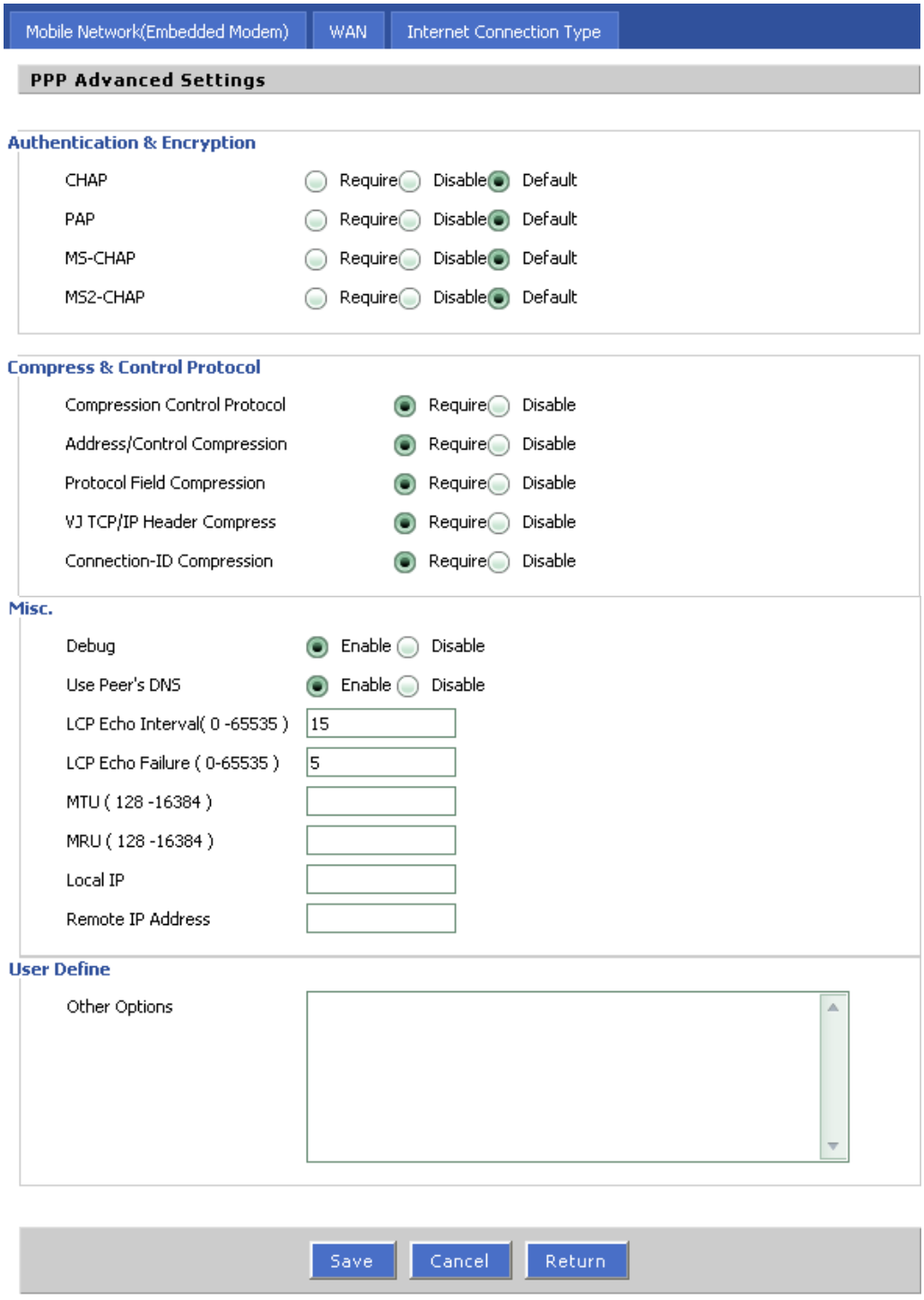


Fig. 3.3.2.1-2: PPP Advanced Settings

Considering the difference of mobile network authorization, the Point to Point Protocol connection should be compatible with different network. Advanced setting is used for the PPP special setting. Click "PPP Advanced Setting" button to start settings.

Normally, it is not required to change the setting for most of networks and applications. If it is necessary, you need to be cautious in setting PPP Advanced based on the network environment. For detailed configuration, consult the local mobile operator and carry out multiple trials to achieve the best suitability.

【CHAP, PAP, MS-CHAP, MS-CHAPv2】are negotiation protocol types while PPP dialing.

【Compression Control Protocol negotiation】: Set whether disable Compression Control Protocol negotiation. 0: disable; 1: enable.

【Address/Control compression】: Set whether disable Address /Control compression.

【Protocol field compression negotiation】: Set whether disable protocol field compression negotiation

【VJ style TCP/IP header compress】: Set whether disable Van Jacobson style TCP/IP header compress.

【Connection-ID compression】: Set whether disable the connection-ID compression option in VJ.

【Debug】: Set whether enable the debug log function.

【Use Peer's DNS】: Set whether disable Use Peer's DNS.

【LCP Echo Interval】: Set LCP's maximum interval time, in second.

【LCP Echo Failure】: Set LCP's maximum request times.

【MTU】: Set the number of bytes of the maximum transfer unit.

【MRU】: Set the number of bytes of the maximum receive unit.

【local IP】: Set the local IP address.

【Remote IP】: Set the remote terminal's IP address.

【Other Options】: Users can define their own options here.

3.3.2.2 WAN configuration

In the "Internet" main tab, click the "WAN" sub-tab to go to WAN port setting page. Select the internet connection method from the "Mode Type" drop-down menu: "Disable", "Static IP", "Automatic Configuration-DHCP" and "PPPoE". The default setting is "Disable", namely the WAN port's route function is disabled. Below, we will describe how to configure the WAN port in different modes:

1. Static IP configuration

When private network access is realized by static IP address, you need to select the "Static IP" option to go to the following configuration interface:

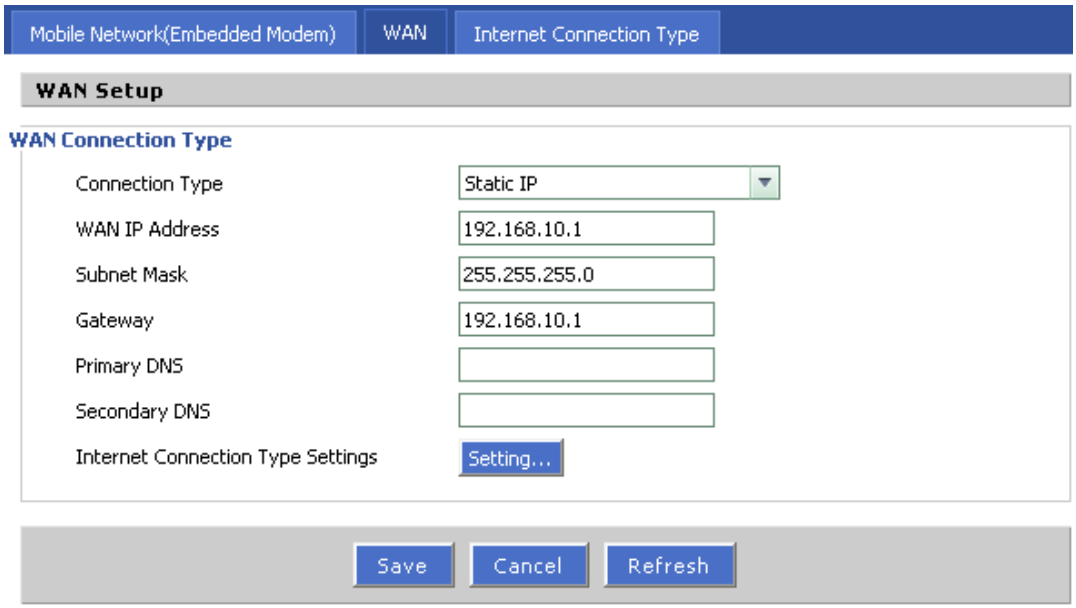


Fig. 3.3.2.2-1: Static IP Configuration Interface

WAN port support three static IP address settings:

【WAN IP Address】: Set the IP address, generally subject to ISP or connected device interface.
【Subnet Mask】: Set the IP subnet mask.
【Gateway】: Set the IP address that is in the same network segment with the static IP, generally the IP address provided by ISP, or the IP address of the connected device interface.
【Primary DNS】: Set the address of the primary DNS server may be void.
【Secondary DNS】: Set the address of the secondary DNS server may be void.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Setting】: Link to the sub-page: Internet Connection Type.
【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.

2. DHCP configuration
When private network access is realized by DHCP, you need to select the "DHCP" option to go to the following configuration interface:

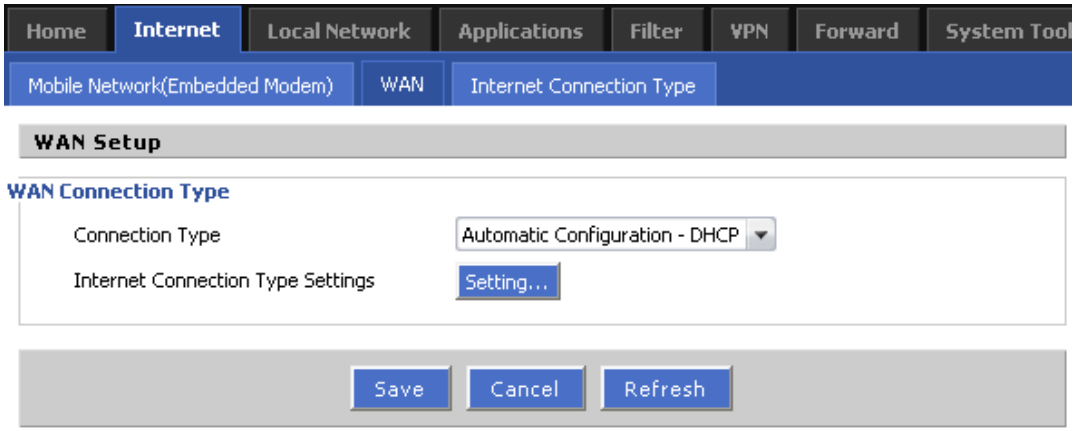


Fig. 3.3.2.2-2: Static IP Configuration Interface

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Setting】: Link to the sub-page corresponding to the Internet Connection Type.
【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.

3. PPPoE configuration

When the H8951 3G WAN ports are connected with PPPoE protocol link by internet, select "PPPoE" and enter the following configuration interface:

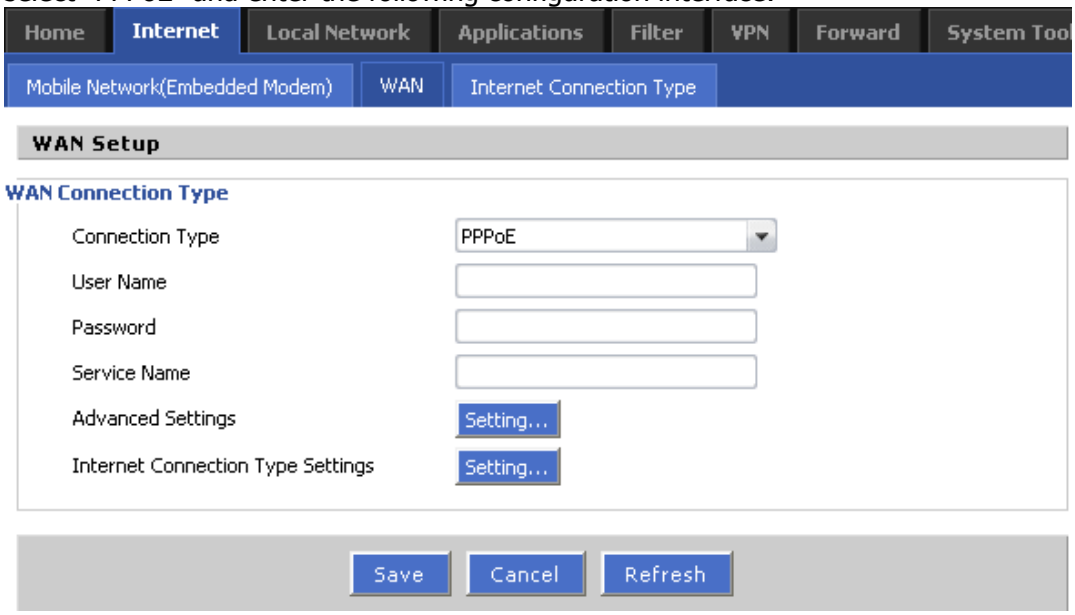


Fig. 3.3.2.2-3: Static IP Configuration Interface

The PPPoE is the most common dialing link type provided by ISP, and the detailed configuration parameters are shown as below:

【User Name】: Set the account name of PPPoE service provided by ISP.
【Password】: Set the password of PPPoE service provided by ISP.
【Service Name】: Set the service name of PPPoE service provided by ISP.
【Advanced Setting】: Configure advanced parameters of dialing protocol.

【Internet Connection Type Settings】: Link to the sub-page: Internet Connection Type.

After the configuration is completed based on demand, the following operation can be carried out to deal with the configuration result:

【Save】: Save the settings.
【Cancel】: Cancel unsaved configuration.
【Refresh】: Refresh the information on the page.

3.3.2.3 Internet Connection Type configuration

In the "Internet" main tab, click the "Internet Connection Type" sub-tab to set the internet connection type. Select the internet connection type from the "Connection Type" drop-down menu: "Modem", "WAN", and "Custom". Below, we will describe the configuration in different modes:

1. Modem configuration

When internet access is realized by Embedded Modem, you need to select the "Modem" option and go to the following configuration interface:

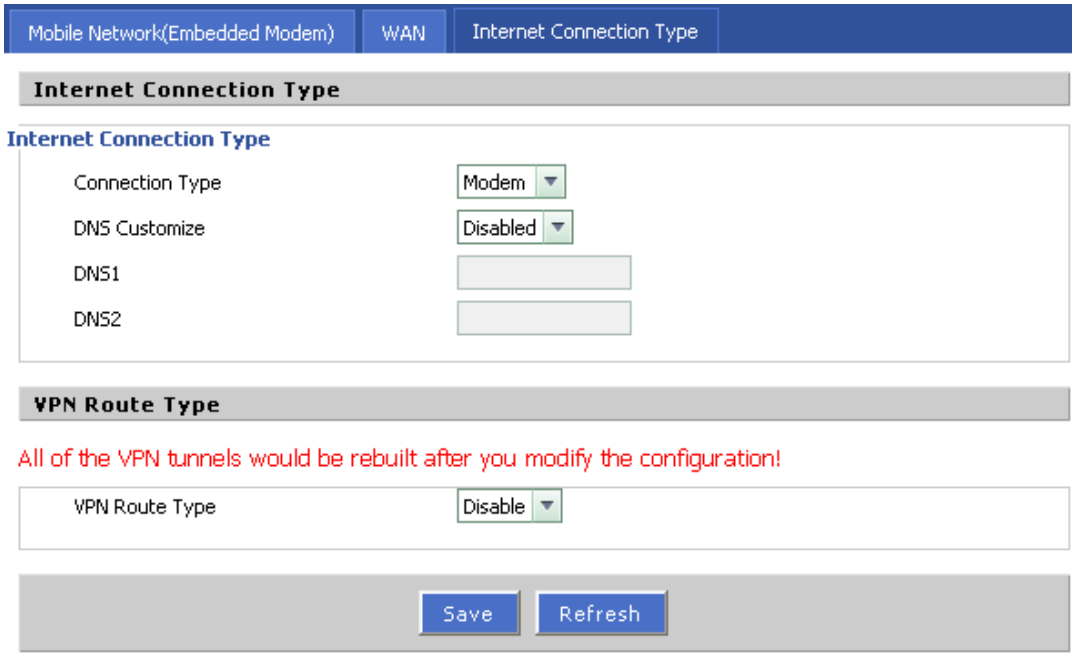


Fig. 3.3.2.3-1: Modem configuration Interface

【DNS Customize】: Set whether configure the DNS server address manually: Enable/Disable.
【DNS1】: Set IP address of the primary DNS server.
【DNS2】: Set IP address of the standby DNS server.
【VPN Route Type】: Set whether all the packets will pass through VPN even the access to the Internet.

2. Wan configuration

When internet access is realized by wan port, you need to select the "Wan" option and go to the following configuration interface:

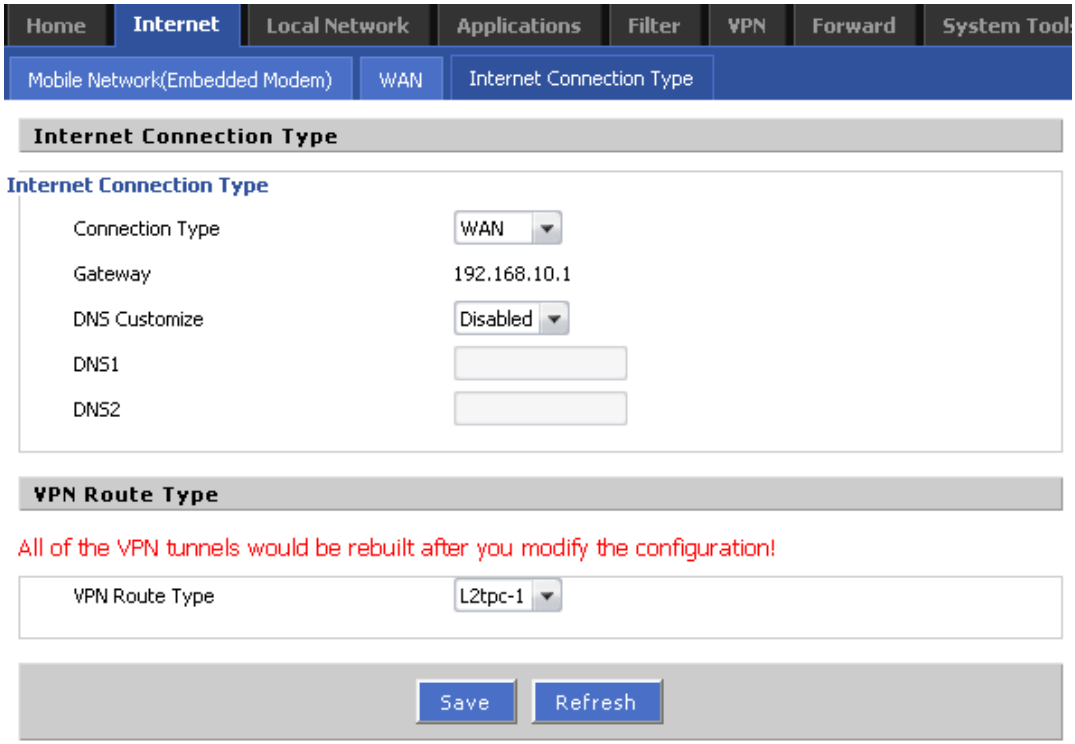


Fig. 3.3.2.3-2: Wan Configuration Interface

【Gateway】: Differ from the wan setting.
【DNS Customize】: Set whether configure the DNS server address manually: Enable/Disable.
【DNS1】: Set IP address of the primary DNS server.
【DNS2】: Set IP address of the standby DNS server.
【VPN Route Type】: Set whether all the packets will pass through VPN even the access to the Internet.
3. Custom configuration
This mode is used for debugging; customers do not need it normally.

3.3.3 Local network

When you click the "Local Network" tab, the following sub-tabs appear on the page:

- LAN
- Wi-Fi Basic
- Wi-Fi Security
- DHCP Server
- Static DHCP

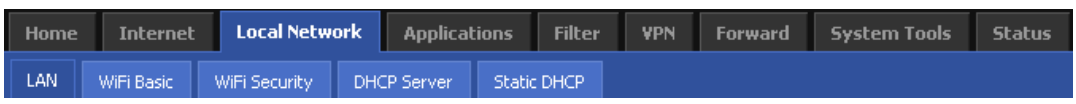


Fig. 3.3.3: Local Network Configuration Interface

3.3.3.1 LAN configuration

In the "Local Network" main tab, click the "LAN" sub-tab to set the LAN port and enter the following configuration interface:

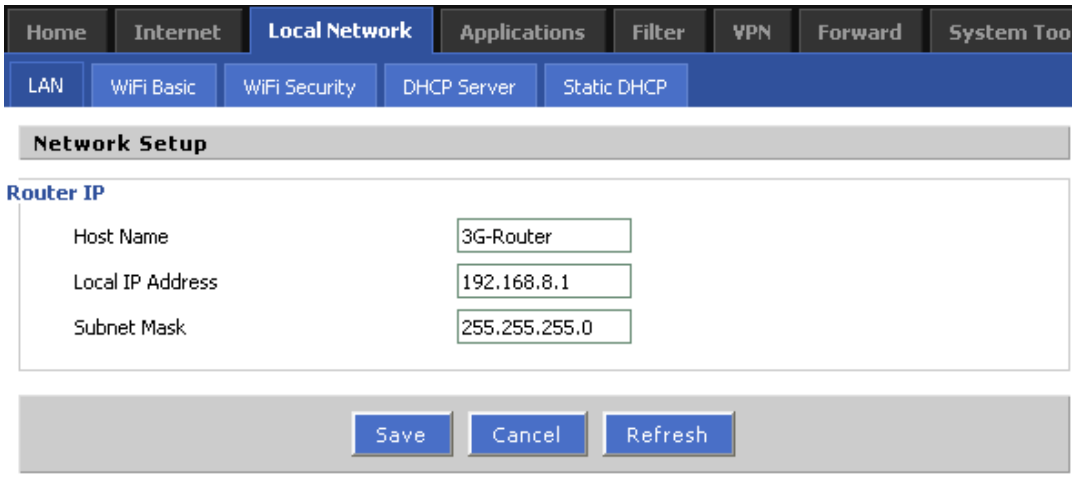


Fig. 3.3.3.1: Local LAN Configuration

In this interface, you can set the host name, local IP address and its subnet mask:

【Host Name】: Set the router's host name.
【Local IP Address】: Set the local IP address.
【Subnet Mask】: Set the subnet mask of the local IP address.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.

3.3.3.2 WI-Fi Basic

In the "Local Network" main tab, click the "Wi-Fi Basic" sub-tab to set the Wi-Fi's basic function and go to the following configuration interface:

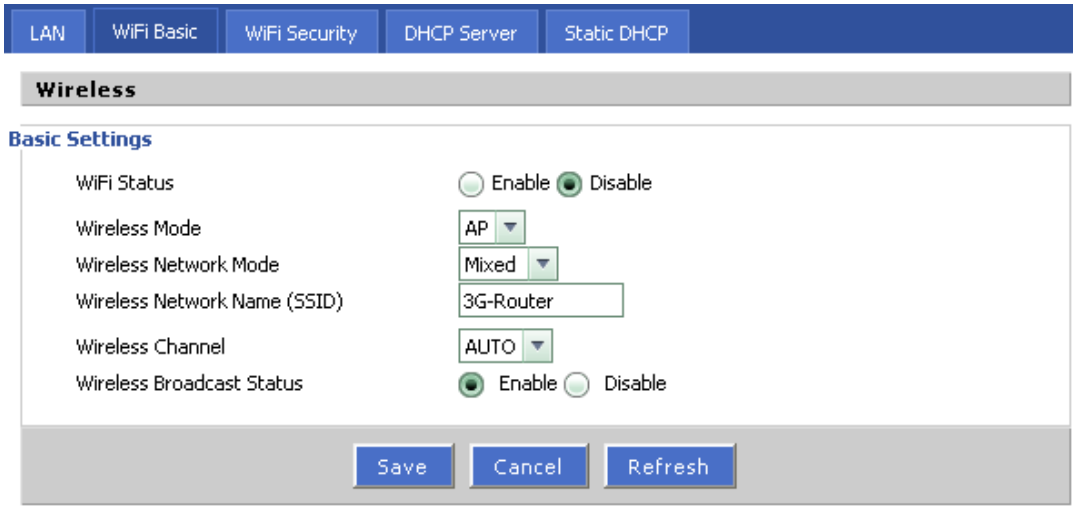


Fig. 3.3.3.2: Wi-Fi Basic Configuration

【Wireless Status】: Set whether enable the wireless network function: Enable/ Disable.
【Wireless Mode】: Select the wireless network mode: AP by default.
【Wireless Network Mode】: Set the wireless network's protocol standard: "B-only" is 802.11b standard; "G-only" is 802.11g standard; and "Mixed" is automatically compatible with these two standards.
【Wireless Network Name (SSID)】: Set the network name shared by all access points in the wireless network. SSID must be unique in the wireless network.
【Wireless Channel】: Select the wireless channel. When you select one proper wireless channel from the drop-down list, the router will broadcast in the selected channel.
【Wireless Broadcast Status】: Set whether enable the wireless network's broadcast function: Enable/Disable.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.

3.3.3.3 Wi-Fi Security configuration

In the "Local Network" main tab, click the "Wi-Fi Security" sub-tab to set the Wi-Fi's security function and go to the following configuration interface:

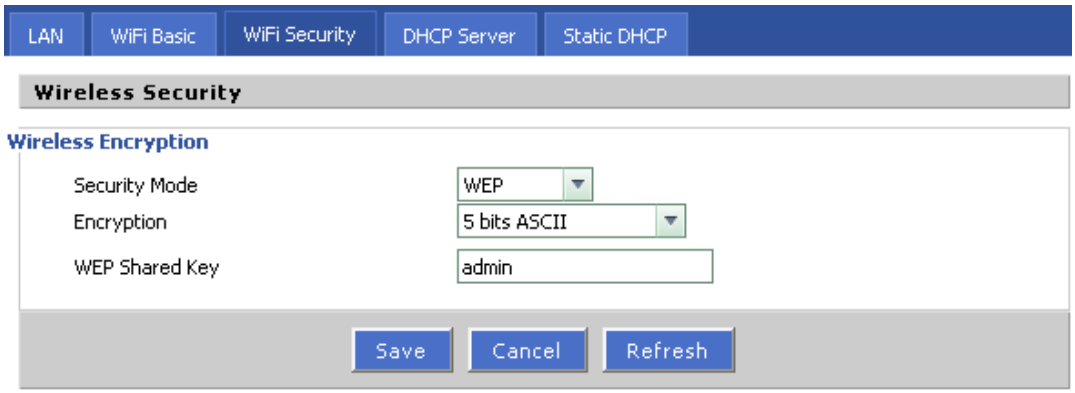


Fig. 3.3.3.3-1: Wi-Fi Security Configuration

【Security Mode】: Set the security mode. Select one mode from the drop-down list: Disable, WEP, WPA-PSK, and WPA2-PSK.

Now I will explain every mode:

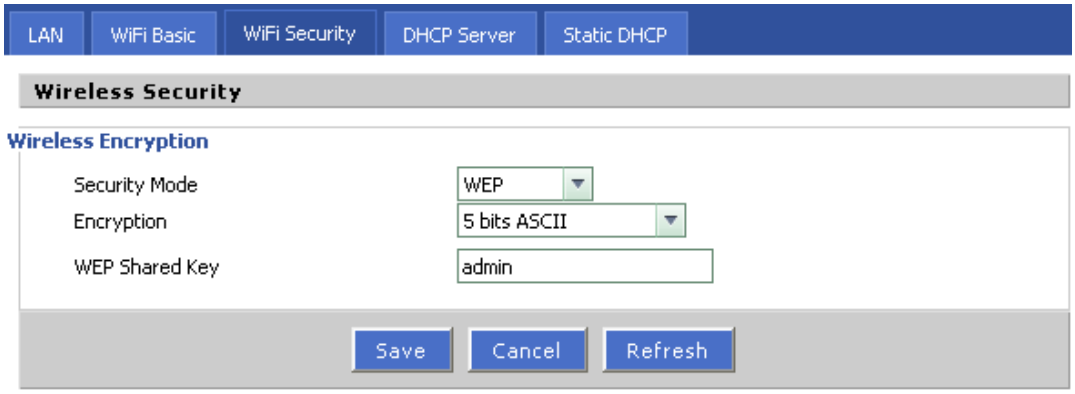


Fig. 3.3.3.3-2: WEP Mode Configuration

【Encryption】: Select the key's length from the drop-down list: 64-bits 10 hex digits, 128-bits 26 hex digits, 5 bits ASCII, and 13 bits ASCII.
【WEP Shared Key】: Set the shared key. If 64-bits 10 hex digits is selected, you need to enter 10 16 hex digits; if 128-bits 26 hex digits is selected, you need to enter 26 16 hex digits; if 5 bits ASCII is selected, you need to enter 5 ASCII digits; if 5 bits ASCII is selected, you need to enter 13 ASCII digits.

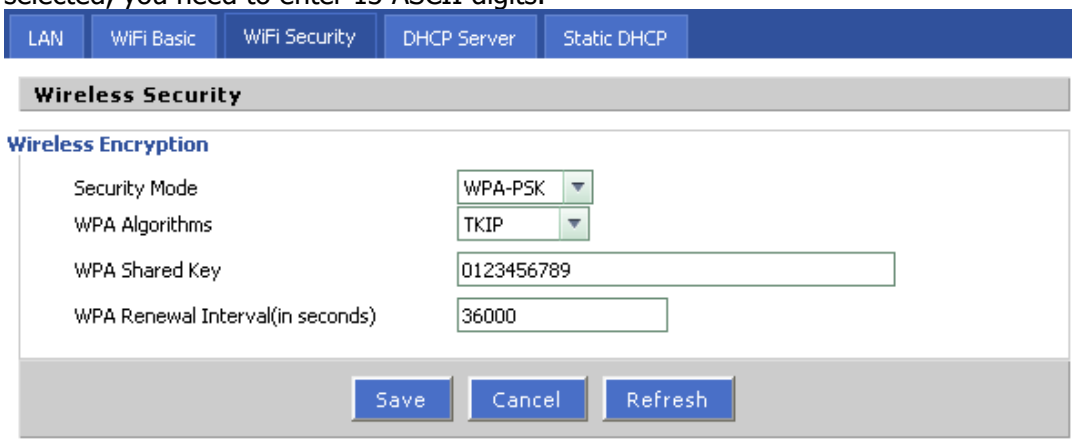


Fig. 3.3.3.3-3: WPA-PSK Mode Configuration

【WPA Algnorithms】: Select the encryption algorithms from the drop-down list: TKIP, AES, TKIP+AES.
【WPA Shared Key】: Set the shared key (8~23 characters long).
【WPA Renewal Interval】: Set the key's renewal interval in second.

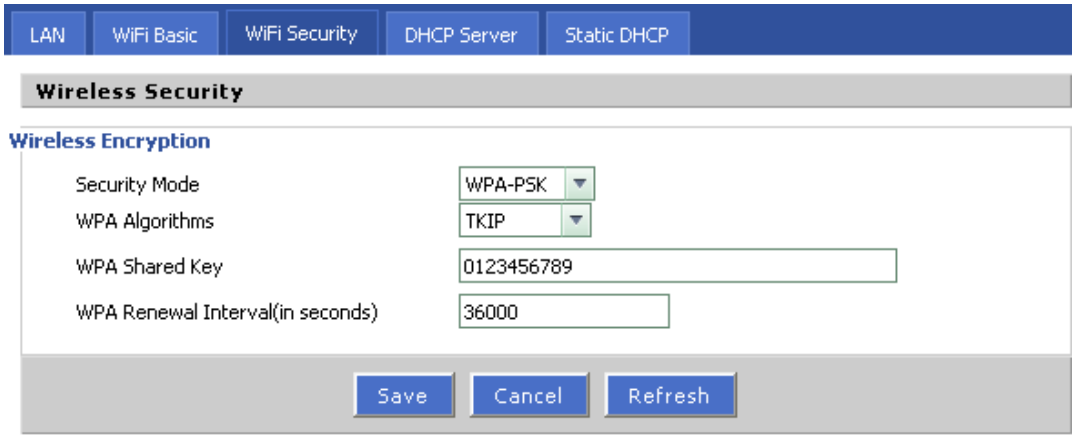


Fig. 3.3.3.3-4: WPA2-PSK Mode Configuration

【WPA Algnorithms】: Select the encryption algorithms from the drop-down list: TKIP, AES, TKIP+AES.
【WPA Shared Key】: Set the shared key (8~23 characters long).
【WPA Renewal Interval】: Set the key's renewal interval in second.

After each configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.

3.3.3.4 DHCP server configuration

In the "Local Network" main tab, click the "DHCP Server" sub-tab to set the DHCP server parameters and go to the following configuration interface:

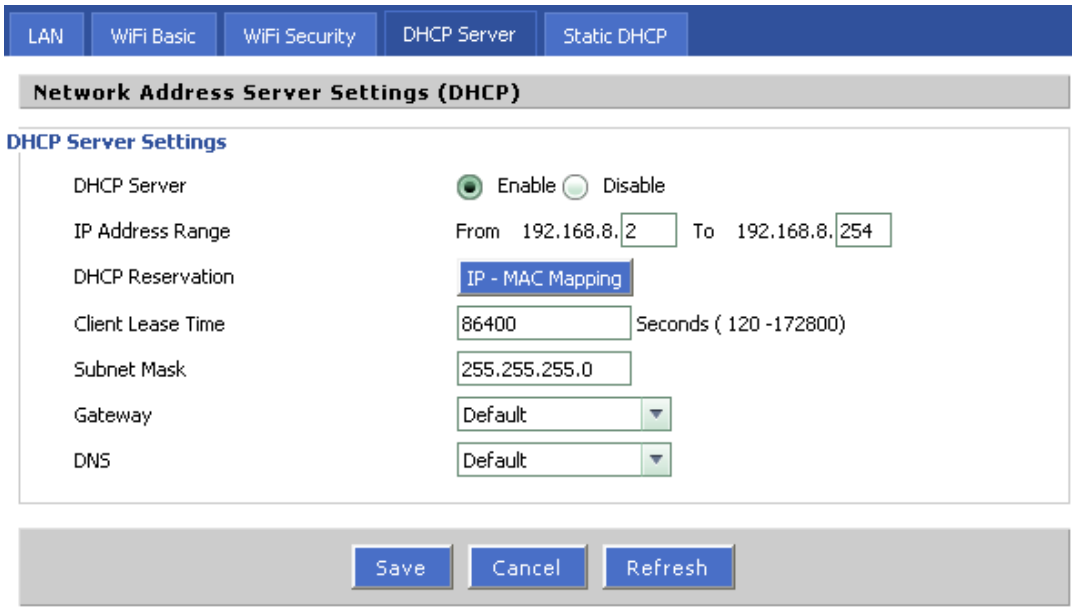


Fig. 3.3.3.4: DHCP Configuration Interface

The configuration parameters include:

【DHCP Server】: Set whether enable the DHCP server function: Enable/Disable.
【IP Address Range】: Set the range of the DHCP dynamic address pool.
【DHCP Reservation】: Set the IP address assigned to the client manually. Click the "IP-MAC Mapping" button to link to the Static DHCP page.
【Network Mask】: Set the subnet mask of the IP address assigned by DHCP dynamically.
【Client Lease Time】: Set the lease time, namely the time that the client uses the assigned IP address.
【Gateway】: Set the gateway to client assigned by DHCP: Default, Static, as same as router's gateway.
【DNS】: Set the DNS server's address: Default, Static, as same as router's DNS.

After each configuration according to your specific needs, you can carry out the following operations to the configuration result:
【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.

3.3.3.5 Static DHCP configuration

In the "Local Network" main tab, click the "Static DHCP" sub-tab to set the DHCP server parameters and go to the following configuration interface:

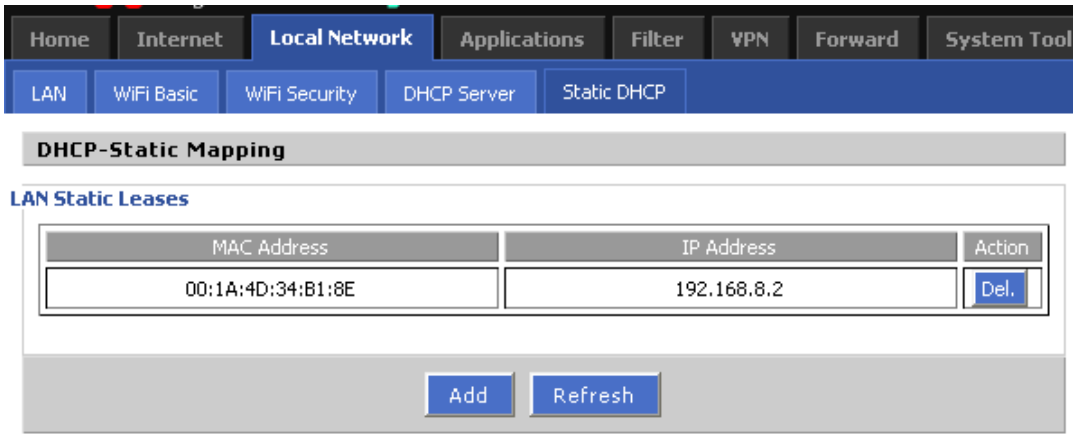


Fig. 3.3.3.5-1: WAN Configuration Interface

The configuration parameters include:

【Add】: Map the DHCP client's MAC address with IP.
【Del】: Delete or release the mapping of MAC and IP.
【Refresh】: Refresh the information on the page.

If you want to perform IP-MAC mapping, click the "Add" button to go to the following configuration interface:

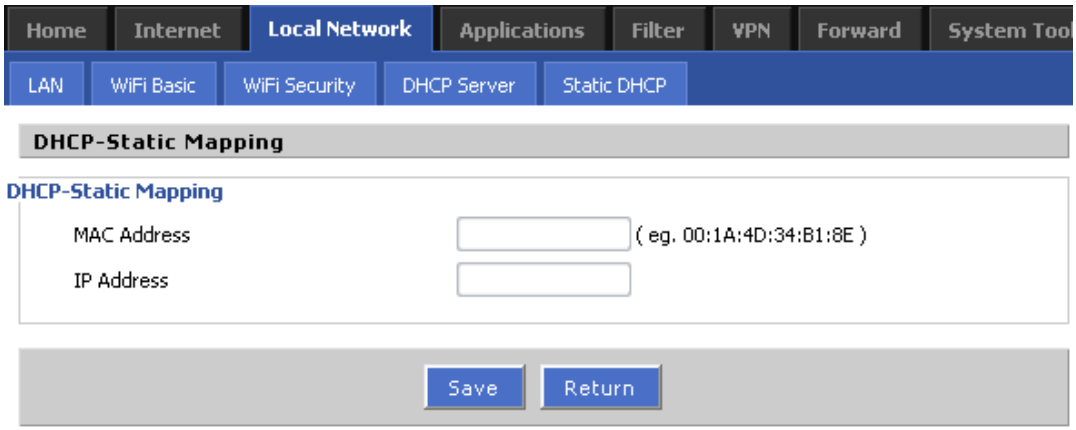


Fig. 3.3.3.5-2: WAN Configuration Interface

【MAC Address】: Set the MAC address.
【IP Address】: Set the IP address.
【Return】: Return to the previous page.

3.3.4 Applications

When you click the "Applications" tab, the following sub-tabs appear on the page:

- DDNS
- Timing Operation
- Trigger On-line Data

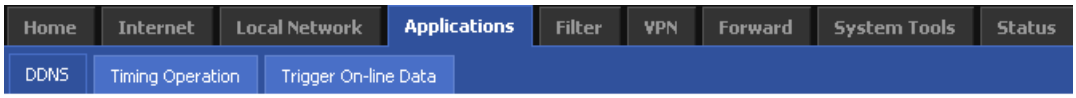


Fig. 3.3.4: Applications Configuration Tab

3.3.4.1 DDNS configuration

The router is designed with DDNS (Dynamic Domain System) function which can make others to search the dynamic IP address by internet domain.

In the "Application" main tab, click the "DDNS" sub-tab to set DDNS parameters and go to the following configuration interface:

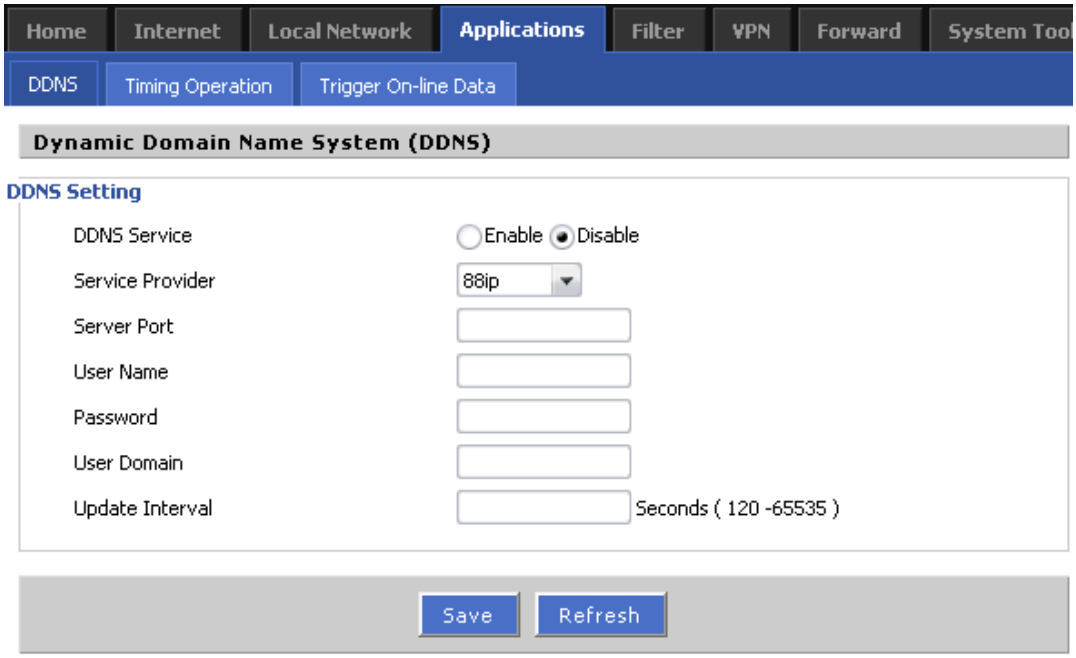


Fig. 3.3.4.1: DDNS Configuration Interface

DDNS configuration parameters include:

【DDNS Server】: Set whether enable DDNS service function: Enable/Disable.
【Service Provider】: Select the DDNS service provider that router currently supports. Domestic DDNS service provider: 88IP (www.88ip.net), 3322 (www.3322.org); oversea DDNS service provider: DNSEXIT (www.dnsexit.com), ZONEEDIT (www.zoneedti.com), CHANGEIP (www.changeip.com), Dyndns (members.dyndns.org); you can also select"custom" and choose your own DDNS service provider if it is not listed above.
【Server Port】: Set the port number of the DDNS server provided by the service provider. The default port number is 80.
【User Name】: Set the legal user name of the DDNS service registered in the service provider.
【Password】: Set the password of the legal user name of the DDNS service registered in the service provider.
【User Domain】: Set the domain of the DDNS service provided by the service provider.
【Update Interval】: Set the interval of the DDNS client obtains new IP, in second.

After each configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Refresh】: Refresh the information on the page.

3.3.4.2 Timing Operation configuration

In the "Applications" main tab, click the "Timing Operation" sub-tab to set the Timing Operation parameters and go to the following configuration interface:

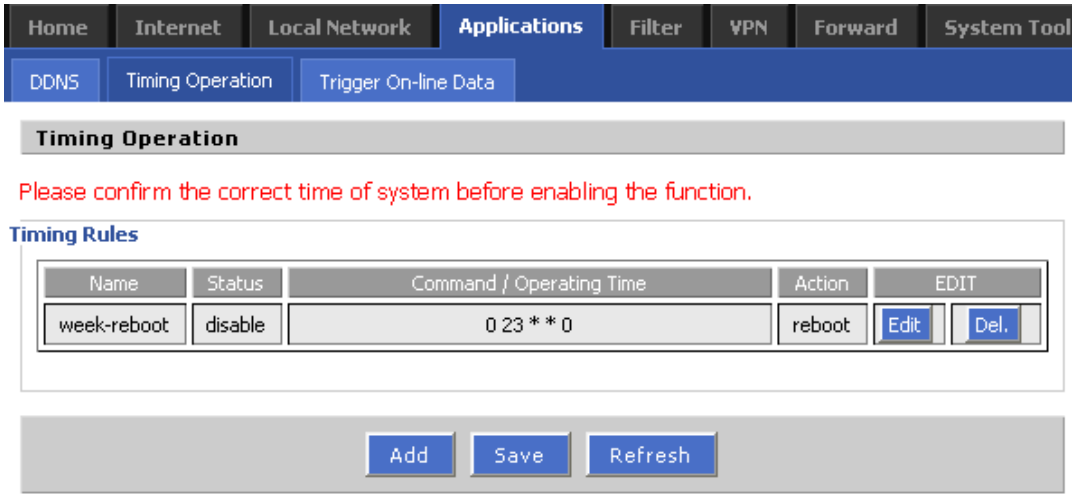


Fig. 3.3.4.2-1: DDNS Configuration Interface

The configuration parameters include:
【Add】: Add the Timing Operation operated at certain time.
【Save】: Save the settings.
【Refresh】: Refresh the information on the page.
【Edit】: Edit selected Timing Operation.
【Del】: Delete Timing Operation.
If you want to add the Timing Operation, click the "Add" button to go to the following configuration interface:

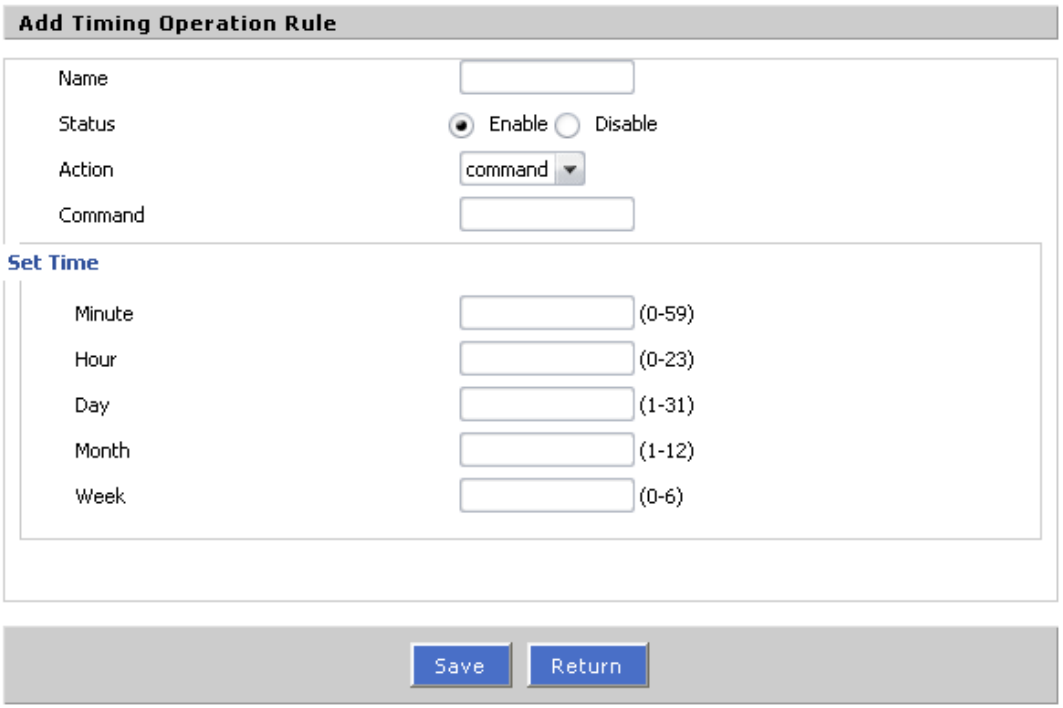


Fig. 3.3.4.2-2: Timing Operation Configuration Interface

Timing Operation configuration parameters include:

【Name】: Set the name of new Timing Operation.
【Status】: Set whether enable the Timing Operation.
【Action】: Decide execute which type of operation. There are three kinds: online, offline, reboot. (Command is unviable temporarily).
【Set Time】: We have five types of time: minute, hour, day, month and week. All you need processing the time is to fill each type with valid value. When setting, for each type of time, you need to split the different value with ",", and you can use "xx-xx" to represent a period of time. For instance, you can input the minute like this: 1, 2, 5, 10-59. Other types are as the same.

After each configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Return】: Return to the previous page.

3.3.4.3 Trigger On-line Data configuration

In the "Applications" main tab, click the "Trigger On-line Data" sub-tab to set the Trigger On-line Data parameters and go to the following configuration interface:

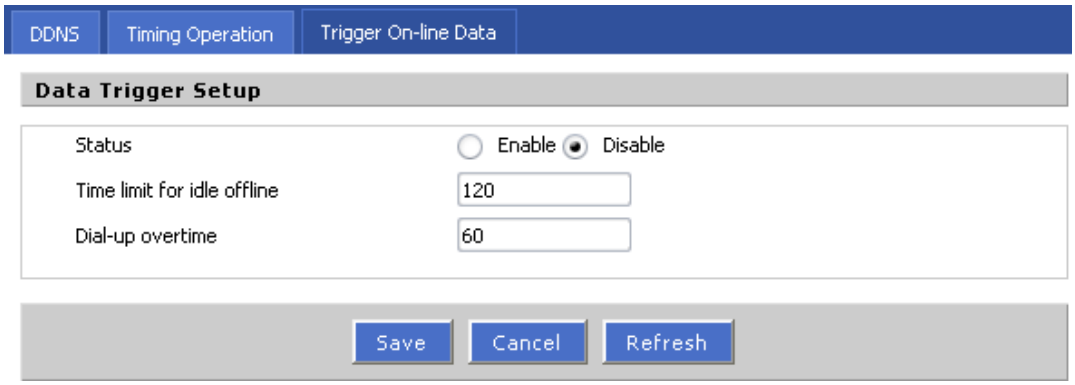


Fig. 3.3.4.3: Timing Operation Configuration Interface

Trigger On-line Data parameters include:

【Status】: Set whether enable the Trigger On-line Data.
【Time limit for idle offline】: Decide the time limit of offline when the router has no data transaction for a period. The value's unit is 'second', 0 means the router will always on line.
【Dial-up overtime】: Set the give up time limit when the router cannot connect to the internet. 0 means router will dial forever.

3.3.5 Filter

When you click the "Filter" tab, the following sub-tabs appear on the page:

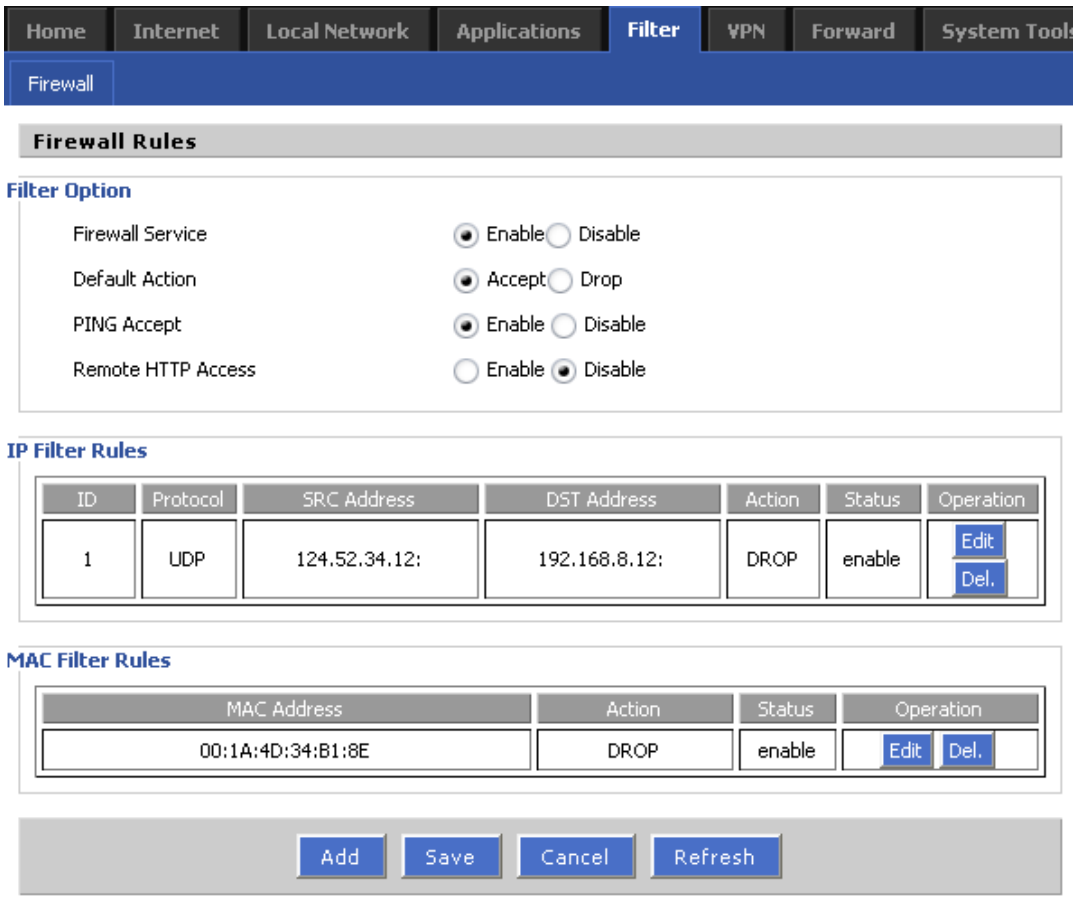


Fig. 3.3.5-1: Filter Setting Interface

The configuration parameters include:

【Firewall Service】: Set whether enable firewall function: Enable/Disable.
【Default Action】: Set the default action of the firewall: "Accept" means the router accepts other packets by default; "Drop" means the router drops other packets by default.
【PING Accept】: Set whether allow PING router from outside.
【Remote HTTP Access】: Set whether enable the remote WEB management function.

The following buttons can be used to add or delete the firewall rules:
【Edit】: Edit the set firewall rules.
【Del】: Delete the set firewall rules.

After each configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Add】: Add new firewall rules.
【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.

Click the "Add" to go to the following configuration interface:

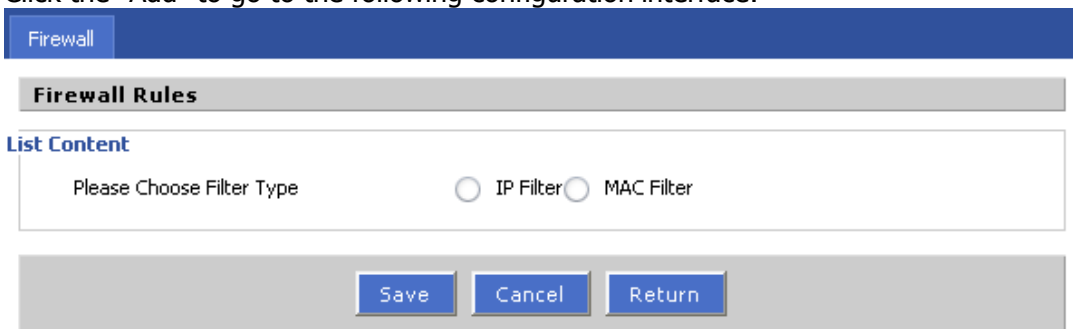


Fig. 3.3.5-2: Filter Setting Interface

You can choose filter type here: IP filter rules or MAC filter rules.
Select the "IP Filter" to go to the following configuration interface:

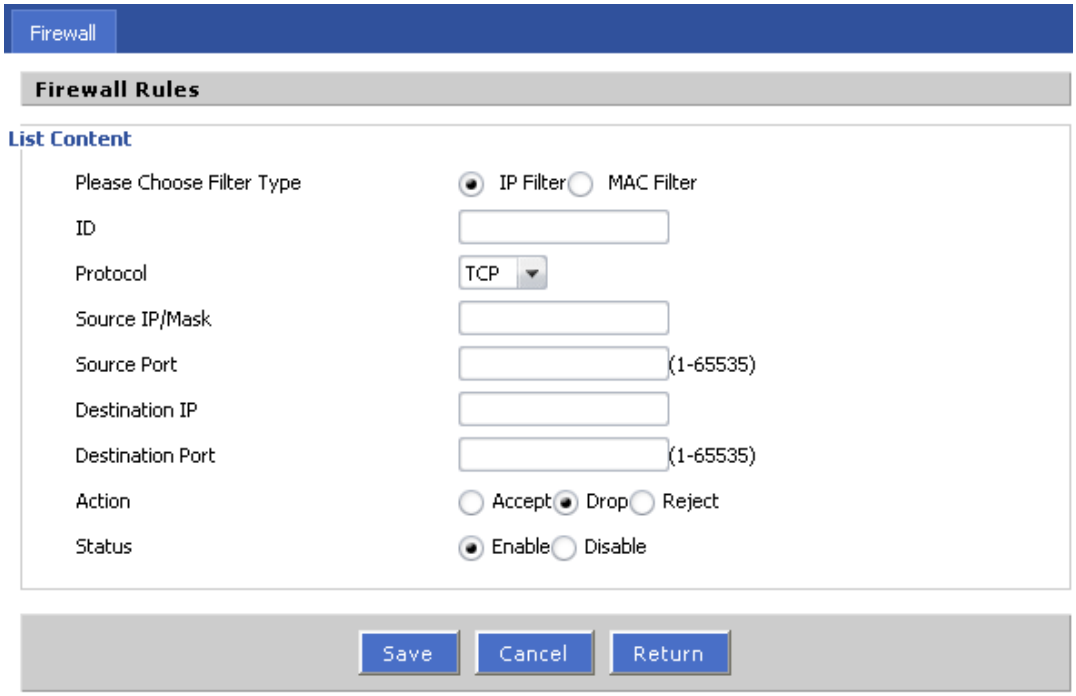


Fig. 3.3.5-3: Firewall Setting Interface

The configuration parameters include:

【ID】: Set the identification of the firewall rule, generally using a name with meanings.

【Protocol】: Select the protocol of the firewall rule.

【Source IP/Mask】: Set the source IP address of the firewall rule, may be one IP address or one network segment, e.g.: 192.168.0.0/24.

【Source Port】: Set the source port number of the firewall rule. More than one port number may be set, e.g. 13, 15, 100-150.

【Destination IP】: Set the destination IP address of the firewall rule. It must be one unique IP address.

【Destination Port】: Set the destination port number of the firewall rule. More than one port number may be set, e.g. 50, 75-90.

【Action】: Select the actions to this rule of the firewall: Accept, Drop, Reject.

【Status】: Set whether enable this filter rule: Enable/Disable.

Select the "MAC Filter" to go to the following configuration interface:

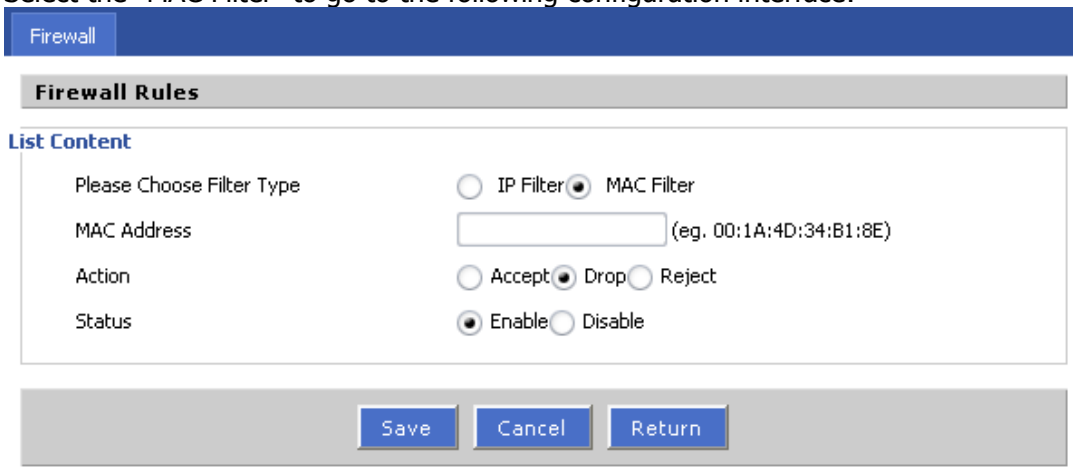


Fig. 3.3.5-4: Firewall Setting Interface

【MAC Address】: Set the MAC address.
【Action】: Select the actions to this rule of the firewall: Accept, Drop, Reject.
【Status】: Set whether enable this filter rule: Enable/Disable.

After each configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Return】: Return to the previous page.

3.3.6 VPN

If you click the VPN tab, the following sub-tabs appear on the page:

- L2TP
- PPTP

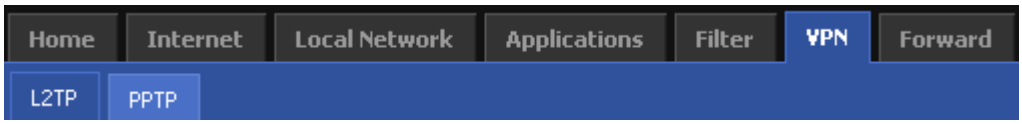


Fig. 3.3.6: VPN Setting Interface

3.3.6.1 L2TP configuration

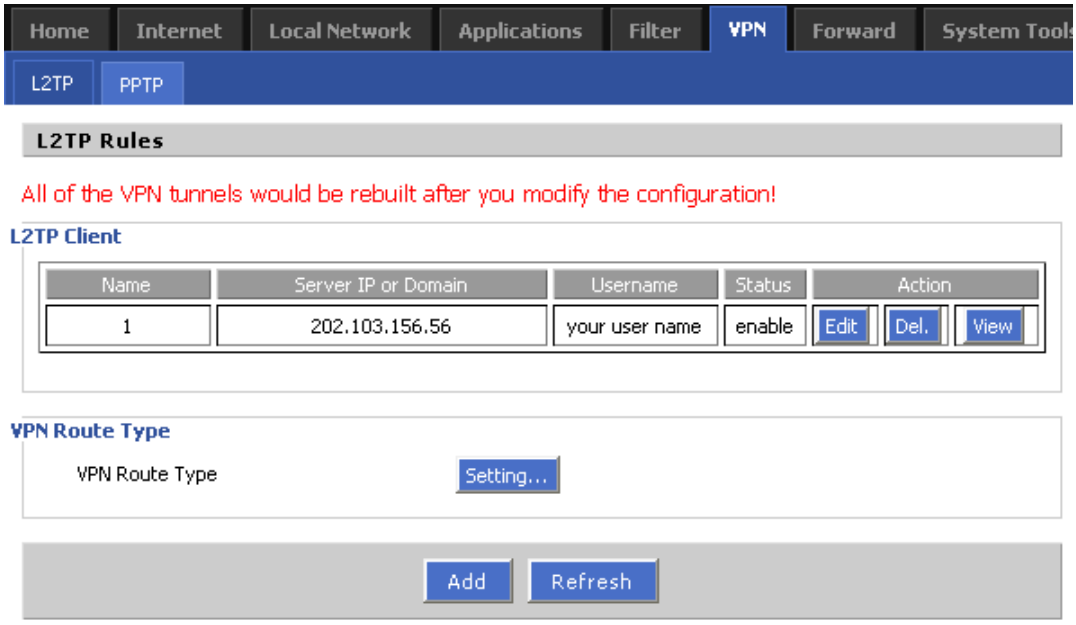


Fig. 3.3.6.1-1: L2TP Setting Interface

【Edit】: Edit the L2TP setting.
【Del】: Delete the L2TP setting.
【View】: view the status of L2TP, including Received Packets(TX), Received Errors Packets, Received Drops Packets, Received Bytes(RX), Send Packets(STX), Send Errors Packets, Send Drops Packet, Send Bytes(SRX).
【VPN Route Type】: Link to the sub-page: Internet Connection Type.

After each configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Add】: Add new L2TP setting.
【Refresh】: Refresh the information on the page.
Click the "L2TP" tab; the following sub-tabs appear on the page:

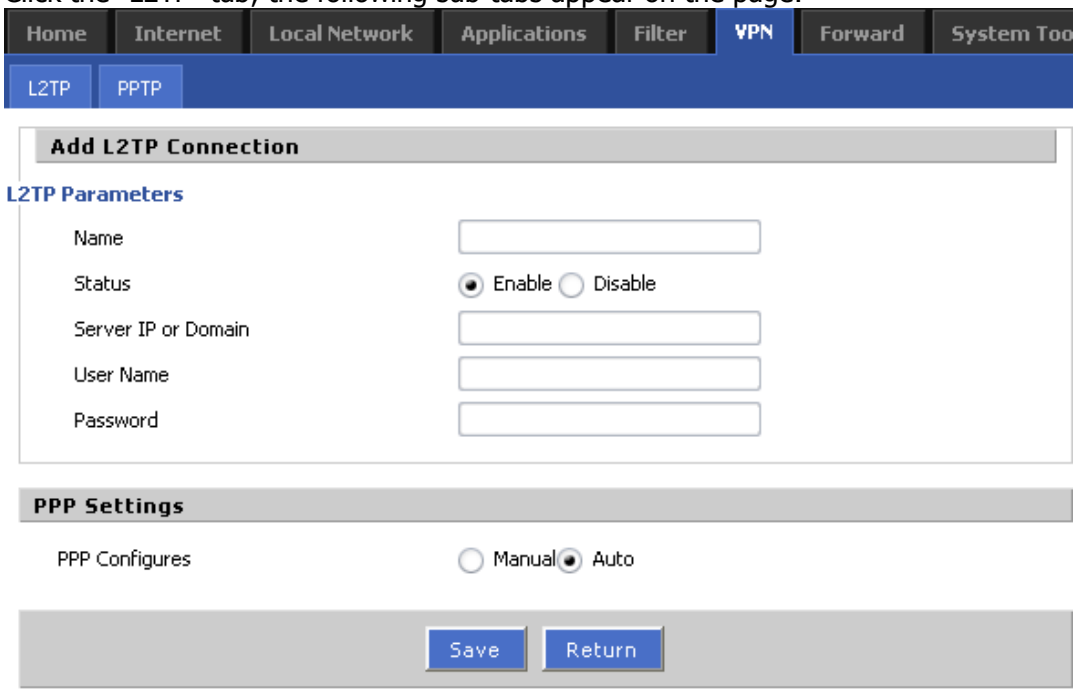


Fig. 3.3.6.1-2: L2TP Setting Interface

L2TP configuration parameters include:

【Name】: Set a name for this L2TP connect.
【Status】: Set whether enable this L2TP: Enable/Disable.
【Server IP or Domain】: Input Server IP or Domain of the VPN service provider.
【User Name】: Set the user name provided by the VPN SP.
【Password】: Set the password provided by the VPN SP.
【PPP Configures】: Please see Chapter 3.3.2.1 as a reference.

After each configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Return】: Return to the previous page.

3.3.6.2 PPTP configuration

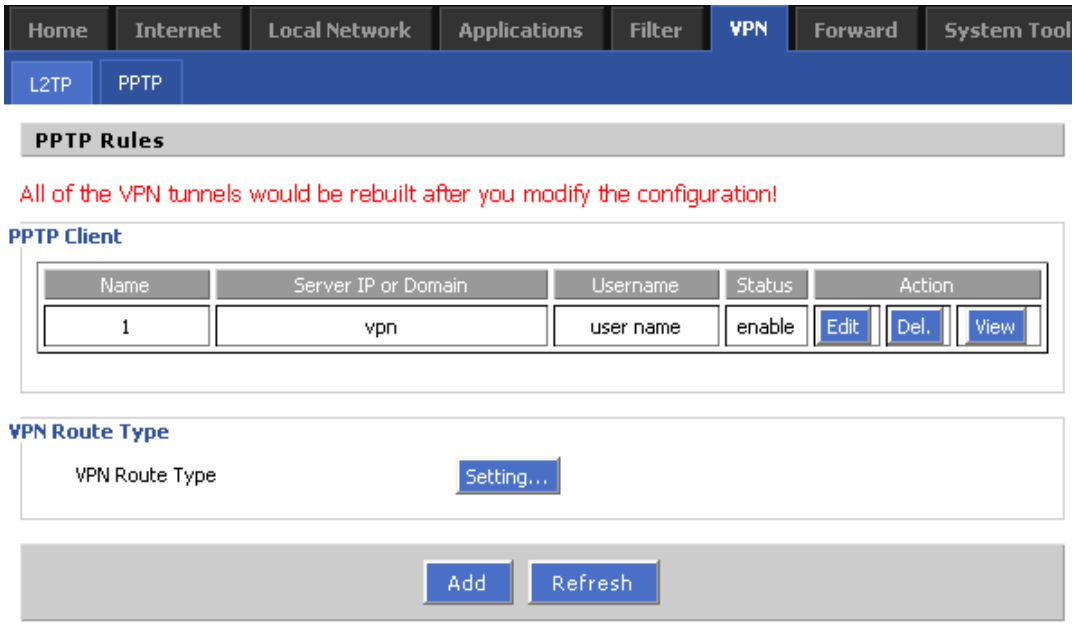


Fig. 3.3.6.2-1: PPTP Setting Interface

【Edit】: Edit the PPTP setting.
【Del】: Delete the PPTP setting.
【View】: View the status of PPTP, including Received Packets (TX), Received Errors Packets, Received Drops Packets, Received Bytes (RX), Send Packets (STX), Send Errors Packets, Send Drops Packet, and Send Bytes (SRX).
【VPN Route Type】: Link to the sub-page: Internet Connection Type.

After each configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Add】: Add new PPTP setting.
【Refresh】: Refresh the information on the page.

Click the "PPTP" tab; the following sub-tabs appear on the page:

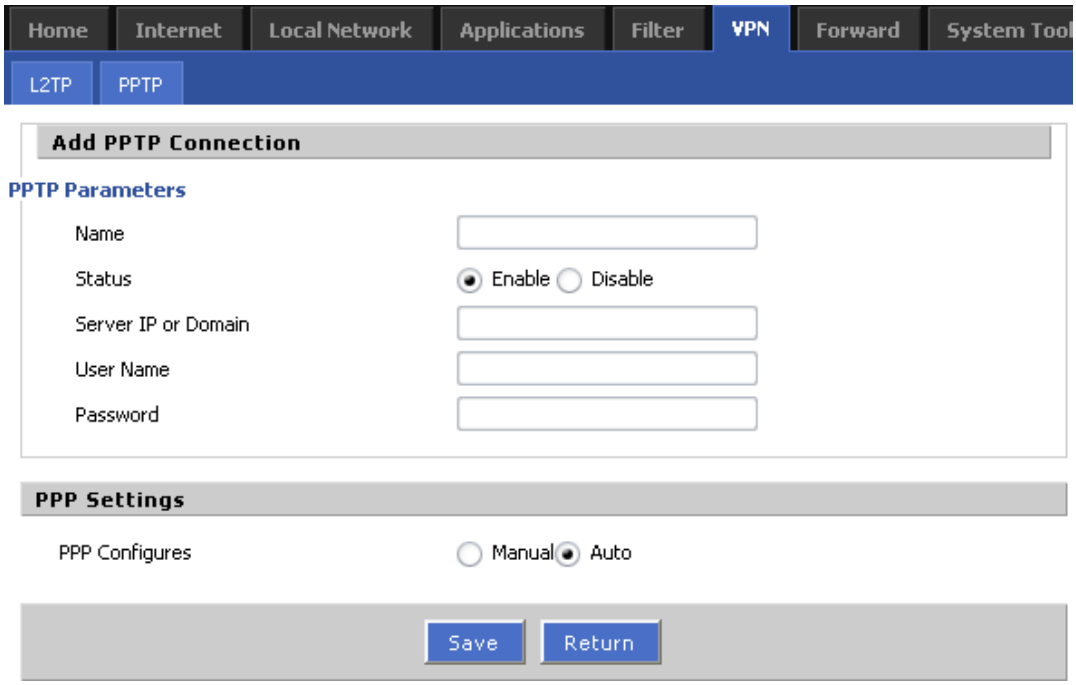


Fig. 3.3.6.2-2: PPTP Setting Interface

PPTP configuration parameters include:

【Name】: Set a name for this PPTP connect.
【Status】: Set whether enable this PPTP: Enable/Disable.
【Server IP or Domain】: Input Server IP or Domain of the VPN service provider.
【User Name】: Set the user name provided by the VPN SP.
【Password】: Set the password provided by the VPN SP.
【PPP Configures】: Please see Chapter 3.3.2.1 as a reference.
After each configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Return】: Return to the previous page.

3.3.7 Forward

When you click the "Forward" tab, the following sub-tabs appear on the page:

- NAT & DMZ
- Static Route

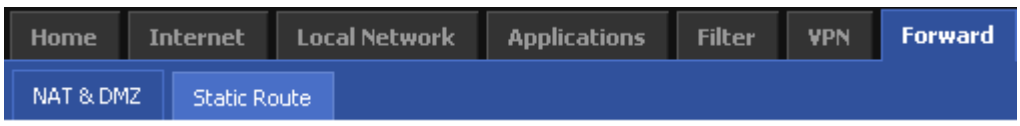


Fig. 3.3.7: Forward Tab

3.3.7.1 Nat & DMZ configuration

In the "Forward" main tab, click the "NAT&DMZ" sub-tab to set the route mode, NAT and DMZ functions and go to the following configuration interface:

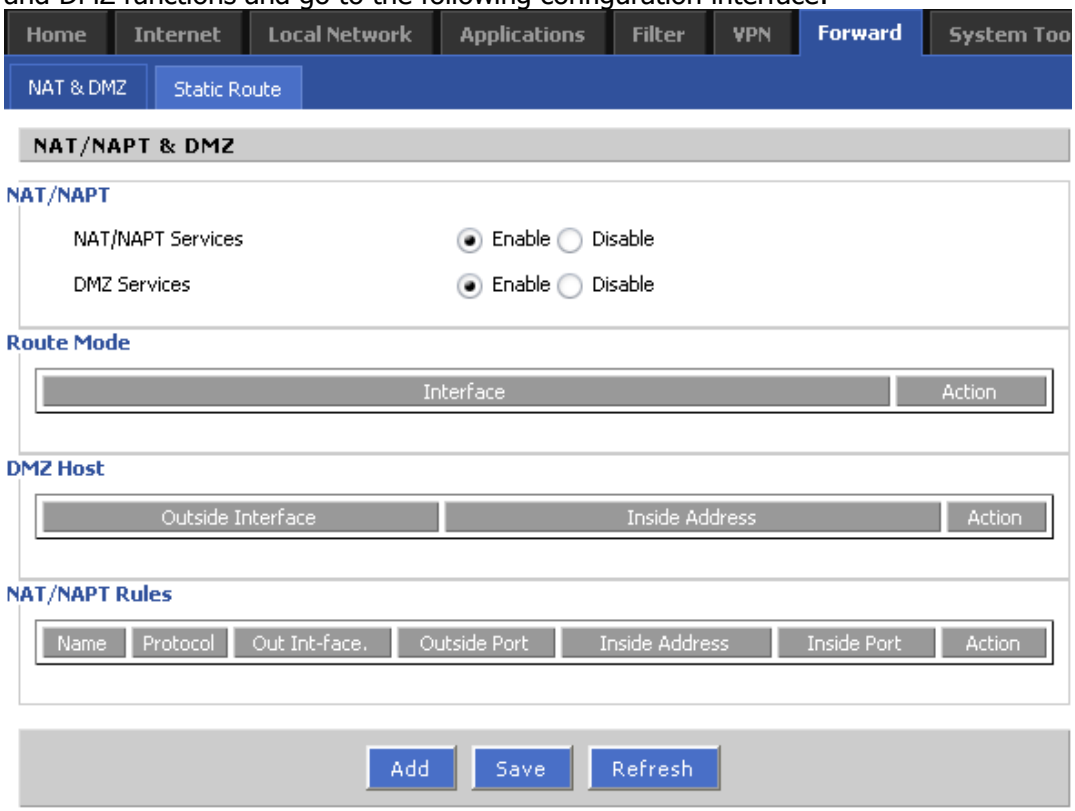


Fig. 3.3.7.1-1: NAT&DMZ Setting Interface

NAT&DMZ configuration parameters include:

【NAT/NAPT Services】: Set whether enable NAT/NAPT function: Enable/Disable.
【DMZ Services】: Set whether enable DMZ function: Enable/Disable.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Add】: Add new rules.
【Del】: Delete the set rules.
【Save】: Save the settings.
【Refresh】: Refresh the information on the page.

Click the "Add" to go to the following configuration interface:

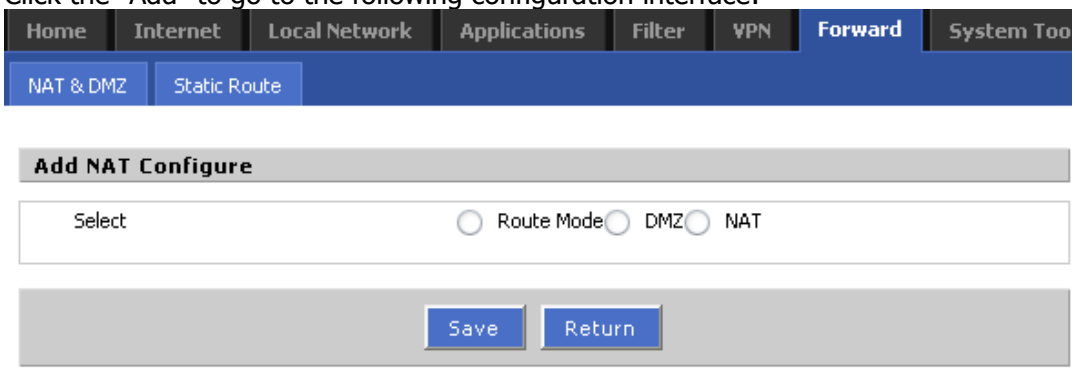


Fig. 3.3.7.1-2: NAT&DMZ Setting Interface

【Select】: Select which data forward rule to be added.

1. Route mode setting

Select the "Route Mode" option to go to the following configuration interface:

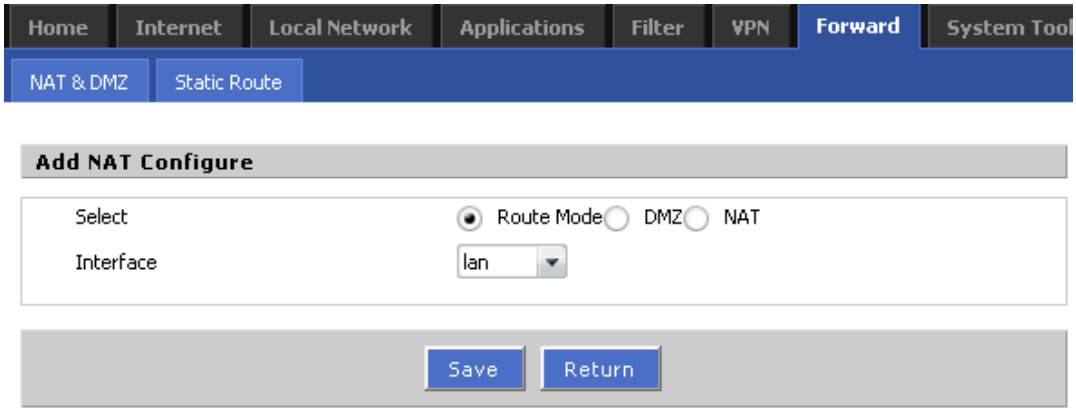
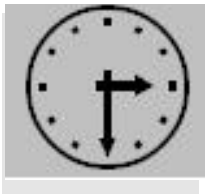


Fig. 3.3.7.1-3: NAT&DMZ Setting Interface

Route Mode configuration parameters include:

【Interface】:On selected interface, the source IP of packets pass through H8951would not be replaced to H8951's IP, the destination machine can see the source IP directly.



Note:

Normally you may not need this option except for some certain application.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Return】: Return to the previous page.

2. DMZ setting

Select the "DMZ" option to go to the following configuration interface:

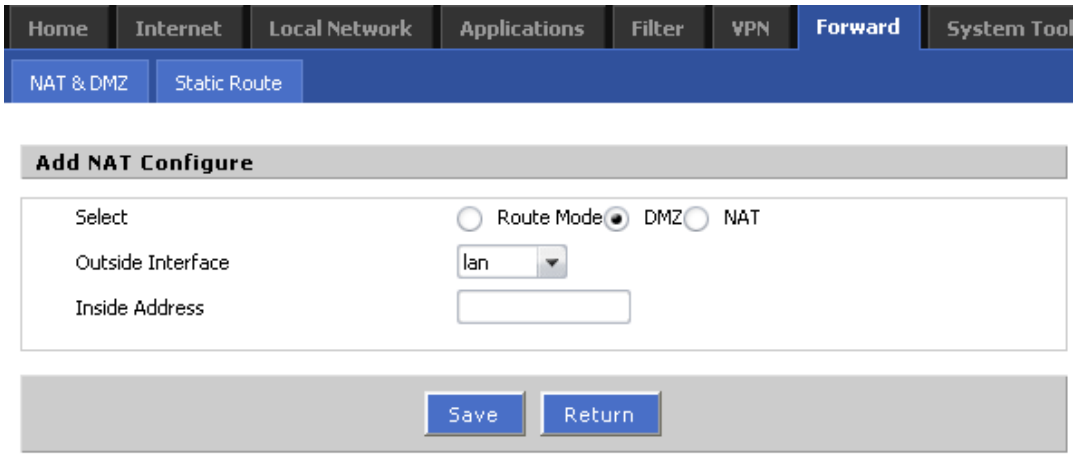


Fig. 3.3.7.2-4: DMZ Setting Interface

DMZ configuration parameters include:

【Outside Interface】: Set the interface on which the DMZ function acts.
【Inside Address】: Set the IP address of the host assigned by DMZ record.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Return】: Return to the previous page.

3. NAT setting

To configure the NAT function, you need to go to the following configuration interface:

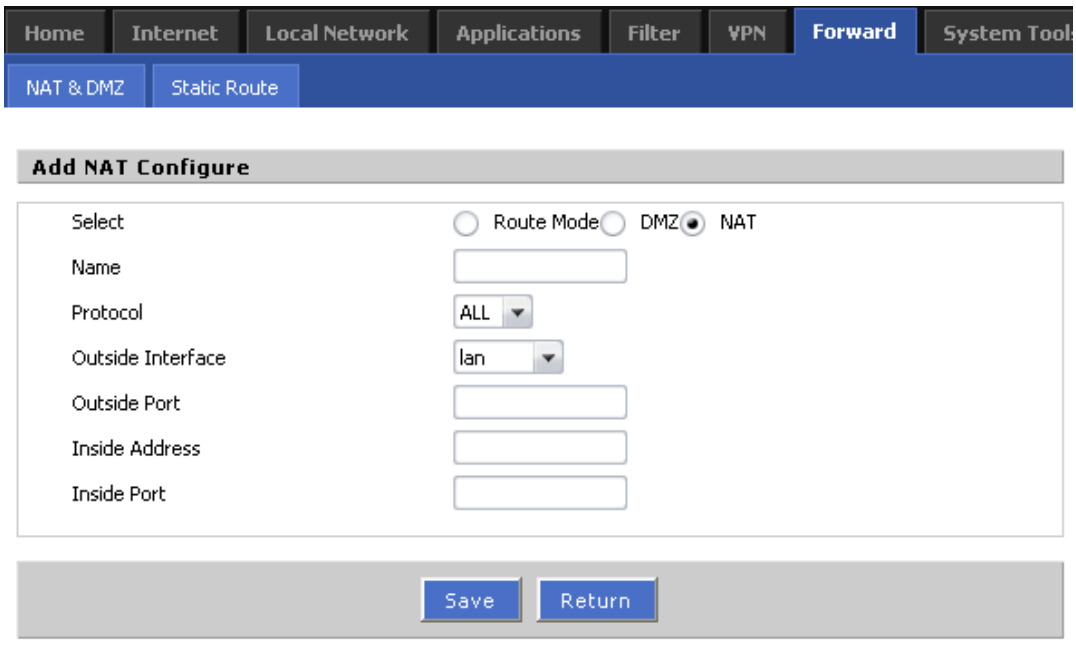


Fig. 3.3.7.2-5: NAT Setting Interface

NAT configuration parameters include:

【Name】: Set the name mapped by NAT port.
【Protocol】: Set the protocol mapped by NAT port.
【Outside Interface】: Select the interface on which NAT function acts.
【Outside Port】: Set the outside port number mapped by NAT port.
【Inside Address】: Set the IP address of LAN host mapped by NAT port.
【Inside Port】: Set the port number of LAN host mapped by NAT port.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Return】: Return to the previous page.

3.3.7.2 Static route configuration

In the "Forward" main tab, click the "Static Route" sub-tab to set the static route parameters and go to the following configuration interface:

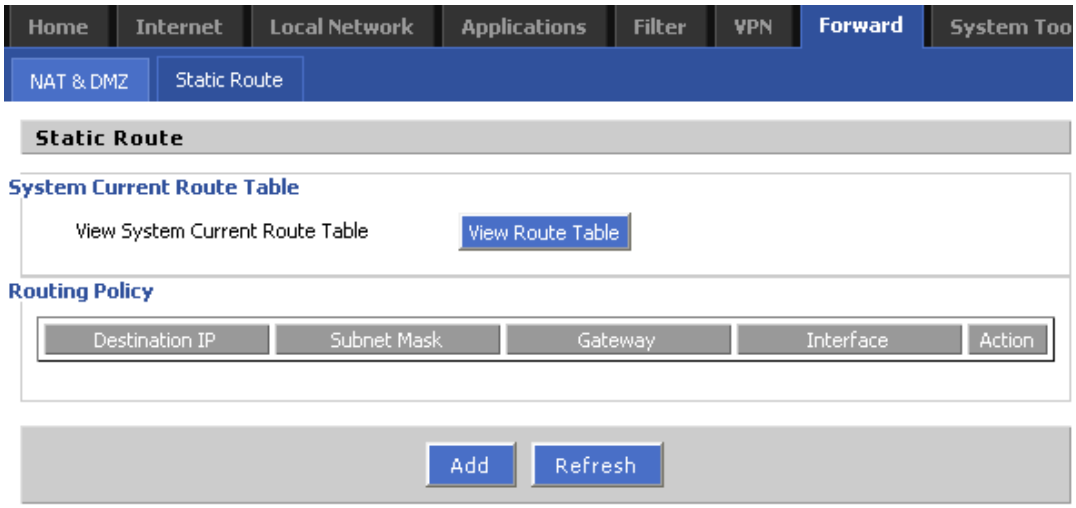


Fig. 3.3.7.2-1: Static Route Configuration Interface

The configuration parameters include:

【View Route Table】: View the current system's route table.
【Add】: Add new static routes.
【Refresh】: Refresh the information on the page.

To add the static route, click the "Add" button and go to the following configuration interface:

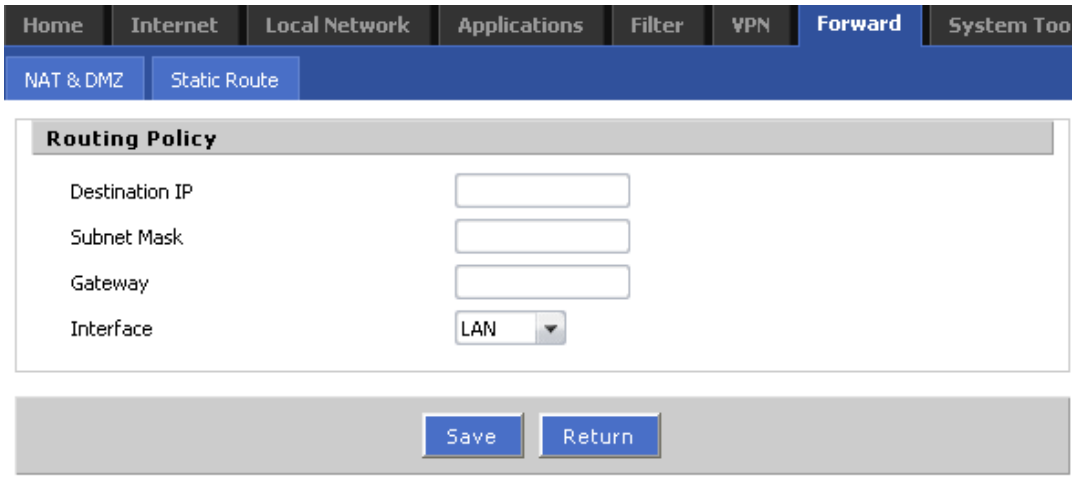


Fig. 3.3.7.2-2: Static Route Configuration Interface

The static route's configuration parameters include:

【Destination IP】: Configure the destination network address of this static route.
【Subnet Mask】: Configure the subnet mask of the destination address of this static route.
【Gateway】: Configure the next IP address of this static route, namely the port address of the neighboring router.
【Interface】: Specify the interface on which the static route acts.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Return】: Return to the previous page.

3.3.8 System tools

When you click the "System Tools" tab, the following sub-tabs appear on the page:

- Local Log
- System Log
- Clock
- Account
- Backup
- Firmware Upgrade
- System Reboot

Fig. 3.3.8: System Tools Tab

3.3.8.1 Local Log information

In the "System Tools" main tab, click the "Local Log" sub-tab to view the log information and go to the following configuration interface:

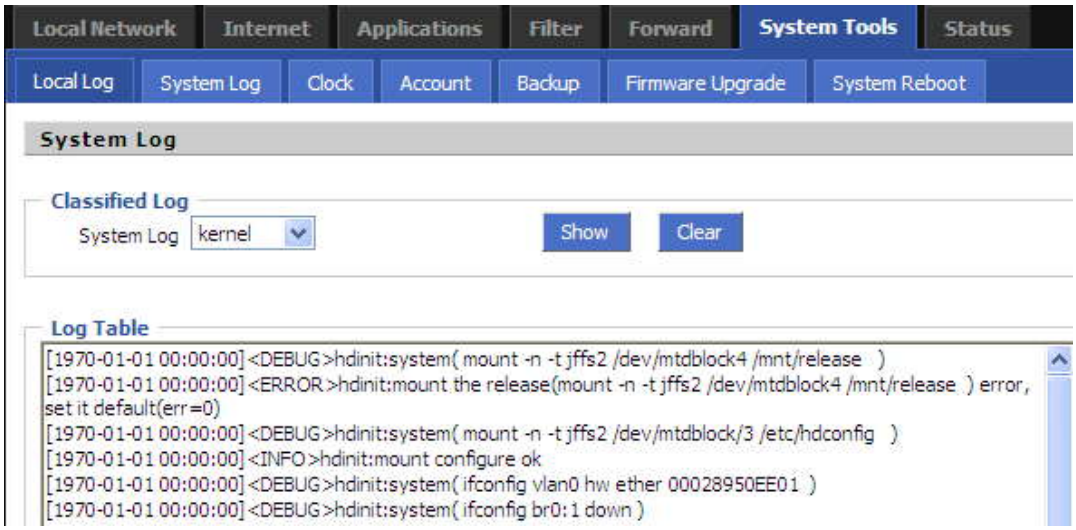


Fig. 3.3.8.1: Log View Interface

Log view settings include:

【System Log】: Set the type of log to be displayed.

After selecting the log type, you can make the following operations:

【Show】: Display log in the Log Table.
【Clear】: Clear the log in the Log Table.

Log display:

【Log Table】: Display the system log information in the table.

3.3.8.2 System Log function

In the "System Tools" main tab, click the "System Log" sub-tab to set the log function and go to the following configuration interface:

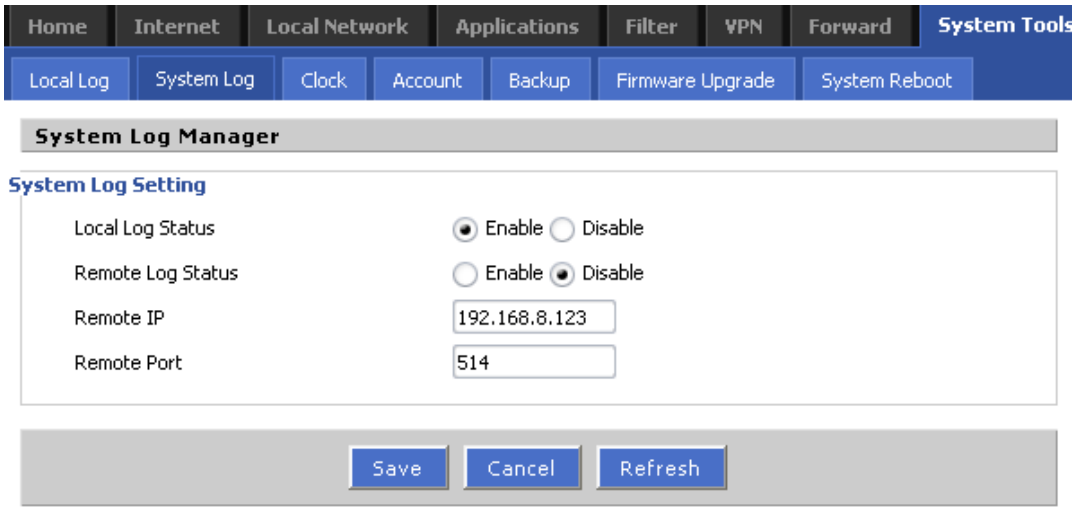


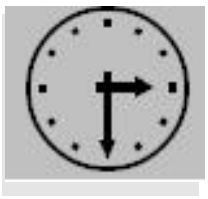
Fig. 3.3.8.2: System Log Management Interface

The system log configuration parameters include:

【Local Log Status】: Set whether enable local log function: Enable/Disable.
【Remote Log Status】: Set whether enable remote log function: Enable/Disable. After this function is enabled, the router will send the log information to the configured remote PC.
【Remote IP】: Set the IP address of the remote server, generally the IP address of the PC that receives the log information.
【Remote Port】: Set the port number of the remote server.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.



Note:

For the success of remote log receive, the remote log server must be started.

3.3.8.3 System clock

In the "System Tools" main tab, click the "Clock" sub-tab to set the system's clock function. Time Synch. Type option is the method to synchronize the system time: NTP and Manual.

Select the Manual to set the time manually.

Select the NTP to go to the following configuration interface:

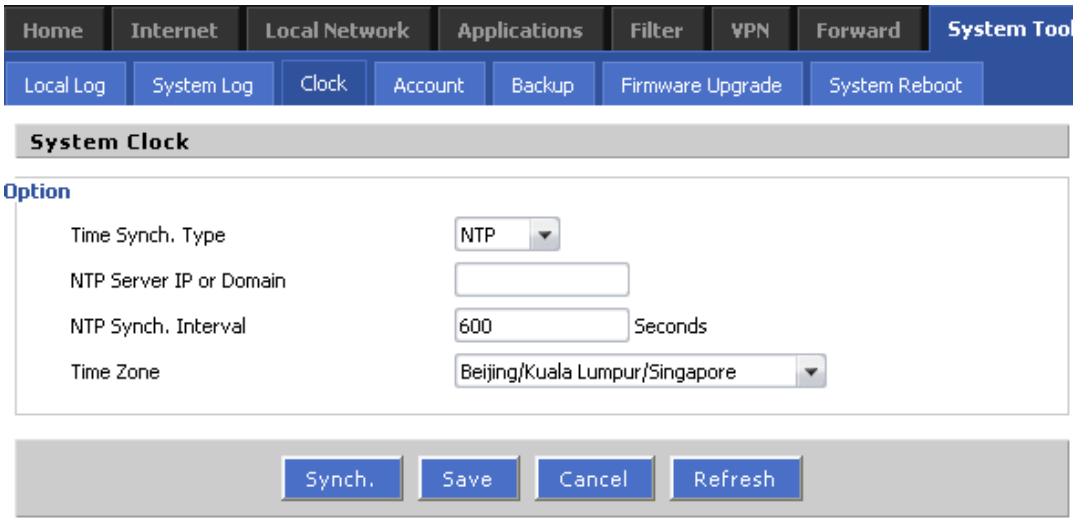


Fig. 3.3.8.3: NTP Configuration Interface

The system clock configuration parameters include:

【NTP Server IP】: Set the domain or IP address of the NTP server.
【NTP Synch. Interval】: Set the interval of the router making NTP synchronization in successive two times.
【Time Zone】: Set the time zone.

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Synch. 】: Synchronize with the NTP server immediately.
【Save】: Save the settings.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.

3.3.8.4 Account setting

The router provides the user with the power to modify the password, In the "System Tools" main tab, click the "Account" sub-tab to set the account management function and go to the following configuration interface:

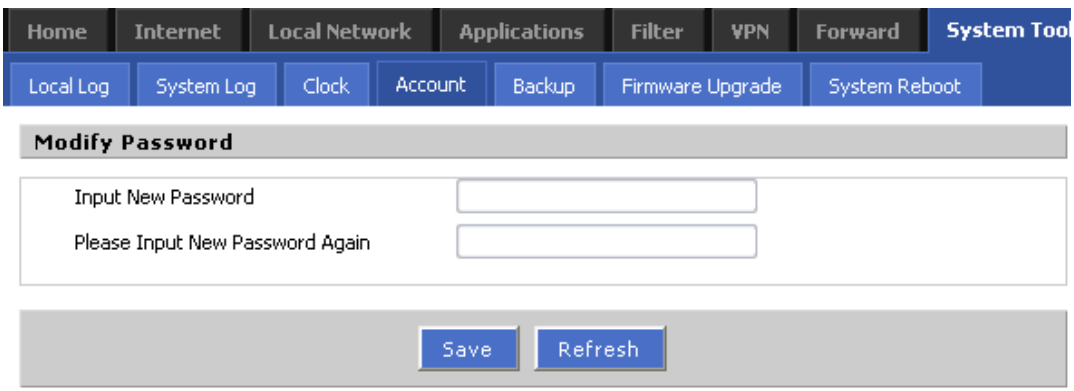


Fig. 3.3.8.4: Account Interface

The system clock configuration parameters include:

【Input New Password】: Input your new password.
【Please Input New Password Again】:Input your new password again

After the configuration according to your specific needs, you can carry out the following operations to the configuration result:

【Save】: Save the settings.
【Refresh】: Refresh the information on the page.

Then you need to log in to the router again.

3.3.8.5 Backup

In the "System Tools" main tab, click the "Backup" sub-tab to set the backup function. The configuration interface consists of two parts: the first part is parameters backup, namely send the parameters configuration information from the router to PC; the second part is parameters restoration, namely send the parameters configuration information from PC to the router.

1. Backup configuration

See the figure below:

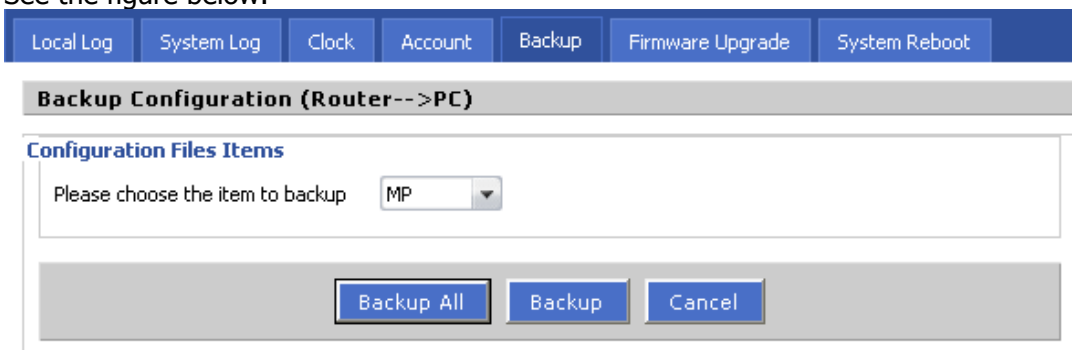


Fig. 3.3.8.5-1: Backup Configuration Interface

Select the parameter type to backup in the selection box. The backup configuration parameters include:

【Backup All】: Set the backup all operation.
【Backup】: Select parameter items to backup from the "Please choose the item to backup" drop-down list, and select the storage path to back up the configured parameters information.
【Cancel】: Cancel the operation in the selection box.

2. Restore configuration

See the figure below:

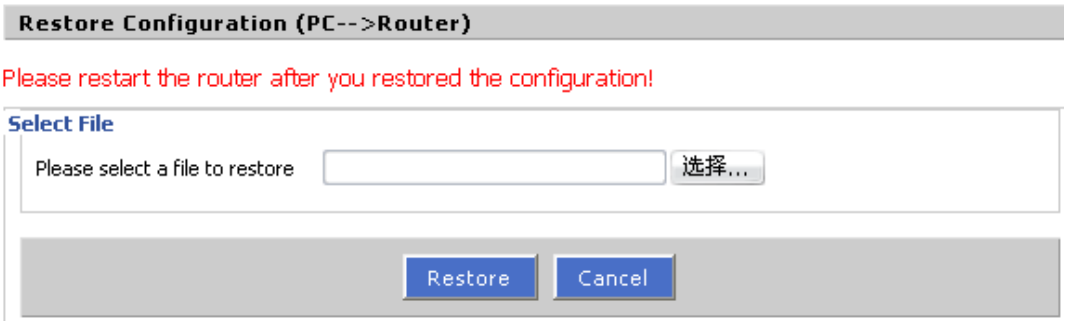


Fig. 3.3.8.5-2: Restoration Configuration Interface

The configuration file restoration operations include:

【Select】: Select the location where the parameters file to be imported is located.
【Restore】: Import the parameters.
【Cancel】: Cancel the information in the address input box.

3.3.8.6 Firmware upgrade

In the "System Tools" main tab, click the "Firmware Upgrade" sub-tab to use the software upgrade function and go to the following interface:

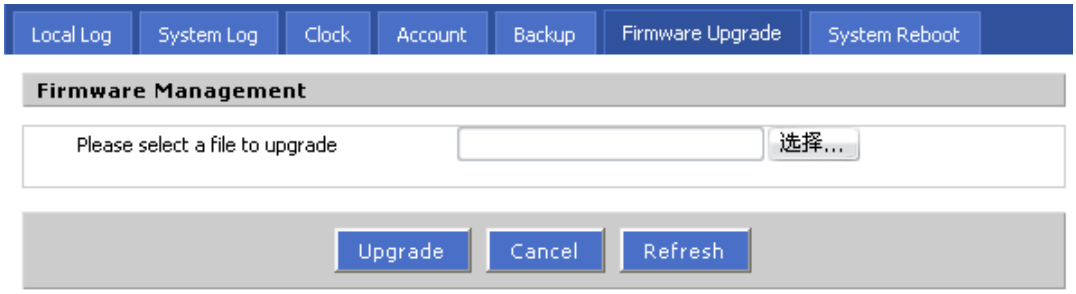
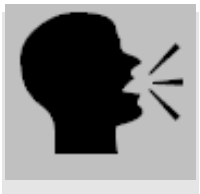


Fig. 3.3.8.6: Upgrade Management Interface

The upgrade configuration parameters include:

【Select】: Select the location of the upgrade software.
【upgrade】: Start firmware upgrade.
【Cancel】: Cancel the unsaved configuration.
【Refresh】: Refresh the information on the page.



Note:
In the upgrade process, don't cut off the power supply or disconnect the communication connection between PC and router!
After the upgrade succeeds, reboot IE browser and router!

3.3.8.7 System reboot

In the "System Tools" main tab, click the "System Reboot" sub-tab to use the system reboot function and go to the following interface:

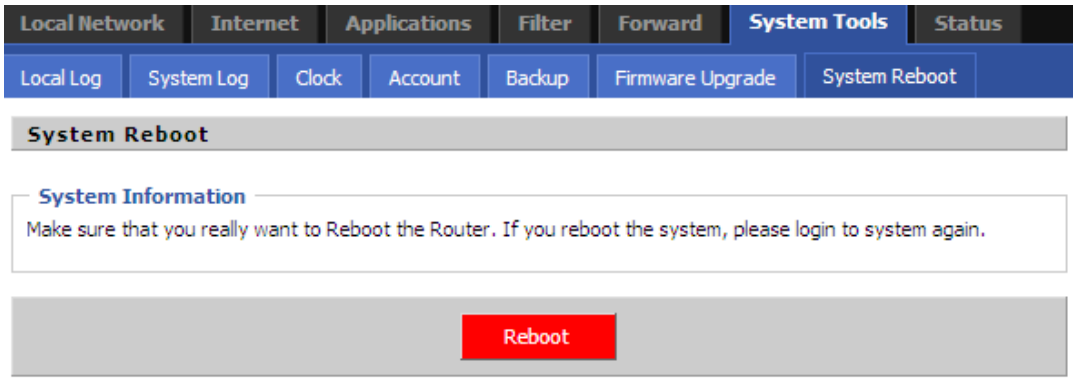


Fig. 3.3.8.7: System Reboot Interface

The reboot configuration parameters include:

【Reboot】: Reboot the system.

After reboot the router, please reboot the browser!

3.3.9 Status display

When you click the "Status" tab, the following sub-tabs appear on the page:

- Base Information
- LAN
- WAN
- Embedded Modem
- Route Table
- DHCP Client

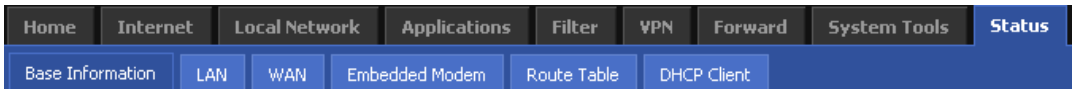


Fig. 3.3.9: Status Information Tab

Tab description:

【System Information】: Display the system information.
【LAN】: Display LAN port's running information.
【WAN】: Display WAN port's running information.
【Embedded Modem】: Display USB wireless network's running information.
【Route Table】: Display the route table information.
【DHCP Client】: Display the DHCP Client information.

Chapter 4 Frequently Asked Questions (FAQ)

4.1 Fault analysis

Fault 1: All indicators are off.

Check whether the cables are connected correctly. Meanwhile, check whether the power supply complies with the requirements. Galaxy H8951 3G SOHO Router's label indicates the detailed requirements regarding the power supply voltage. Check whether the power supply voltage is identical with that specified in the label.

If the input voltage is correct, but all indicators are off, maybe the device fails. Please contact your sales representative.

Fault 2: Unstable phenomenon appears after working for a long time.

Check whether the device is overheated. If it is overheated, put the device in a ventilated place.

Fault 3: The device doesn't execute self-checking.

Make sure the power supply is correct.

Fault 4: How to resolve the problem if the following information appears when you ping the router?

Pinging 192.168.8.1 with 32 bytes of data:
Request timed out.

Such information indicates that error occurs in the installation process. You must check the followings in sequence:

- ✓ Whether PC is connected with Galaxy H8951 3G SOHO Router correctly by Ethernet cable?
  (Note: H8951 Router's LINK indicator and PC's Link indicator must be on).
- ✓ Whether PC's TCP/IP environment is configured correctly?
  (Note: If H8951 Router's IP address is 192.168.8.1, PC's IP address must be 192.168.8.xxx).

For more check, click the relevant menu and enter the DOS interface. Type the command: ipconfig, and press the Enter key, for example:

C:\>ipconfig

Windows IP Configuration

Ethernet adapter local connection:

Connection-specific DNS Suffix. . . . :
IP Address . . . . . : 192.168.8.48
Subnet Mask . . . . . : 255.255.255.0
IP Address . . . . . : 192.168.0.48
Subnet Mask . . . . . : 255.255.255.0
Default Gateway . . . . . : 192.168.0.254

(Type the command: ipconfig? to get more operation help regarding ipconfig command).

Appendix: Software Upgrade Description

Upgrade tool description and operating instructions

Galaxy H8951 3G Router is designed with the platform technology, whose software can be upgraded with the development of the communication and network technology.

WEB upgrade:

Galaxy H8951 3G Router supports the function of upgrading the firmware directly by importing the upgrade file via the WEB configuration interface. Log in the WEB configuration page by means of entering the router's IP address (LAN port or WAN port) in the browser's address bar. Click System Tools -> Firmware Upgrade, to go to the Web firmware upgrade interface. Click the Browse key to find the corresponding upgrade file. Click the Save button to upgrade the firmware.

In the process of upgrade, don't make any other operation to the Web configuration page. Otherwise, the upgrade may fail, which may make the router fails. After the upgrade, this Web page will prompt that the upgrade succeeds or fails. If upgrade fails, you can repeat the above operations again to upgrade the firmware.

Note:
1. In the software upgrade process never cut off the power supply or disconnect the communication between the PC and the router.