H900 Series Router

User Manual

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Before installation, please confirm the following:
A. The sim card support data business available.
B. Get the correct APN parameter from the sim card provider or network provider
C. Make sure your computer OS no firewall blocking the software installation and running.
D. Highly suggested that the other modem drivers and software be uninstalled from the computer.

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 E-Lins® H900 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 H900 V1.0, and is used as the guideline while E-Lins® H900 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 E-Lins® H900 Router.

Applicable product version: H900 V1.0 version

1.3 Version information

E-Lins® H900 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.

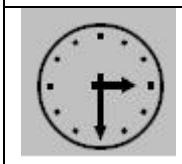
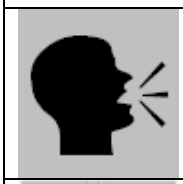
Table -1.1: Revision History

Version	Revised by	Involved dept.	Revised on	Description
V1.0.1	Jason Zou		2010-9-9	Beta

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
H900	Means E-Lins® H900 Cellular Router series products	Appears in the process after Chapter 2
H8000	Means E-Lins® 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	+86-755-83700465
24Hours hotline	+86-13352989041
Fax	+86-755-83700466
Post code	518000

✉ E-mail service:

Technical support: support@szelins.com

Website and BBS service:

Website: www.szelins.com

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 Cellular 3G overview

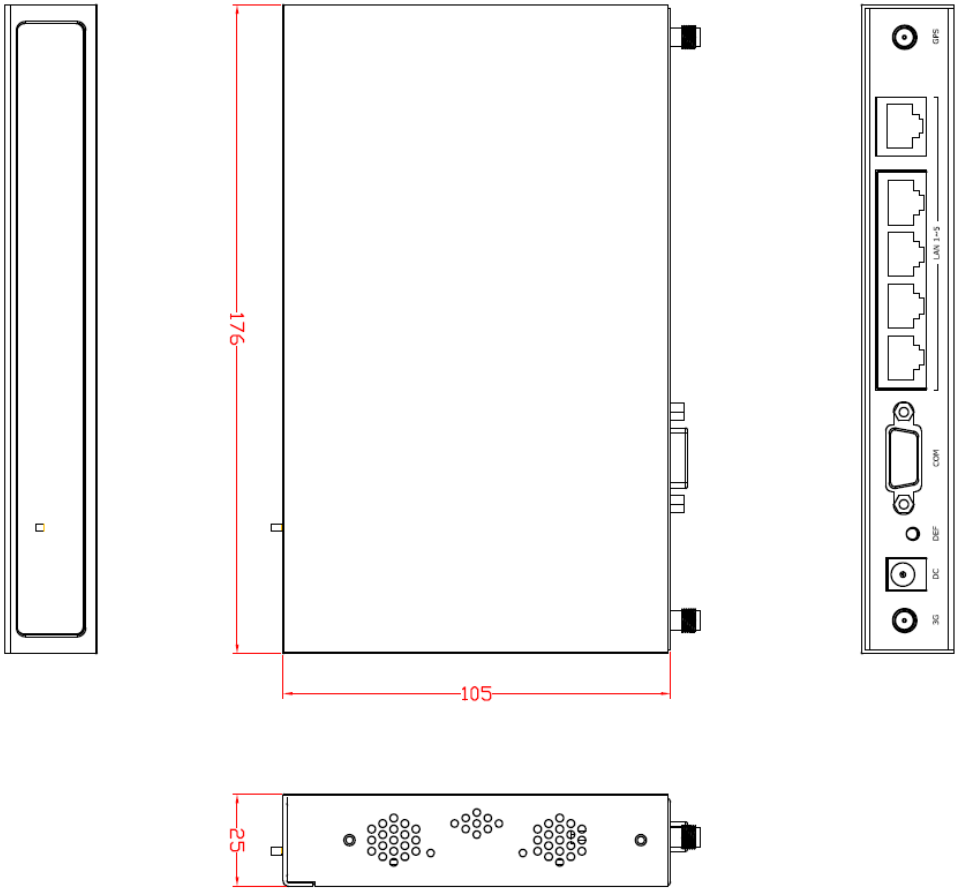
Combining with the third generation of mobile communication technology and WLAN technology, E-Lins 3G mobile network data communication terminal product is designed as a high-tech 3G product upon the needs of users. It can provide data communication service for these users at any time and in any place.

E-Lins H900 Series Cellular 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.

H900 series router includes H900g, H900e, H900c, H900d, H900u, H900ev, configuration have few different.

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.



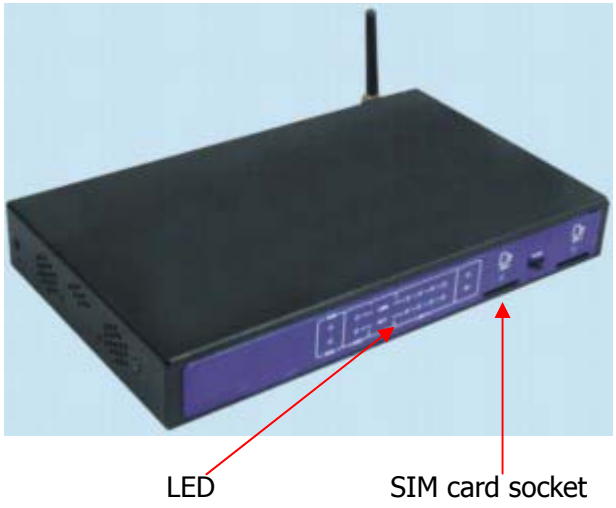


Fig. 2.1.1-1: Front Panel

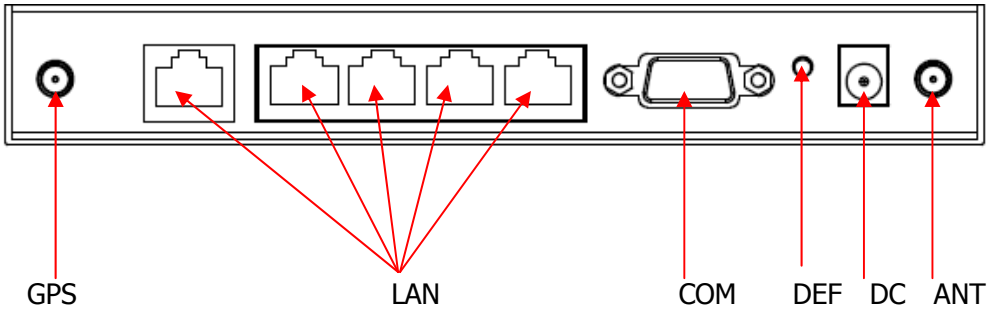
The indicators on the front panel are described as the table below:

Indicator	State Description
PWR:	Power supply indicator, light, solid: normal
RUN:	Router status, blink slowly: works normal

LAN1～5—LINK:	LAN1～LAN5 status, blink when data communication
LAN1～5—ACT:	LAN1 ～ LAN5 connect status: light, solid: connection normal. Otherwise dark
NET:	Dark (no connection, no dial-up); blink fast(during dial-up), blink slowly(connect 2.5G network); light, solid:(connect 3G network)
RF:	Module power indicator, light, solid: normal

Back panel interface

E-Lins H900 Cellular Router's all interfaces are designed on the back panel as shown below:



GPS antenna available on GPS edition only

Fig. 2.1.1-2: Back Panel

The interfaces on the back panel are described as below:

ANT: Antenna (SMA negative terminal) interface, which is able to match with standard short antenna, vehicular antenna or directional antenna;

DEF: Reset button used for restoring the default parameters.

DC: DC power supply interface. (Be sure to check if the voltage of power supply is consistent with the label on the router)

LAN: 10/100BaseT self-adapting Ethernet interface;

COM: DTU function, this port receives data from a RS232 port, and sends all the data it received to an IP address or a domain on the Internet. All these are automatically and based on mobile network and data will be sends transparently without any change.

2.1.2 Other Accessories

For safe transportation purpose, E-Lins H900 series 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

- E-Lins H900 3G device 1 (packaged upon the order conditions)
- 3G/GSM antenna 1
- +12V power adapter 1
- User manual 1 (CD-ROM)
- Certificate of conformity and warranty card 1
- Mounting and securing fittings 1 pair

Optional accessories

- 1.5m RJ45 cable 1
- GPS antenna 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 E-Lins H900 Cellular Router while it is powered.

2.1.3.1 Environment requirements

The system can be used under the following conditions:

- Voltage : +5VDC~26VDC
- Power Consumption:
- Peak working Current: 240mA@+12VDC
- In time of idling: 40mA@+12VDC
- Operating Ambient Temperature: -30~+75ºC
- Storage Temperature: -40~+85ºC
- Relative Humidity: <95% (no condensation)

E-Lins H900 Cellular 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

DC - power supply interface, E-Lins H900 cellular 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 source;
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

E-Lins series cellular 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 (E-Lins Operation System) software platform is its core advantage.

The features of full-function E-Lins cellular mobile data communication terminal product include:

2.2.1 Hardware function

- SYSTEM, NET, LAN indicators
- Factory default configuration restoration button
- Antenna interface: 50Ω/SMA negative end
- Serial data interface (DB9): RS-232(DCE)
- Serial data interface rate: 300 to 230,400 bits/s
- Ethernet interface: 5 * 10/100BaseT/RJ45 self-adapting
- Configuration interface: WEB

2.2.2 Software function

- Supporting HSUPA/HSDPA/EDGE/GPRS or EVDO/CDMA 1x
- Built-in DHCP Service
- Supporting DMZ host computer
- Supporting DDNS
- Supporting static routing list
- Supporting IP address and port filtration
- Supporting monitor mobile network traffic quality.
- WEB/Telnet Management
- Local Firmware Upgrading/ Configuration Backup
- System Log Server

2.3 System application

Multiple application modes for H900 Cellular Router are described as follows:

- **Application Mode One: Application in video monitoring**

The center-to-multipoint network generally needs to be adopted for the application mode of video monitoring. Please connect and install the router and network camera according to the following schematic diagram. Furthermore, other Ethernet interface equipment can be also connected at the video monitoring site for built-in Ethernet exchangers:

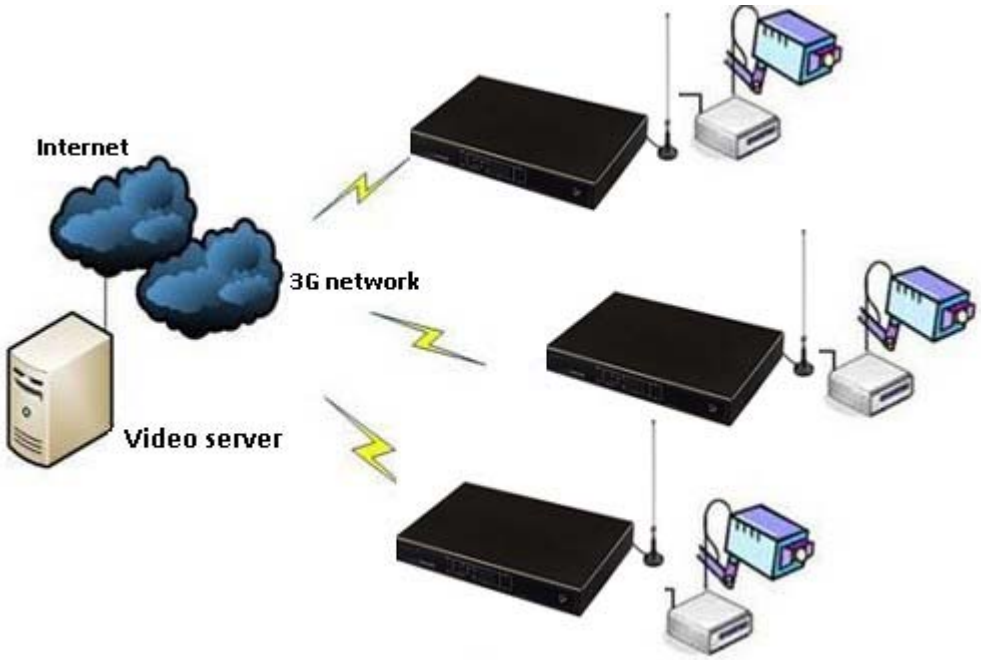


Diagram 2.3-1: Schematic diagram for video application

- **Application Mode Two: Application in banking business**

H900 Cellular Router is able to be connected to the target machine and other network devices at the same time. Take ATM network in the banking business for example. ATM machine needs to be connected to the host computer of bank, and at the same time, it is also connected to the video camera, and thereby monitoring the conditions around ATM machine.

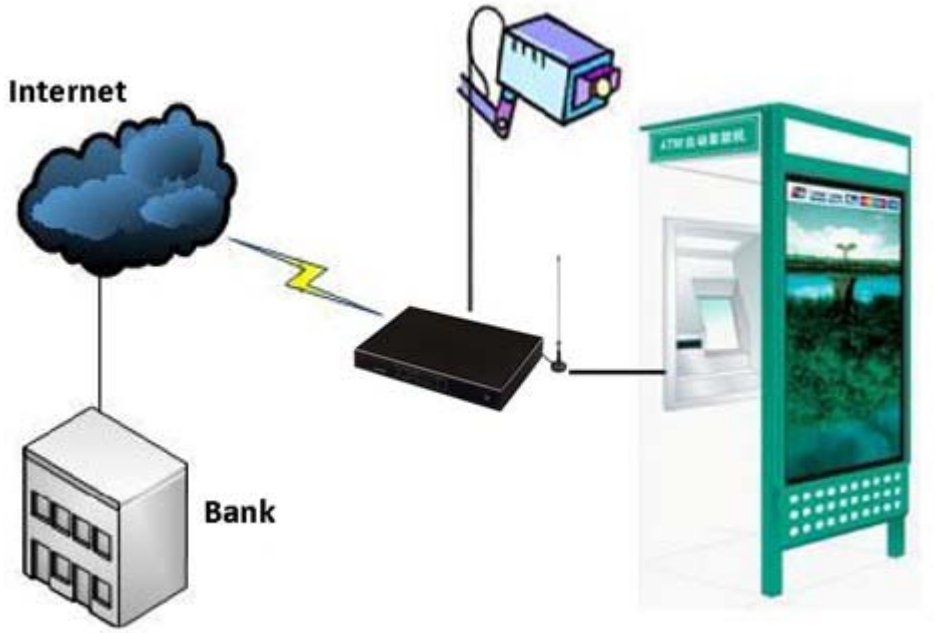


Diagram 2.3-2: Schematic diagram for application in banking business

Chapter 3 Router Configuration

3.1 Overview

E-Lins H900 Cellular Router features built-in WEB interface configuration, management and debugging tools. Before using E-Lins H900 Cellular 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 E-Lins H900 Cellular 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 E-Lins H900 Cellular 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

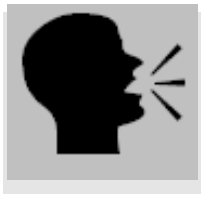
For your convenient use, we recommend you plug your SIM/UIM card into H900's card slot before your configuration. Then power on H900 and begin your configuration. Upon the actual conditions, connect and configure E-Lins H900 Cellular Router by the following two methods:

Note:

You can configure H900 without any sim 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 H900 is power on. Your card may be damaged.



Warning:

The metal casing of H900 Cellular Router has to be well connected to the ground so as to ensure the router a safe, stable and reliable operation.

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 E-Lins H900 Cellular Router as shown in the figure below:

Fig. 3.2.2.1: Wiring Method 1

Note: E-Lins H900 Cellular 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 E-Lins H900 Cellular 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.

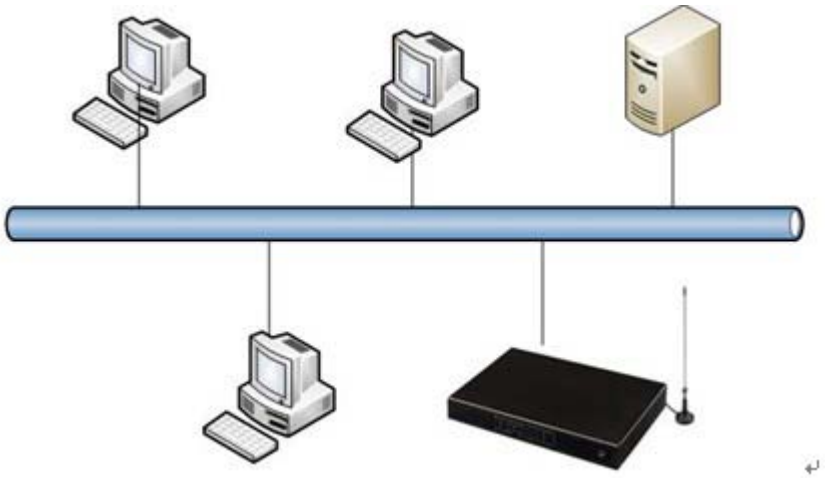


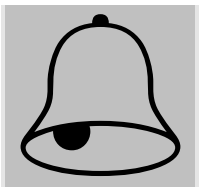
Fig. 3.2.2.2: Wiring Method 2

3.2.2.3 Serial port connect

- **COM – serial interface**

COM serial communication interface is a standard RS-232(DCE) interface with DB9 terminal (negative terminal). It can be used for the configured console (CONSOLE) or normal communication interface.

The cables of RS-232(DCE) interface are defined as follows:



DB-9 connector (DCE-negative terminal)				
PIN	Name	Description	Direction of signal	Remarks
1	CD	Carrier Detect	--→	
2	RXD	Received Data	←--	
3	TXD	Transmitted Data	--→	
4	DTR	Data Terminal Ready	←--	
5	GND	Signal Ground		
6	DSR	Data Set Ready	--→	
7	RTS	Request To Send	←--	
8	CTS	Clear To Send	--→	
9	RI	Ring Indicator	--→	

- **RJ-45 – Ethernet Interface**

Self-adapting (Version 2.0 or above) standard 10/100BaseT Ethernet switching interface

- **ANT – antenna interface**

The standard 5OΩ/SMA radio-frequency connector (negative terminal) is adopted for use. In addition, the lightning-proof measures need to be adopted for some operating conditions, so you may place a lightning protection device between the connector and the antenna.

Attention:

1. The products shall be far away from any heating device;
2. Don't place the products in the dusty or wet environment;
3. The products shall be far away from some potential interference sources, like the metal wall, and micro-wave oven, etc;
4. Pay attention to the position and angle of antenna to ensure it works well. Don't place the antenna in the shielding metal box.

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.

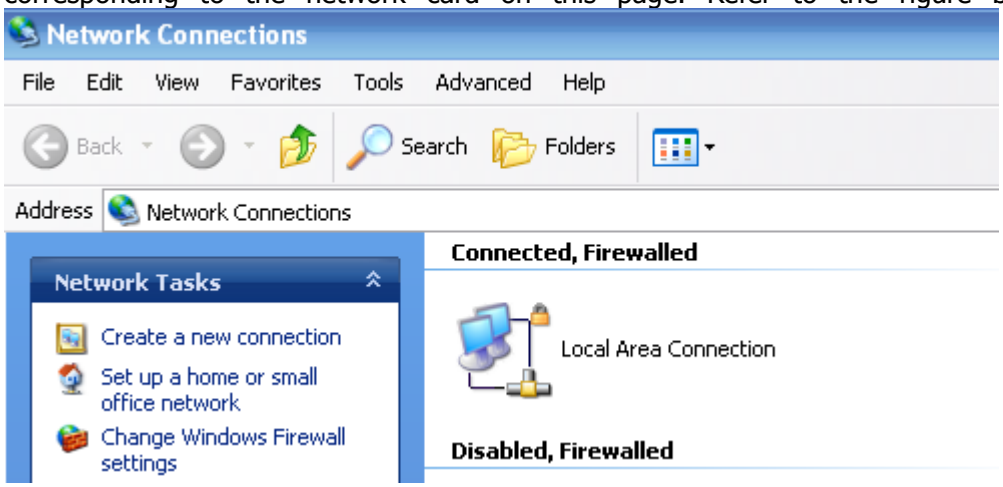


Fig. 3.2.3-1: Computer Local Connection Configuration

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

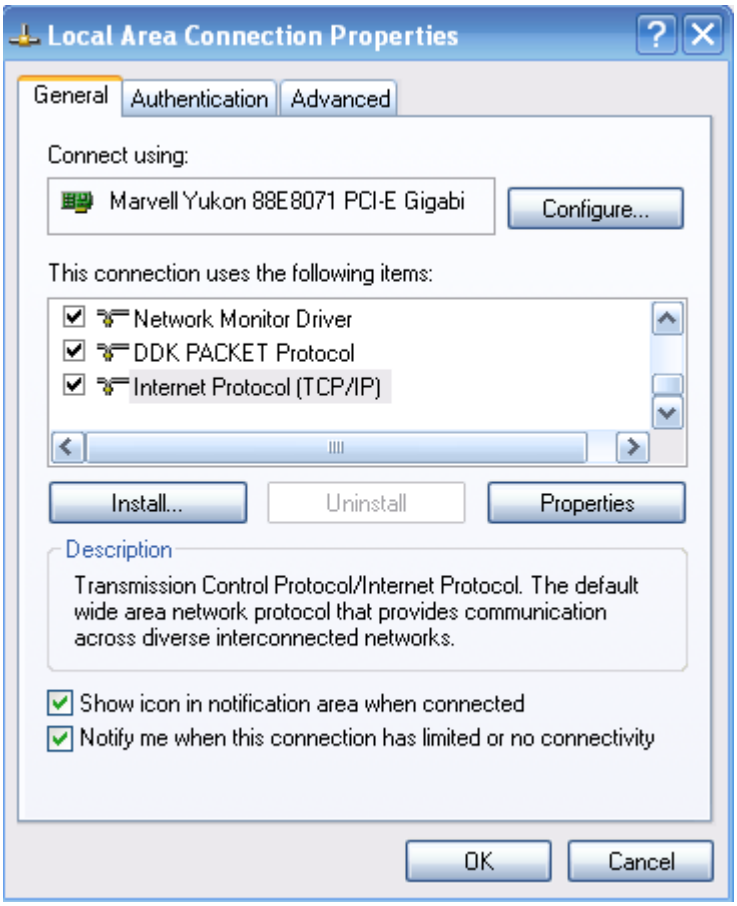


Fig. 3.2.3-2: Computer Local Connection Configuration

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

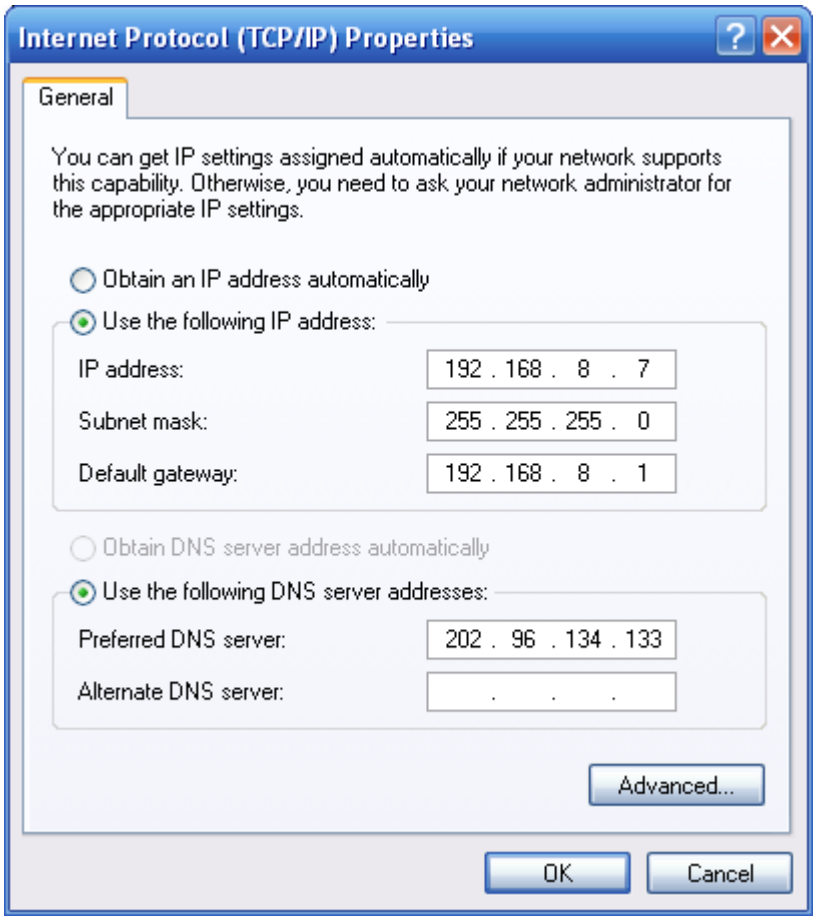


Fig. 3.2.3-3: TCP/IP Properties Configuration

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:
E-Lins H900 Cellular Router LAN port factory default parameter:
IP address: 192.168.8.1;
Subnet mask: 255.255.255.0
E-Lins H900 Cellular 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 E-Lins H900 Cellular 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:

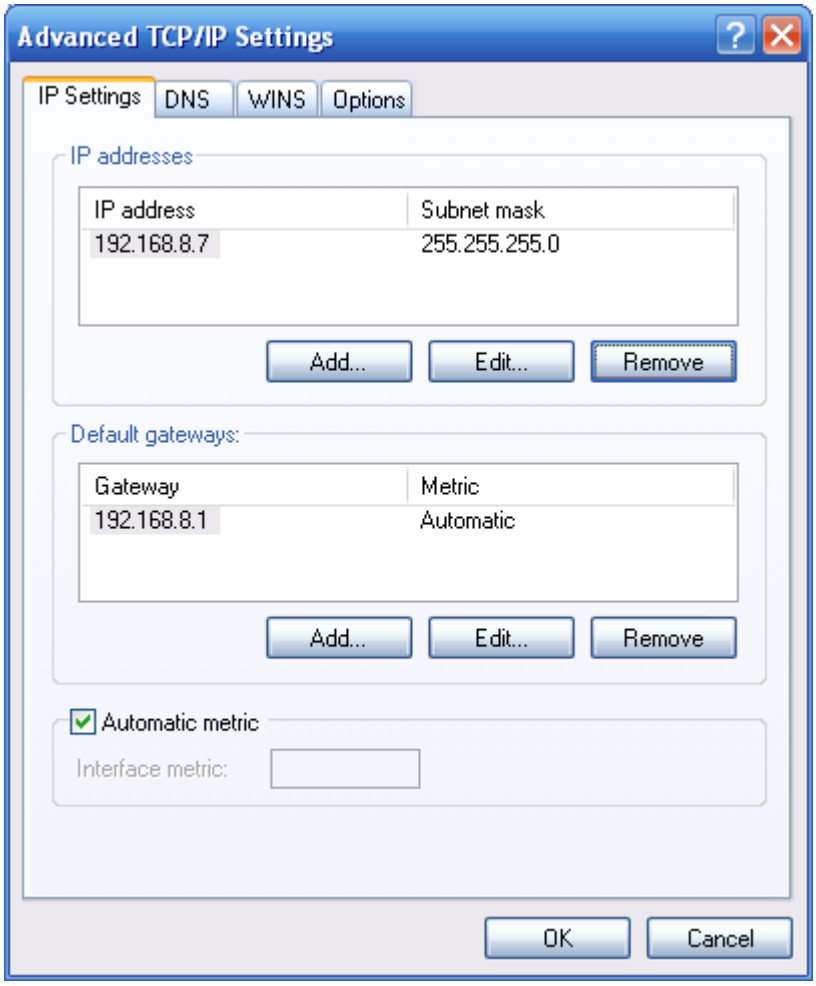


Fig. 3.2.3-4: Advanced TCP/IP Properties Configuration

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

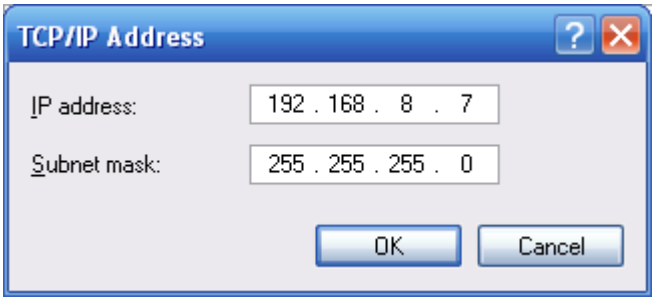


Fig. 3.2.3-5: Add TCP/IP Address

After the configuration is completed, click the "Add". By now the computer has a route to E-Lins H900.

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 E-Lins H900 3G Router + is used, you need to modify the default gateway and configure it as E-Lins H900 3G Router's default LAN IP address 192.168.8.1.

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 E-Lins H900 Cellular 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:

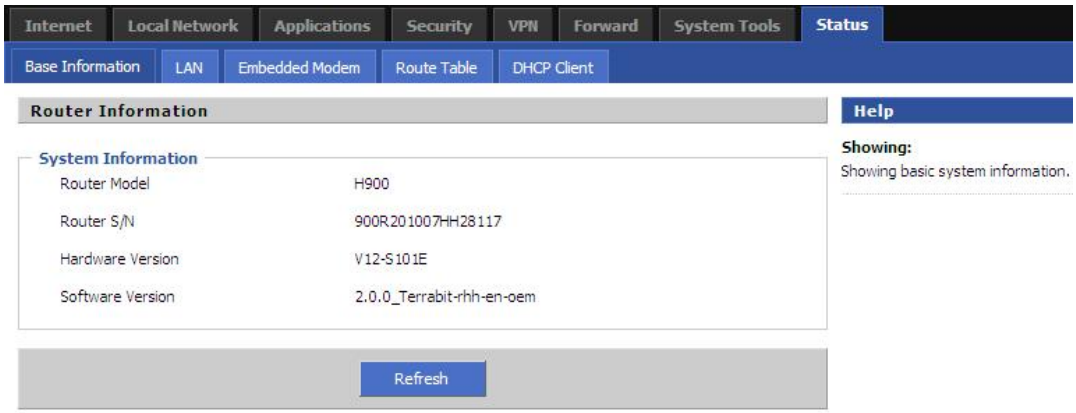
- User name: admin
- Password: admin

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

3.3 WEB-based configuration

E-Lins H900 Cellular 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 E-Lins 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.

3.3.1 General



Drawing 3.3.1-1: System Configuration Window

You can select the function and display the configuration window for the function after clicking on the related option on the top left corner of configuration window. Please see the following drawing:

Menu Descriptions

Drawing 3.3.1-2: Main Option Bar

The options on the main option bar are as follows:

- Internet
- Local Network
- Applications
- Security
- VPN
- Forward
- System Tools
- Status

Move the mouse pointer onto any option, and click on it to display the related sub-options or configuration window. The functions about each sub-option and configuration window will be in detail described in the following sections.

The functions of the most common buttons are as follow:

- 【Save】: used to save the current configuration;
- 【Cancel】: used for canceling the current configuration without saving;
- 【Refresh】: used for refreshing the messages on the window;
- 【Return】: used for returning to last window;

3.3.2 Internet

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

- Mobile Network(Embedded Modem)
- Internet Connection Type

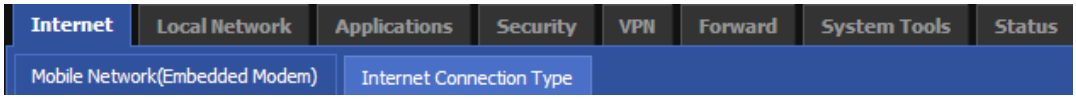


Fig. 3.3.2: Internet Configuration Tab

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:

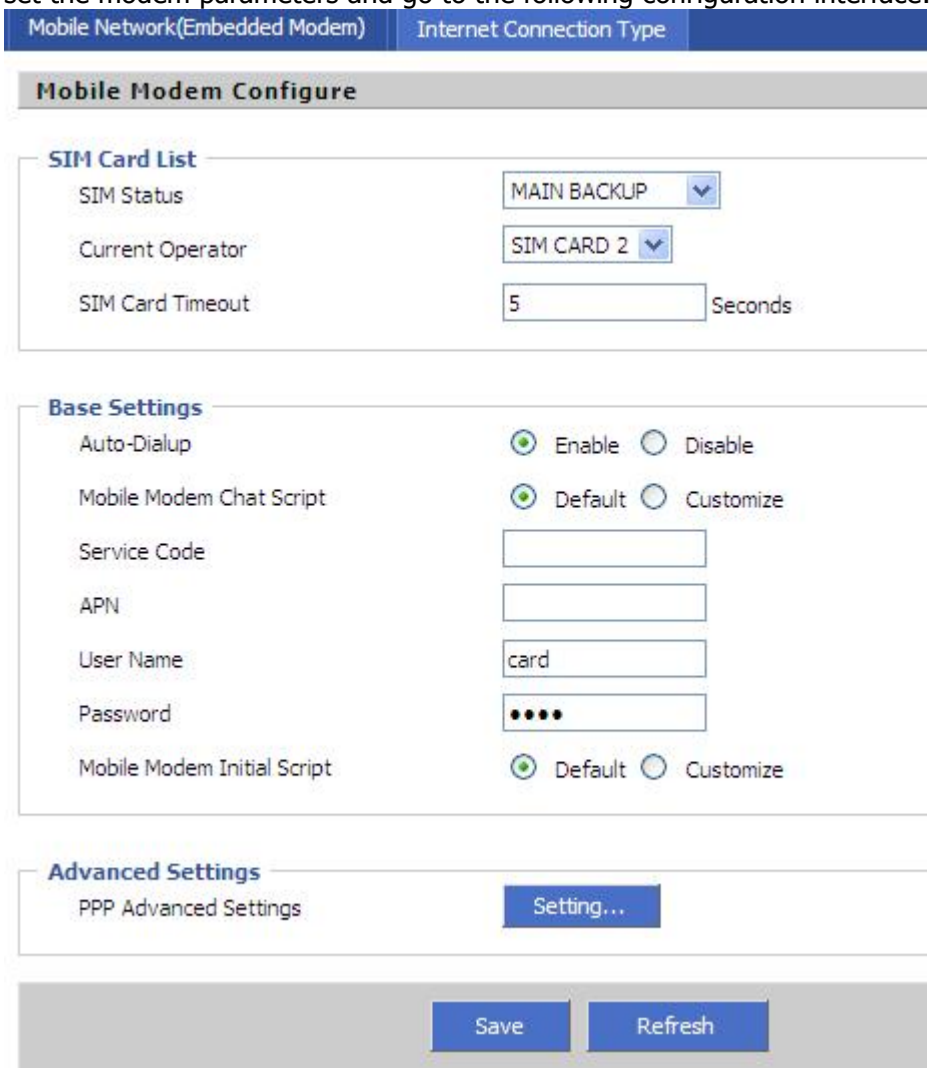


Fig. 3.3.2.1-1: Mobile Network

SIM Card List

【SIM Status】: Set the dual sim use mode.

MAIN BACKUP – set one sim as main, the other sim for backup if the first sim failed to the connection. For example, suppose SIM1 is the initial working sim, and failed later. After the "SIM Card Timeout" time, SIM2 will try to dial to network. If some time later SIM1 can work again, then router will switch to SIM1 again.

USE SIM1 – set the sim1 be used only

USE SIM2 – set the sim2 be used only

MUTUAL BACKUP – set two sims working for backup each other. For example, suppose SIM1 is the initial working sim, and failed later. Then SIM2 will automatically dialup. After sometime, suppose SIM2 failed to connection, SIM1 will automatically dialup.

Basic Settings

【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 cellular network service provided by ISP.

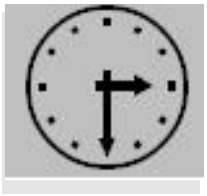
【APN】: Set the APN of the internet access service provided by ISP.

【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 H900.

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

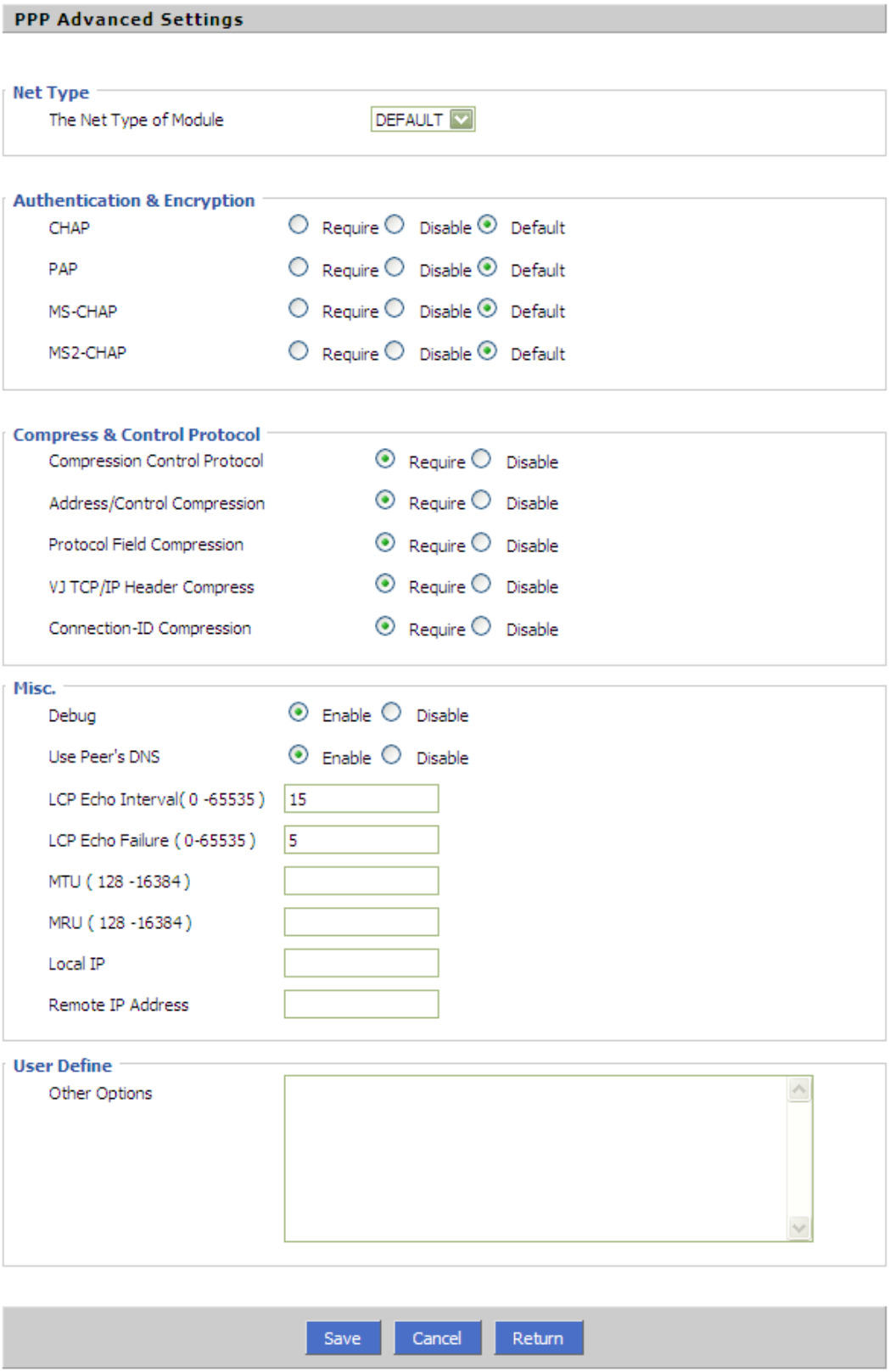


Fig. 3.3.2.1-2: PPP Advanced Settings

【The Net Type of Module】DEFAULT means router will obey default option to choose network; AUTO means router will choose available network automatically; Other options mean router will use certain network only.

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 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" 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:

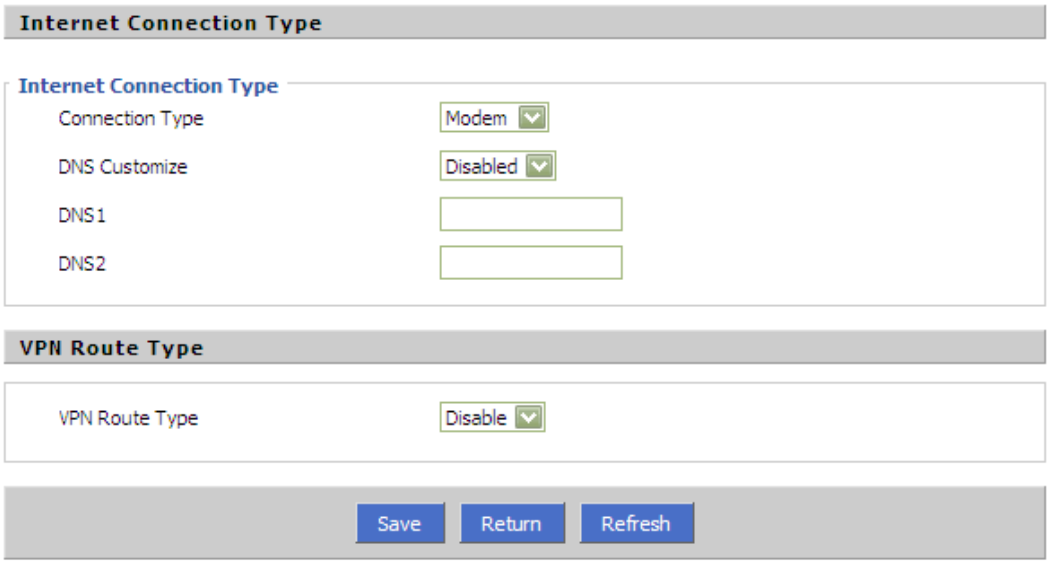


Fig. 3.3.2.2: Modem configuration Interface

【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. 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
- DHCP Server
- Static DHCP

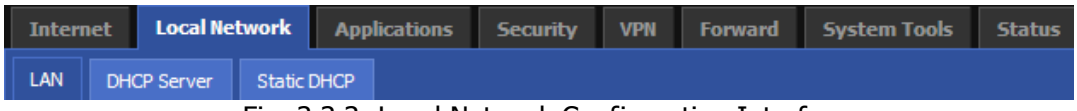


Fig. 3.3.3: Local Network Configuration Interface

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:

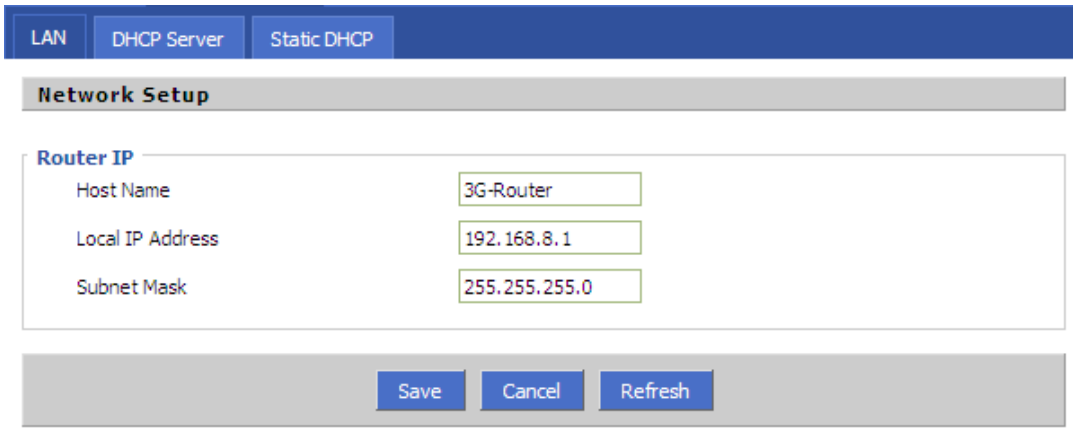


Fig. 3.3.3.1: Local LAN Configuration

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.

3.3.3.2 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:

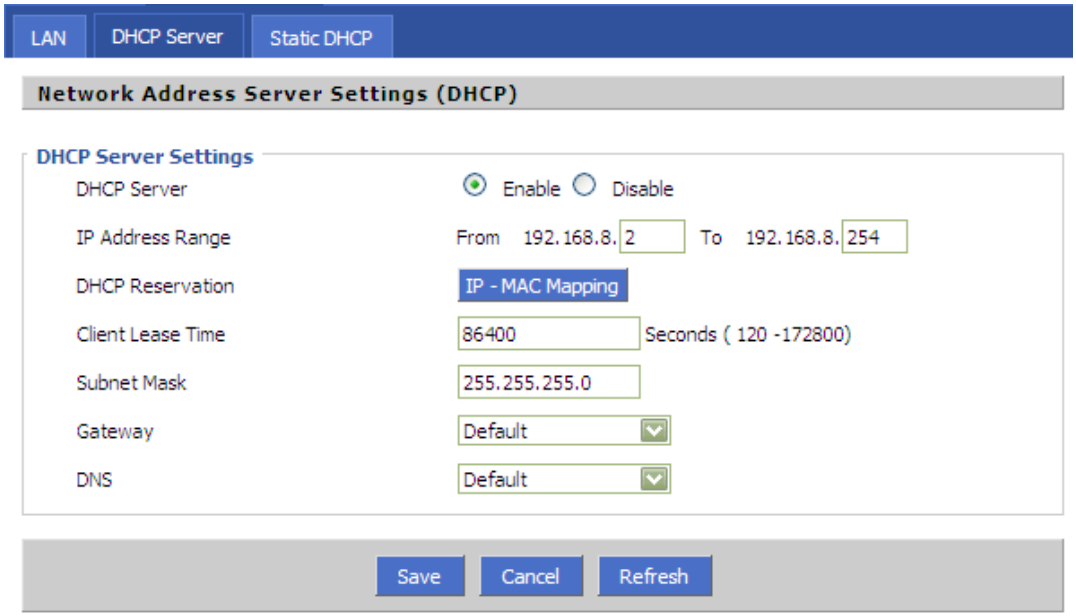


Fig. 3.3.3.2: DHCP Configuration Interface

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.
【Client Lease Time】: Set the lease time, namely the time that the client uses the assigned IP address.
【Subnet Mask】: Set the subnet mask of the IP address assigned by DHCP dynamically.
【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.

3.3.3.3 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:

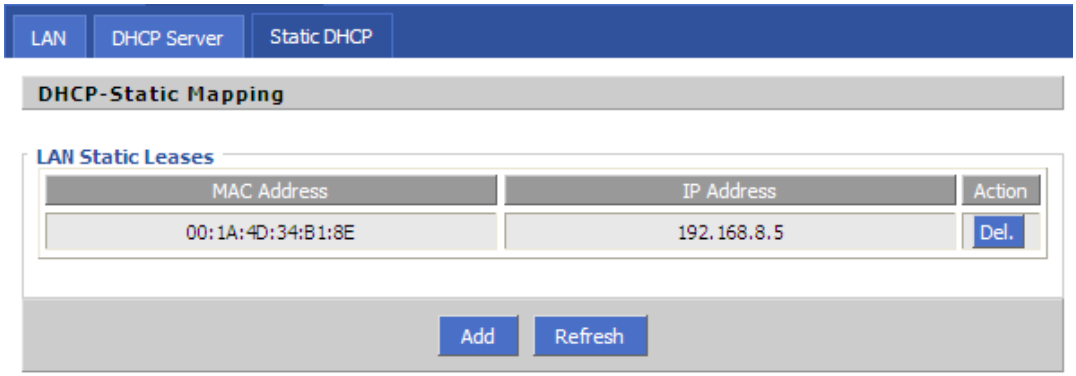


Fig. 3.3.3.3-1: DHCP Configuration Interface

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:

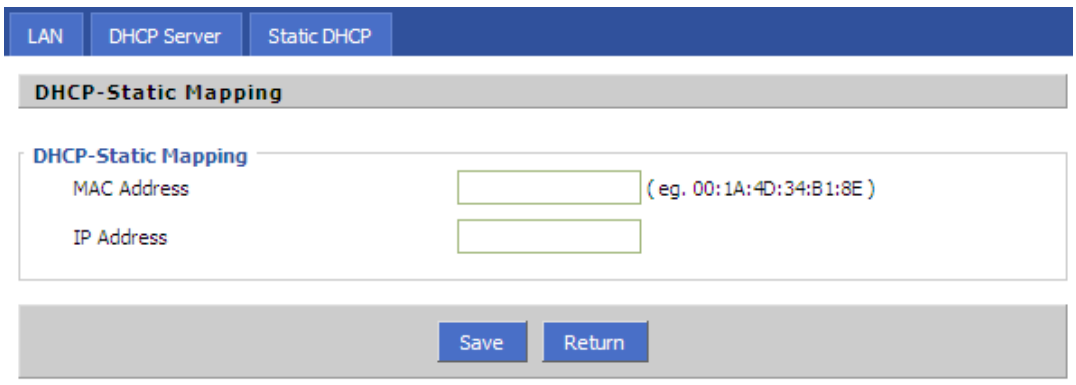


Fig. 3.3.3.3-2: Static mapping Configuration Interface

【MAC Address】: Set the MAC address.
【IP Address】: Set the IP address.

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
- ICMP Check
- DTU
- Interface Check

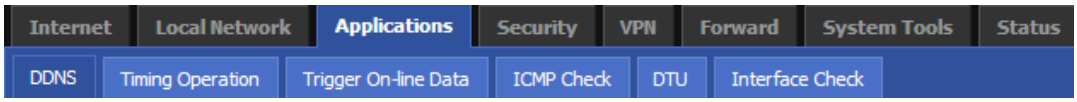


Fig. 3.3.4: Applications Configuration Tab

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:

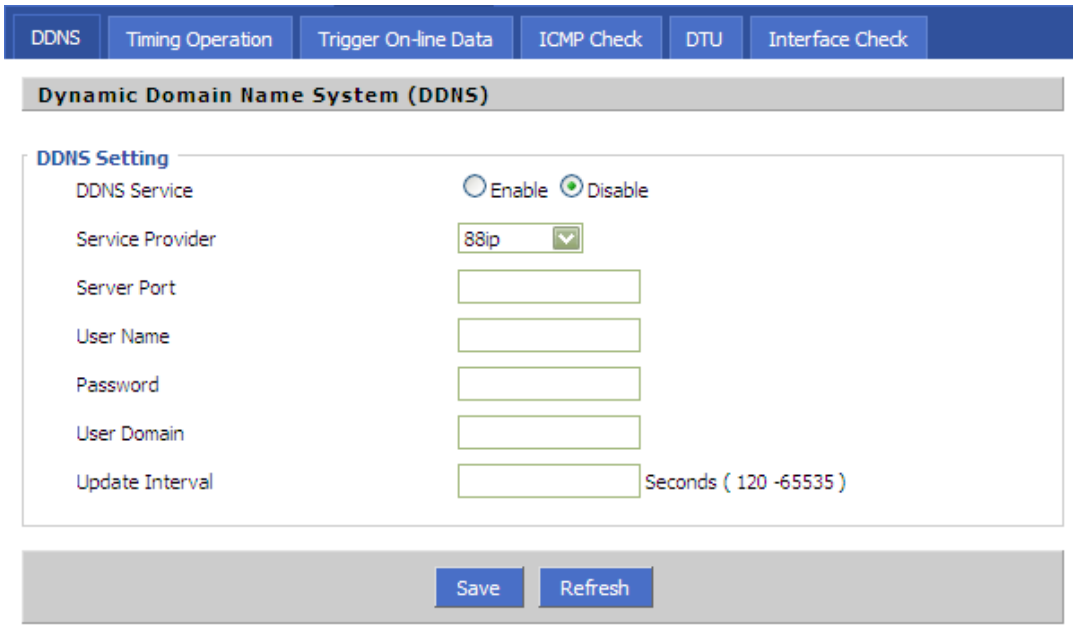


Fig. 3.3.4.1: DDNS Configuration Interface

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.

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:

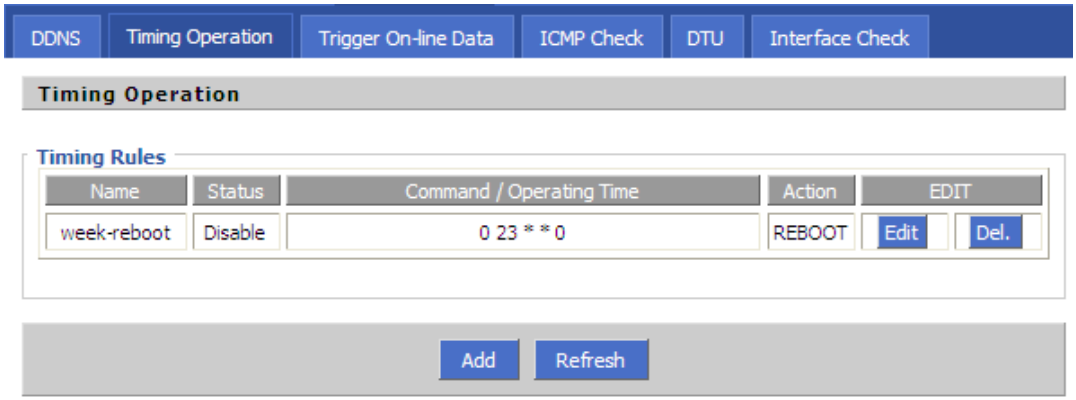


Fig. 3.3.4.2-1: Time Operation Interface

The configuration parameters include:
【Add】: Add the Timing Operation operated at certain time.
【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:

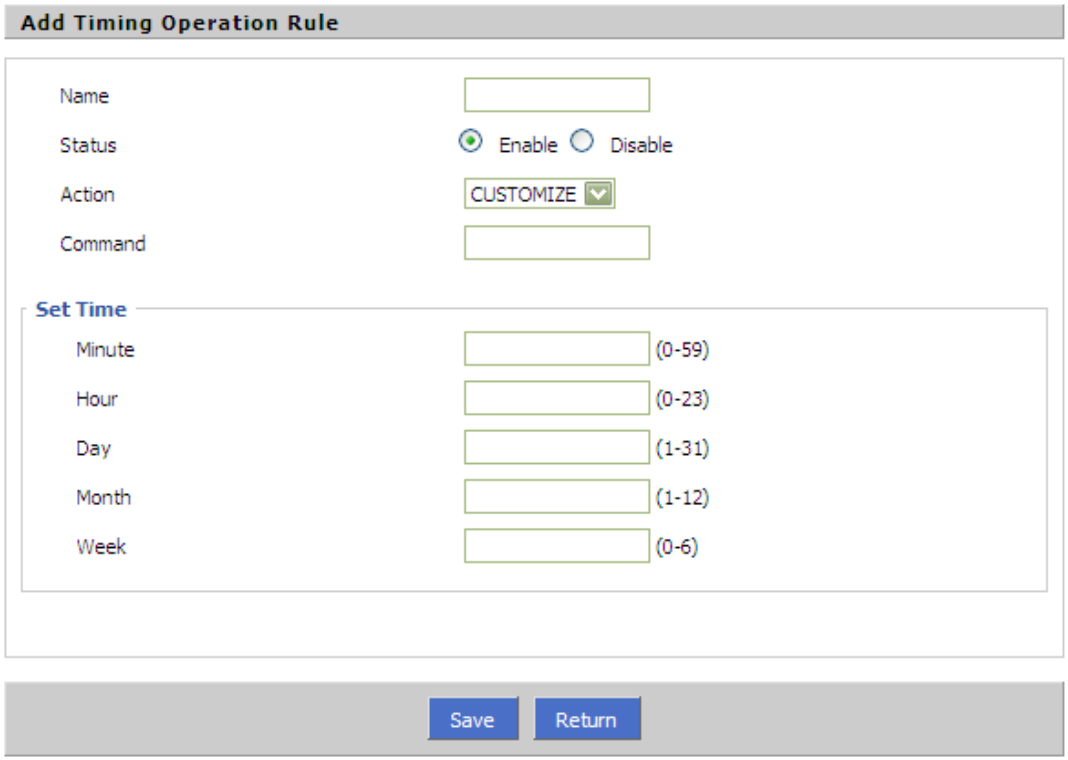


Fig. 3.3.4.2-2: Timing Operation Configuration Interface

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.

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:

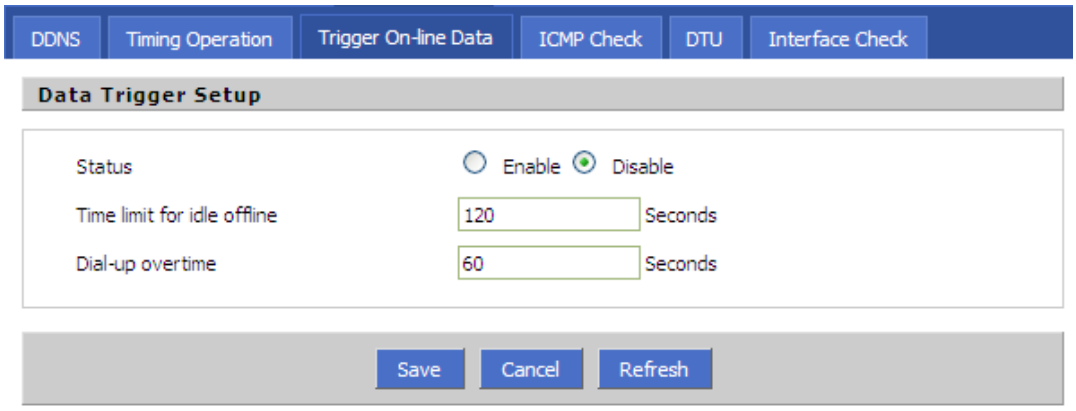


Fig. 3.3.4.3: Trigger On-line Data Configuration Interface

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.

3.3.4.4 ICMP Check configuration

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

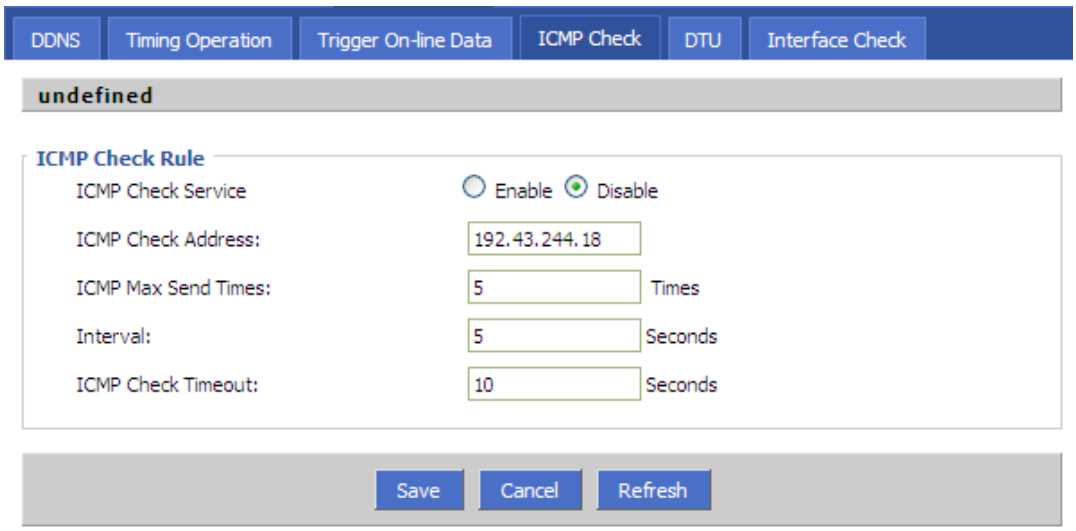


Fig. 3.3.4.4: ICMP Check Interface

Trigger On-line Data parameters include:

【ICMP Check Service】: Set whether enable the ICMP Check Service.
【ICMP Check Address】: Set the address used to send ICMP pack to.

【ICMP Max Send Times】: Set how many times ICMP pack will be send.
【Interval】: Set the interval of ICMP packs.
【ICMP Check Timeout】: Set how many seconds ICMP check will fail if no response.

3.3.4.5 DTU configuration

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

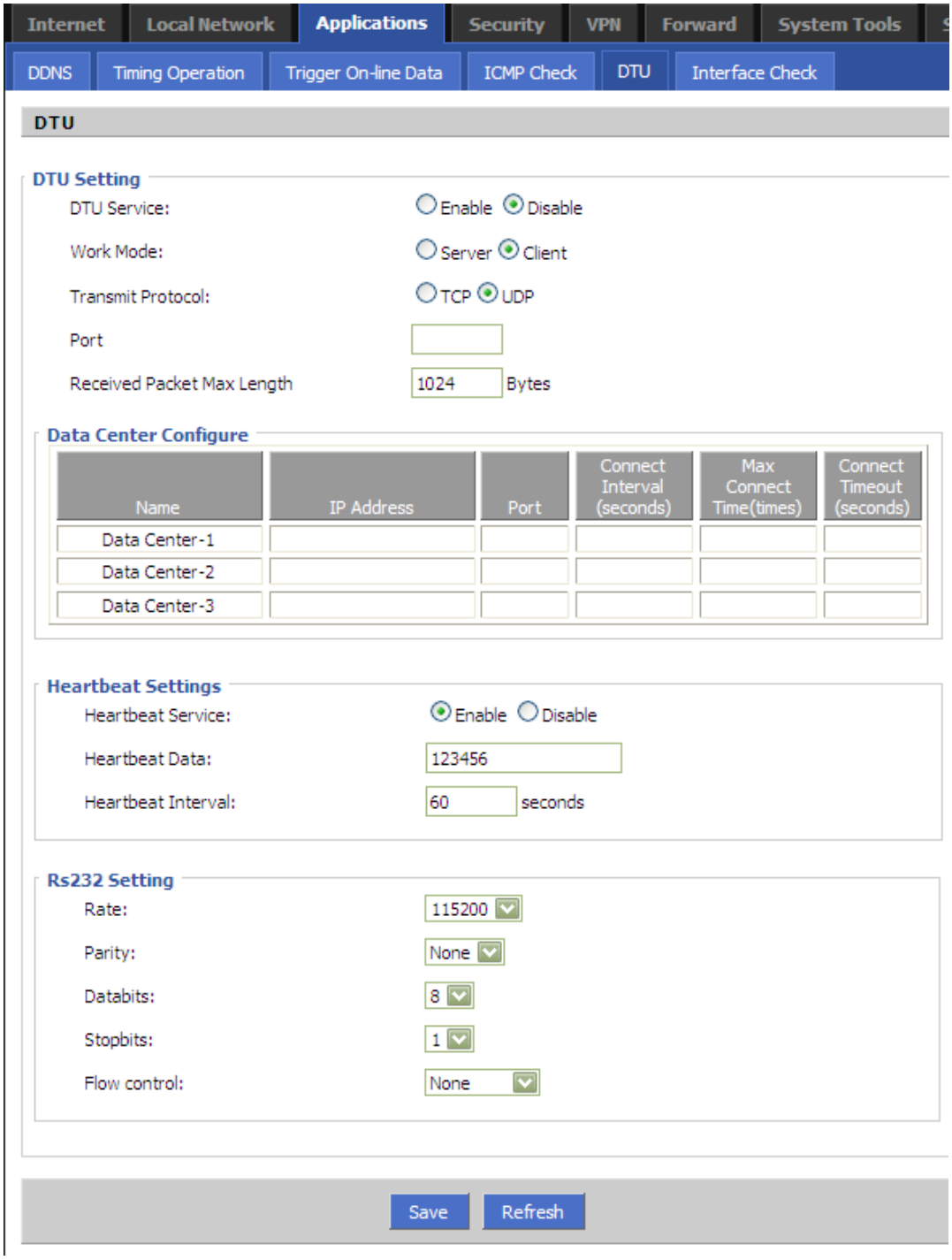


Fig. 3.3.4.5: DTU Interface

DTU parameters include:

【DTU Service】: Set whether enable the DTU Service.
【Work Mode】: Work as a Server or a Client. Client will register to server automatically.
【Transmit Protocol:】: Select the protocol used to transmit.
【Port】: Set the receive port if work mode is server.
【Received Packet Max Length】: Set the max length of received packet, this value must smaller than 1024.
【Data Center Configure】: If work mode is client, then set parameters of data center here.
【Heartbeat Settings】: Enable Heartbeat will make the router send certain data every certain interval, this function is used to keep the link active, also avoid fake link or offline. This function may cause extra traffic fees.
【Rs232 Setting】: Set parameters of Rs232 port, please set these according to your device's Rs232 port parameters.

3.3.4.6 Interface Check

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

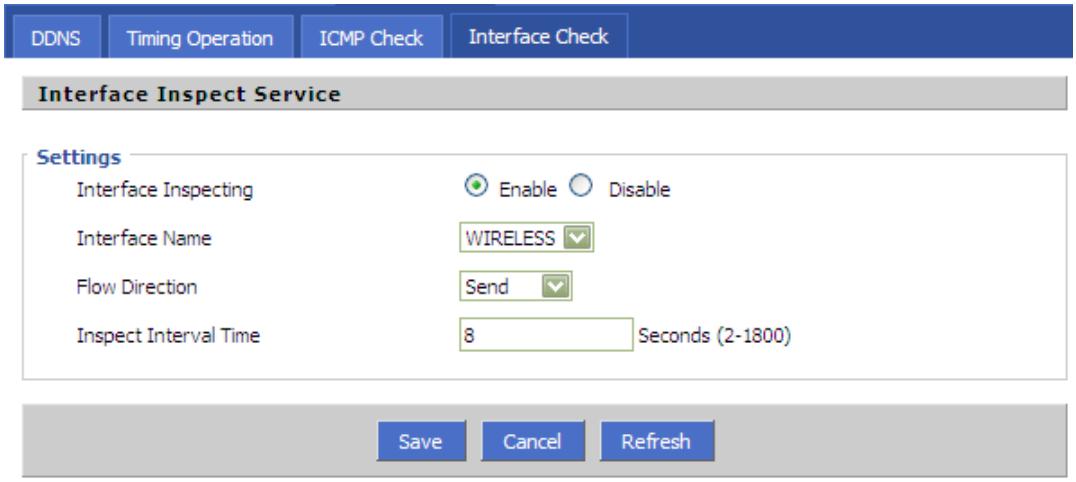


Fig. 3.3.4.6: Interface Check

【Interface Inspecting】: Set whether enable the Interface Inspecting.
【Interface Name】: Set which interface will be check.
【Flow Direction】: the way to check data flow.
【Inspect Interval Time】: Set the interval of check.

Caution:

This function is used for avoid false connection. If enable it, when there is no data flow after a certain time, router will reboot itself. This certain time is 5 times of Inspect Interval Time. So if your application does not have data flow frequently, do not enable this function. (ICMP send by router will not be checked, but received data could be checked.)

3.3.4.7 GPS

If your device is H900X-XXX-G, then no DTU function option will show, GPS function will replace it as below:

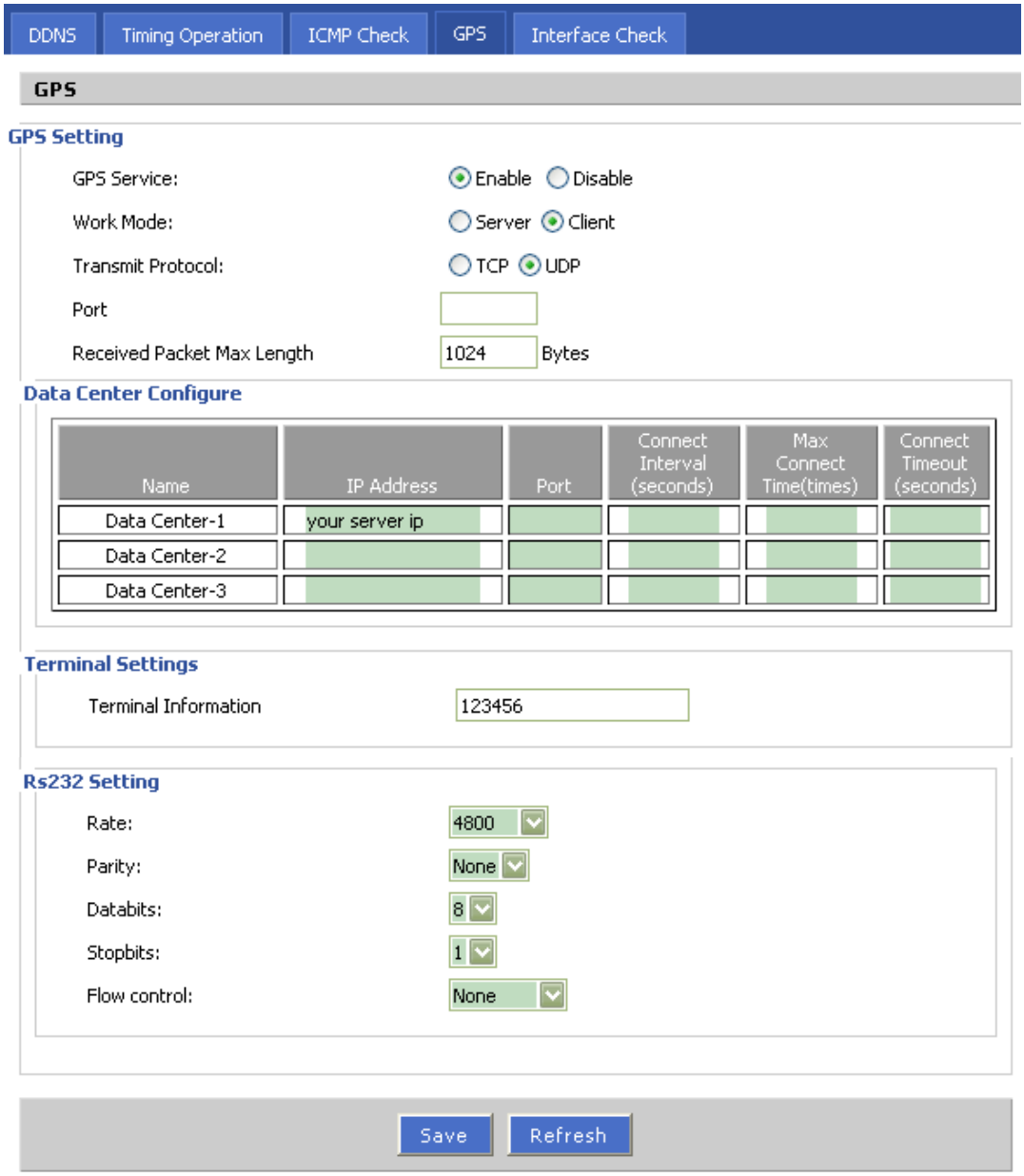


Fig. 3.3.4.7: Interface Check

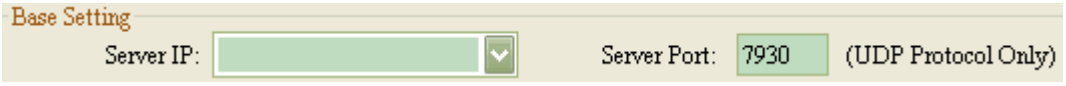
【GPS Service】: whether enable GPS service.
【Work Mode】: Set work mode. When working in client mode, you need setting data center's IP and port, coordinates info will be send to this IP and port. When working in server mode, you need setting the port, when any TCP or UDP client establishes a connection with H900X, coordinates info will be replied.
【Transmit Protocol】: Set protocol
【Port】: available only in server mode.
【Received Packet Max Length】: recommend value is 1024.

【Terminal information】: set the terminal's name.
【Rs232 setting】: please set the parameter as showed in picture and do not change them.

About E-Lins GPS DEMO:
There is a demo software in the disk with products, if there is not, please ask for that from our technical support.

About the demo, please install the software in disk. First install NetFramework 3.5, you could download it at *http://www.microsoft.com/downloads/details.aspx?FamilyID=d0e5dea7-ac26-4ad7-b68c-fe5076bba986&DisplayLang=zh-cn*
Then install GoogleEarthPluginSetup, and run the E-Lins GPS Express DEMO.

Then in the setting page, these two parameters are corresponding to data center's IP and port, in the router's web UI page. The other parameter has no need to config.



If your PC connect H900 directly, you could input your local IP in the E-Lins GPS Express DEMO, like 192.168.8.2.

3.3.5 Security

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

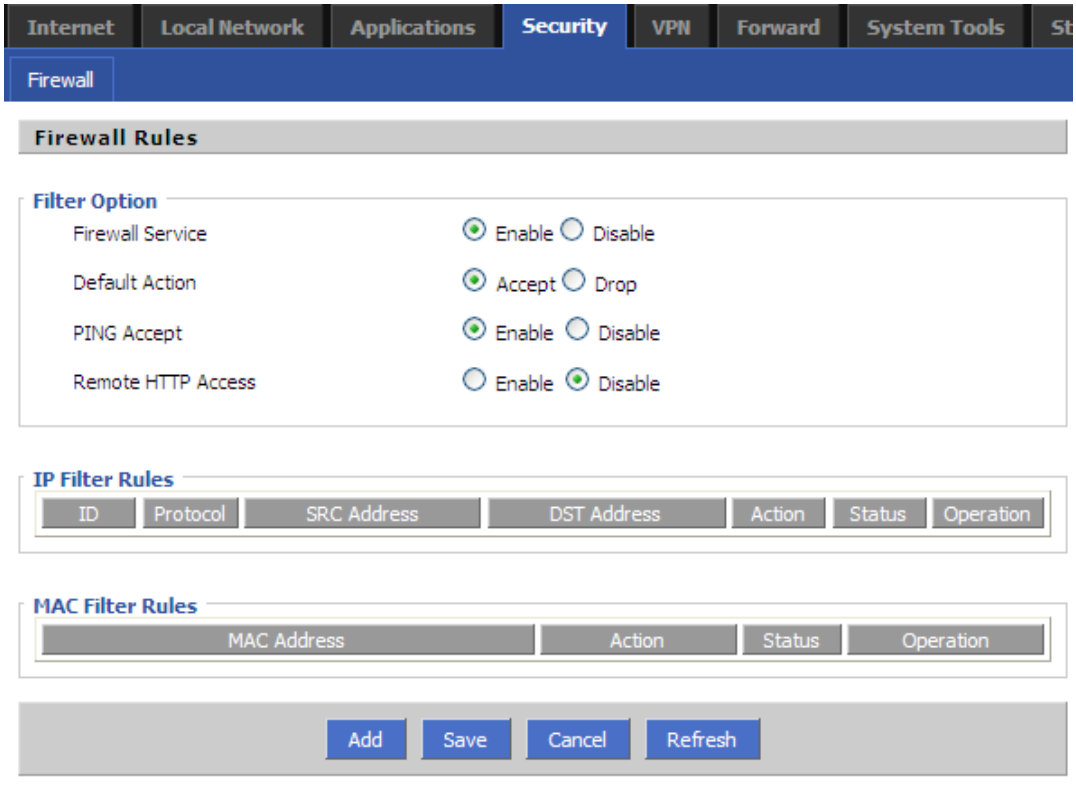


Fig. 3.3.5-1: Security Setting Interface

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.

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

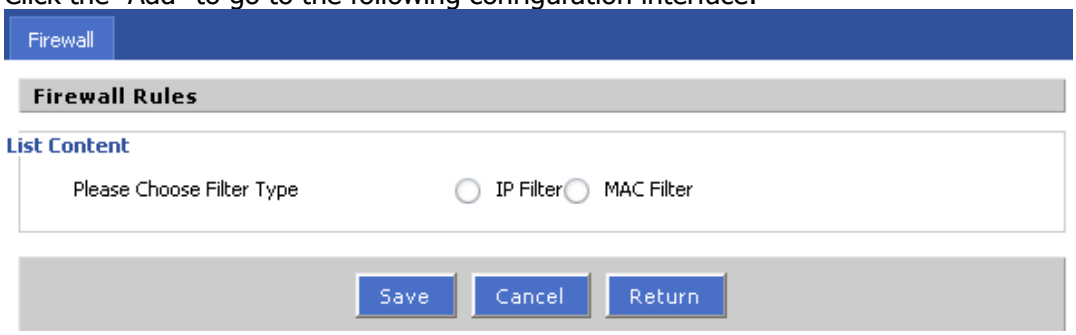


Fig. 3.3.5-2: Filter Setting Interface

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

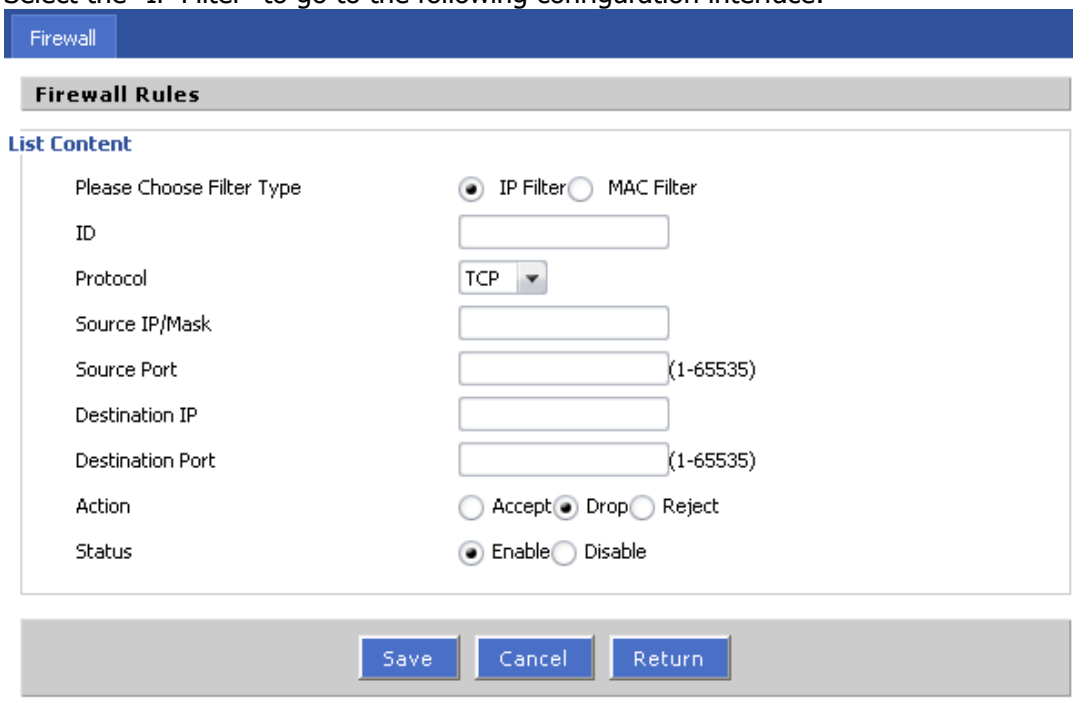


Fig. 3.3.5-3: Firewall Setting Interface

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:

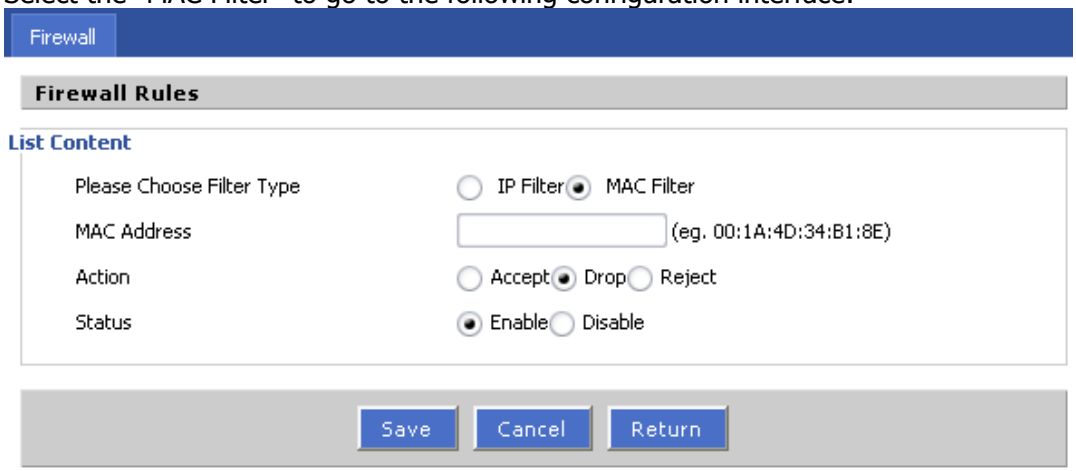


Fig. 3.3.5-4: Firewall Setting Interface

【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.

3.3.6 VPN

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

- L2TP
- PPTP
- GRE
- IPsec

Fig. 3.3.6: VPN Setting Interface

3.3.6.1 L2TP configuration

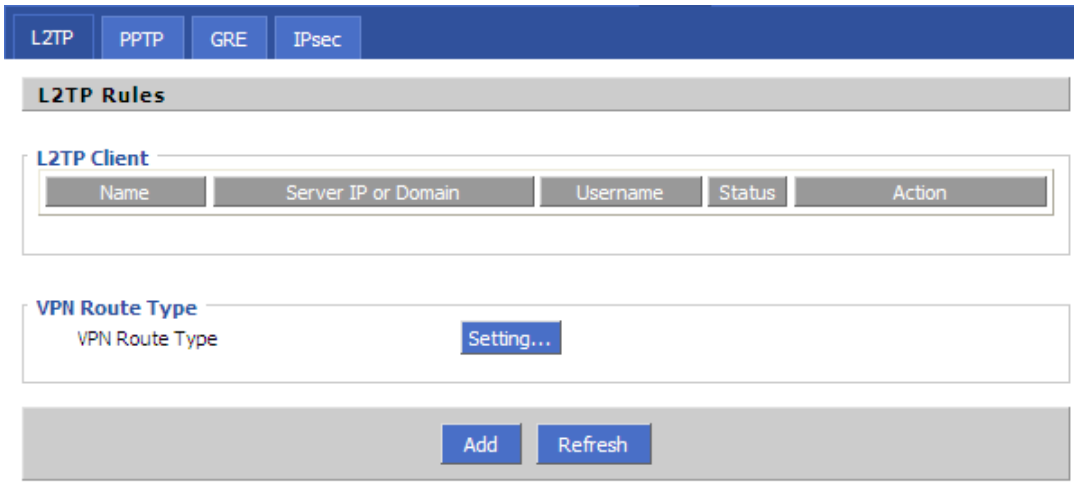


Fig. 3.3.6.1-1: L2TP Setting Interface

【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.

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

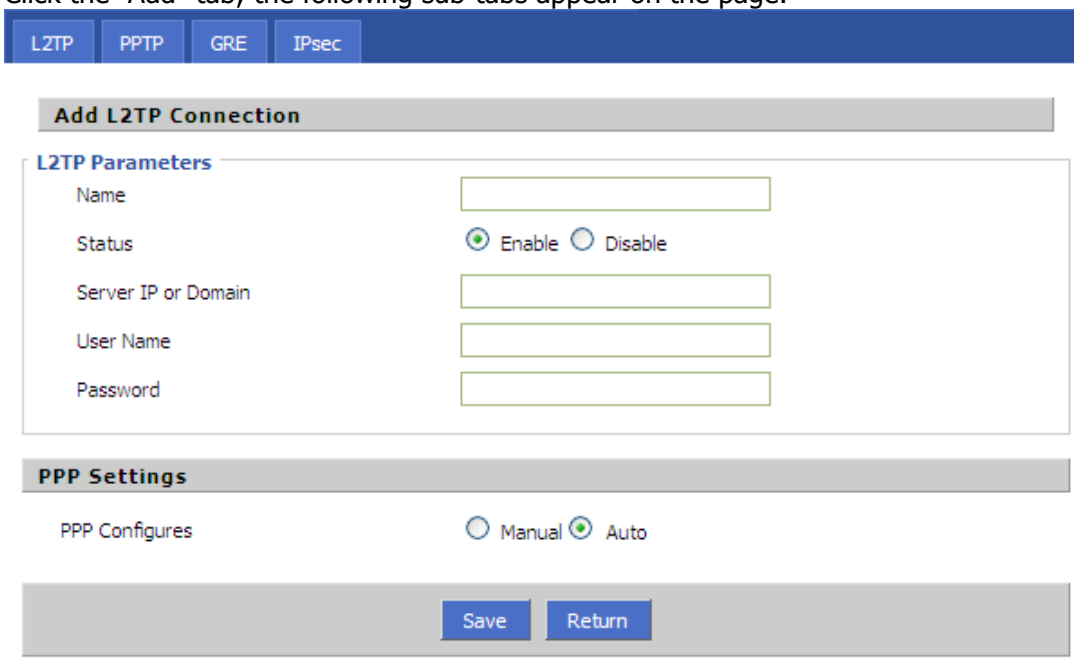


Fig. 3.3.6.1-2: L2TP Setting Interface

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.

3.3.6.2 PPTP configuration

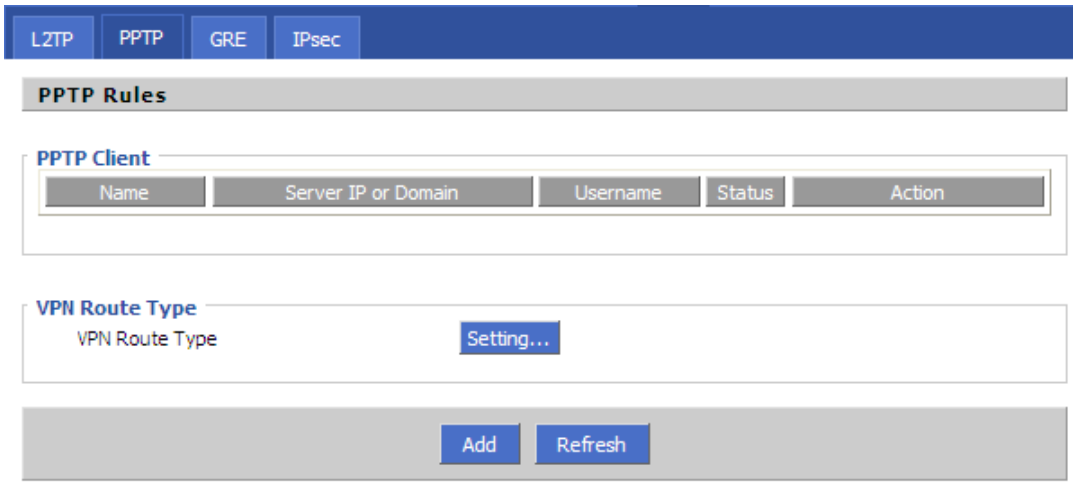


Fig. 3.3.6.2-1: PPTP Setting Interface

【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.

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

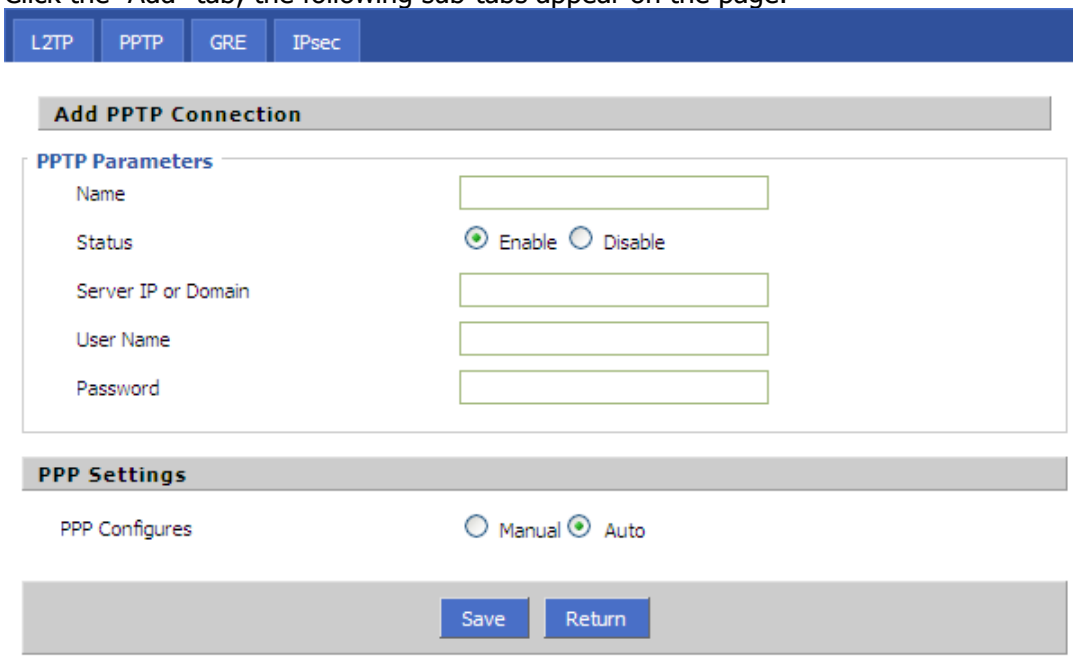


Fig. 3.3.6.2-2: PPTP Setting Interface

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.

3.3.6.3 GRE configuration

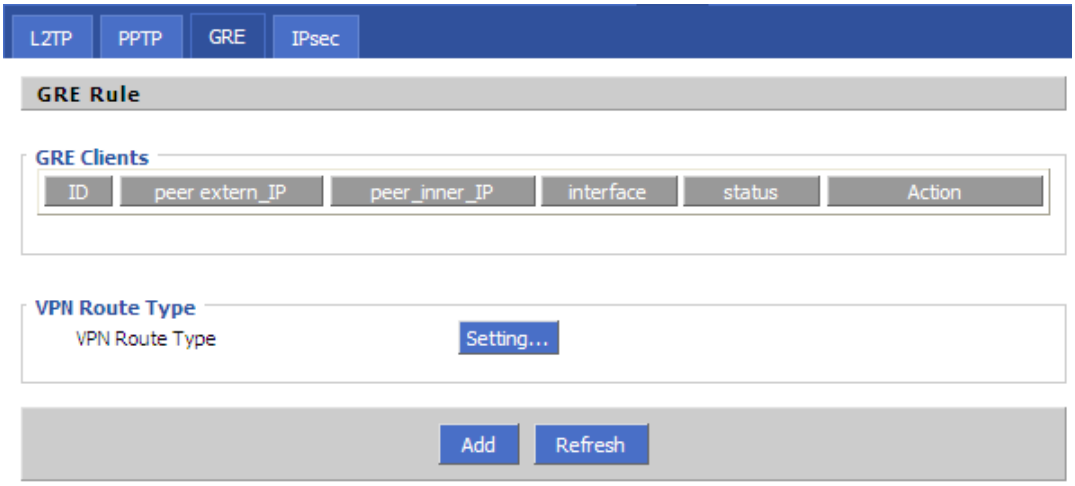


Fig. 3.3.6.3-1: GRE Setting Interface

【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.

Click "Add", and enter link GRE tunneling configuration interface.

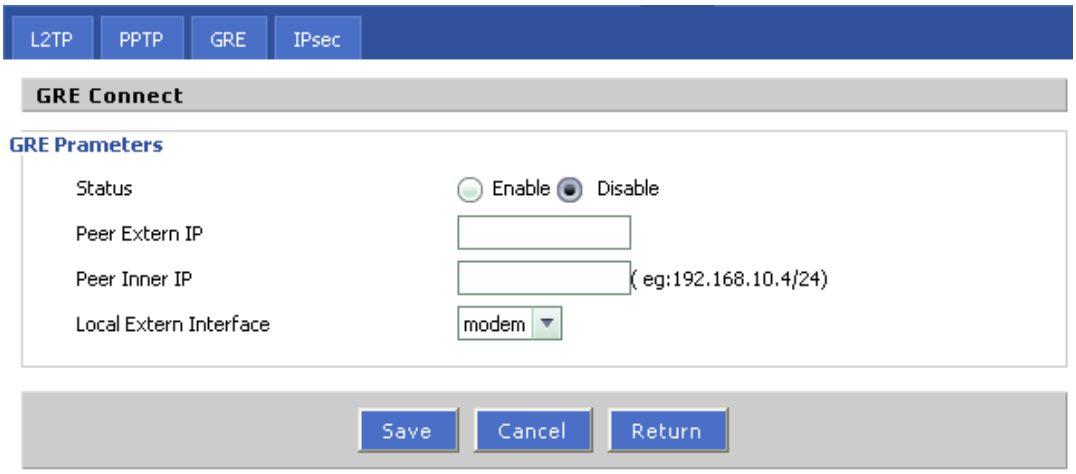


Fig. 3.3.6.3-2: GRE Setting Interface

【Status】: Set whether the GRE is enabled. Two statuses are available: Enable (enable), Disable (disable).
【Peer Extern IP】: Set the peer IP address.
【Peer Inner IP】: Set the peer subnet

3.3.6.4 IPsec configuration

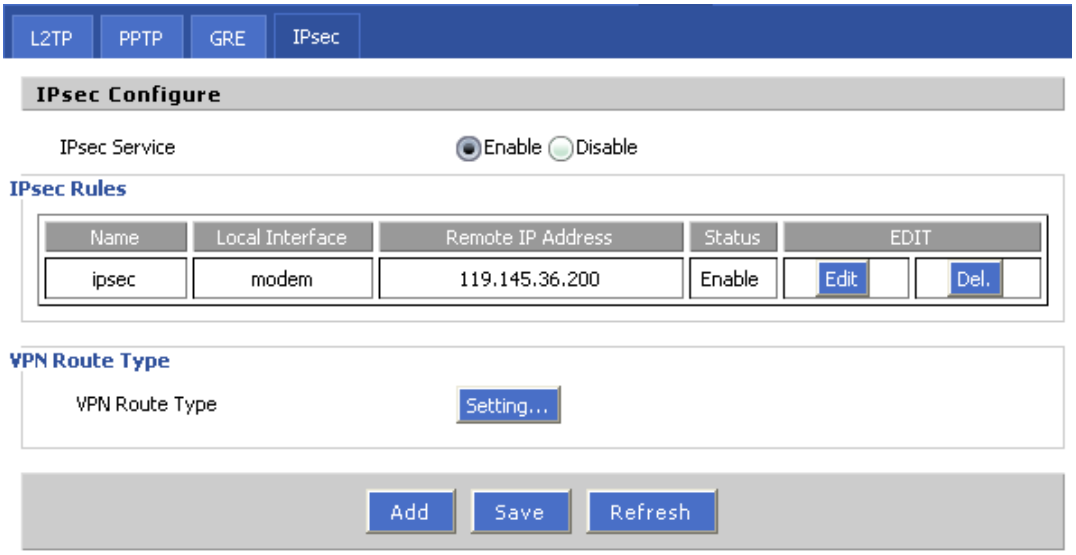


Fig. 3.3.6.4-1: IPsec Setting Interface

【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).

Click "Add", and enter link GRE tunneling configuration interface.

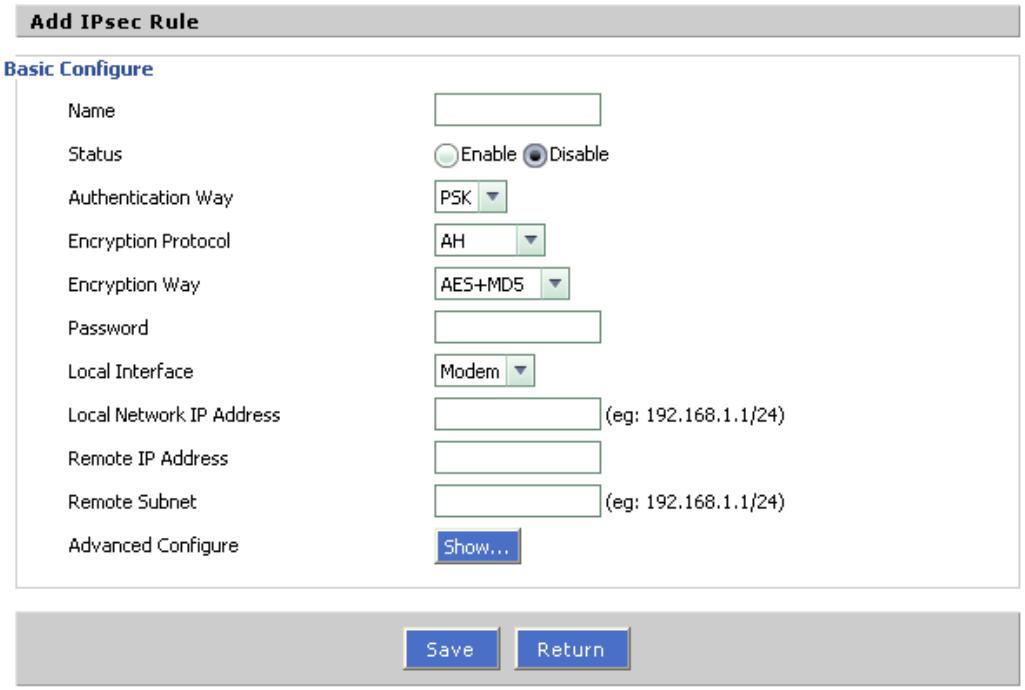


Fig. 3.3.6.4-2: IPsec Setting Interface

Please configure these parameters according to your demand and circumstance to constitution Interface, Local Subnet, Peer Subnet, the Encrypt Type, Authorization, the related parameter of Password etc., be you usage static state ip address, Local ID and Peer ID don't fill.

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:

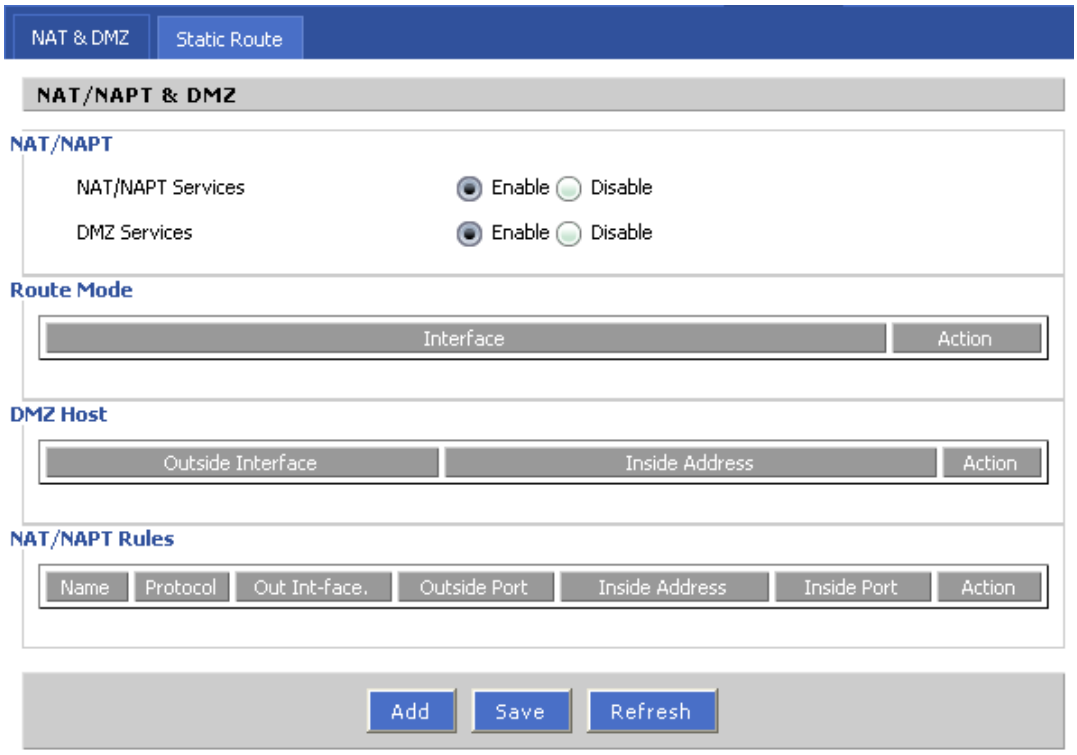


Fig. 3.3.7.1-1: NAT&DMZ Setting Interface

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.

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

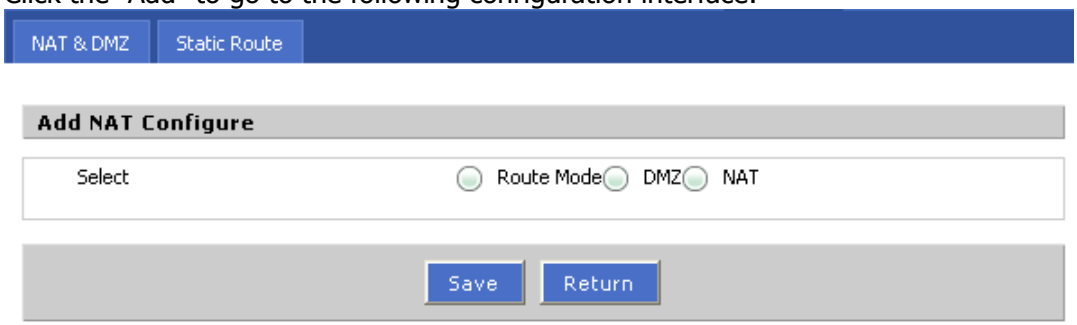


Fig. 3.3.7.1-2: NAT&DMZ Setting Interface

【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:

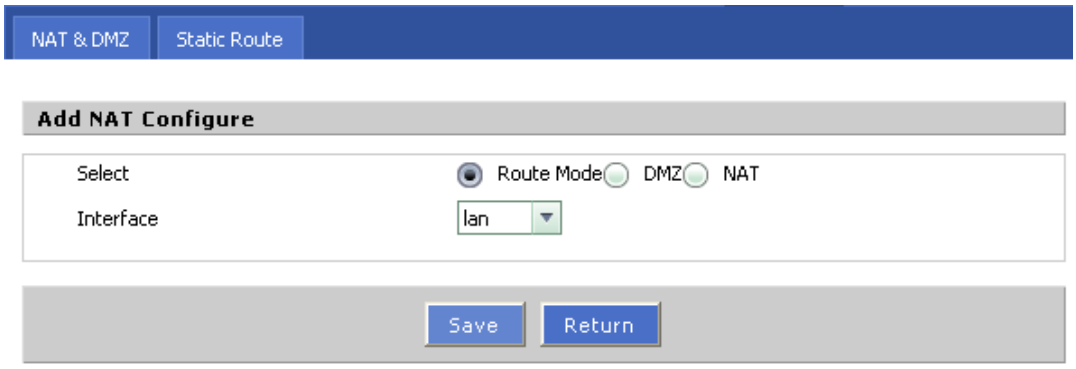


Fig. 3.3.7.1-3: NAT&DMZ Setting Interface

Route Mode configuration parameters include:

【Interface】:On selected interface, the source IP of packets pass through H900would not be replaced to H900's IP, the destination machine can see the source IP directly.

Note:

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

2. DMZ setting

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

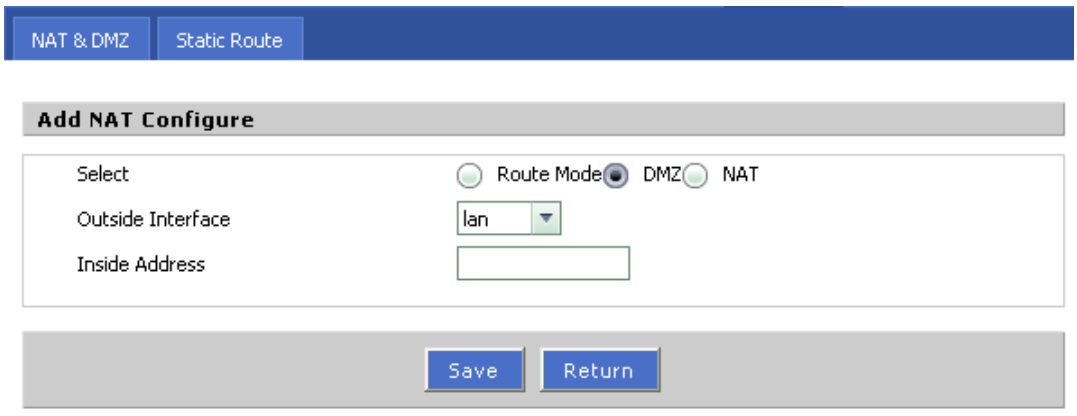


Fig. 3.3.7.1-4: DMZ Setting Interface

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.

3. NAT setting

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

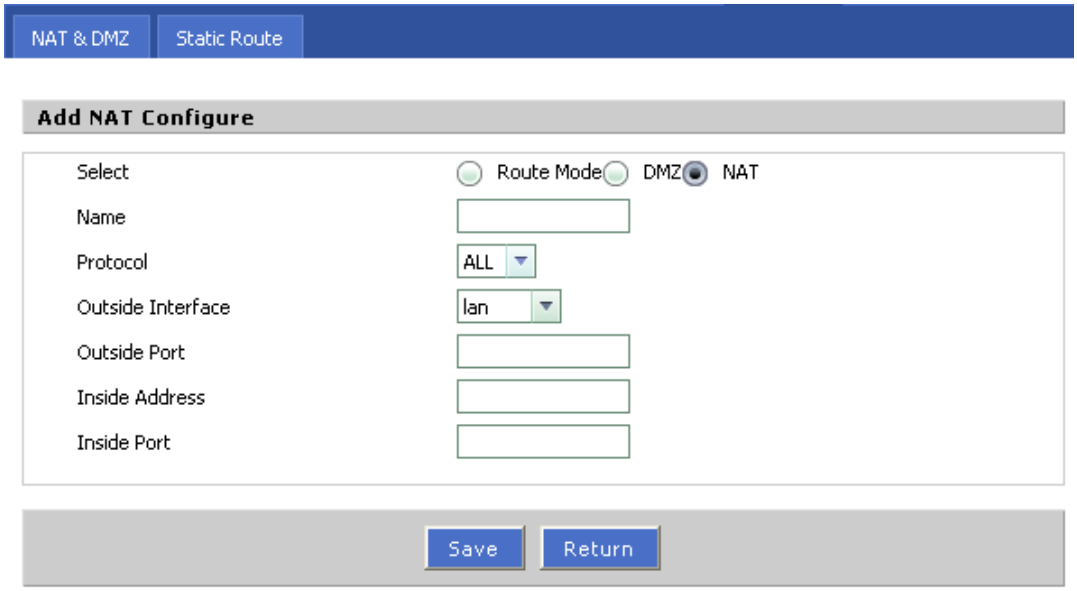


Fig. 3.3.7.1-5: NAT Setting Interface

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.

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:

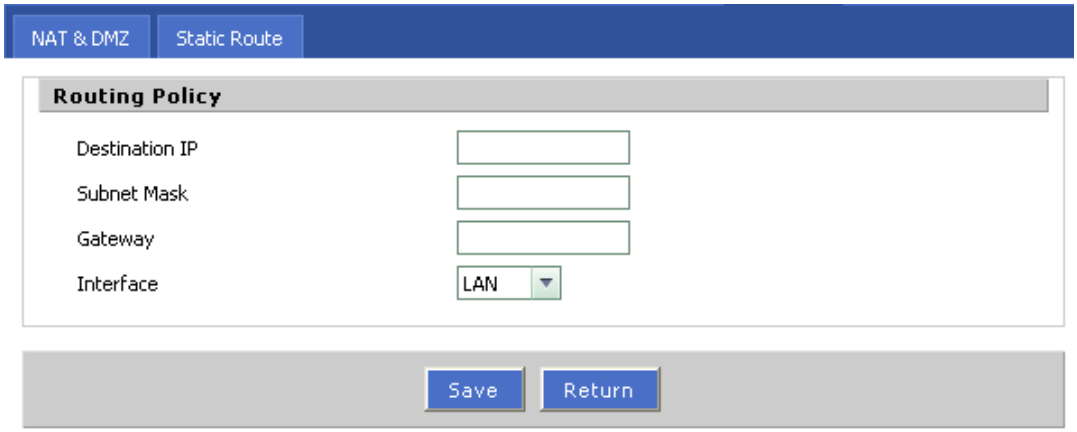


Fig. 3.3.7.2-2: Static Route Configuration Interface

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.

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:

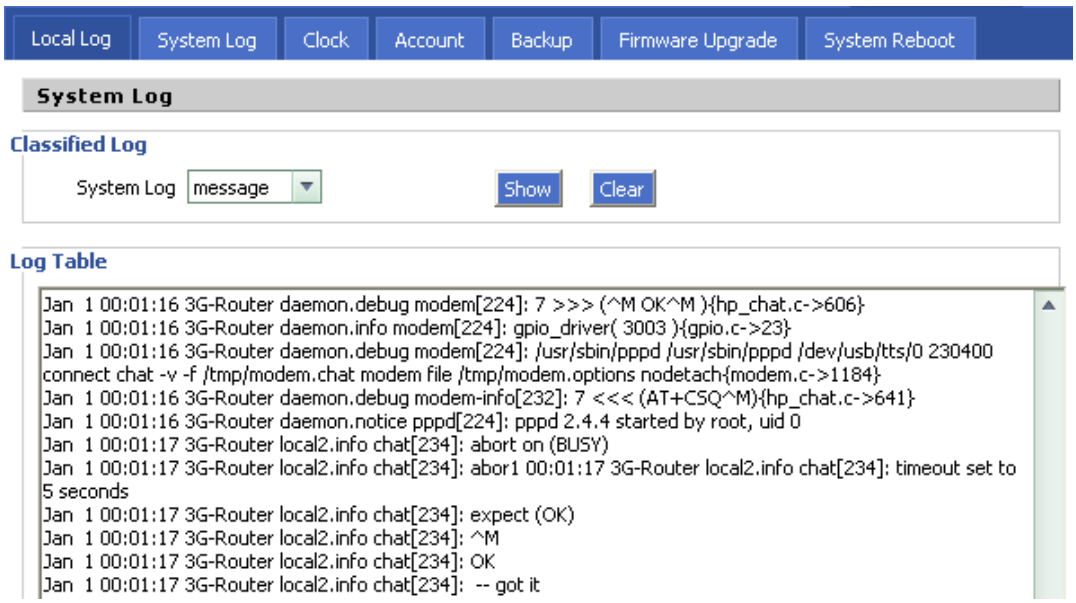


Fig. 3.3.8.1: Log View Interface

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:

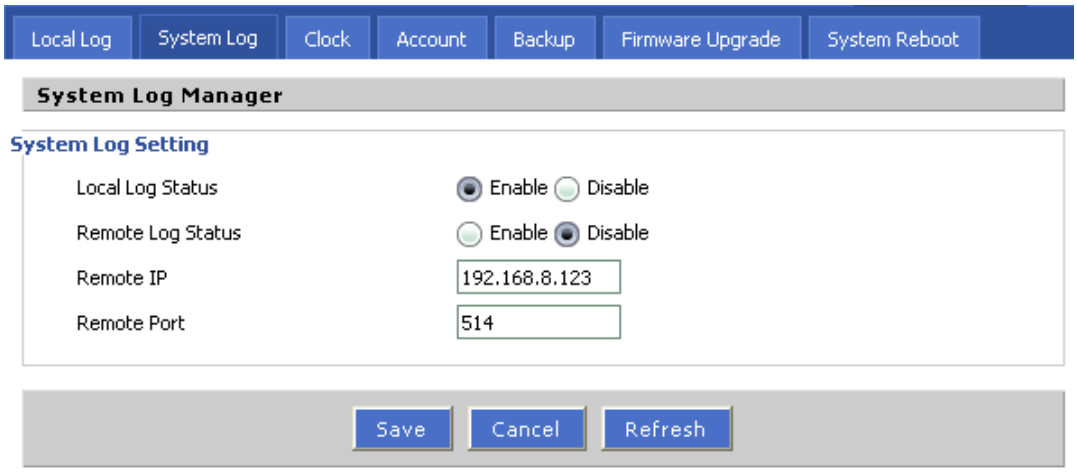


Fig. 3.3.8.2: System Log Management Interface

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.

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:

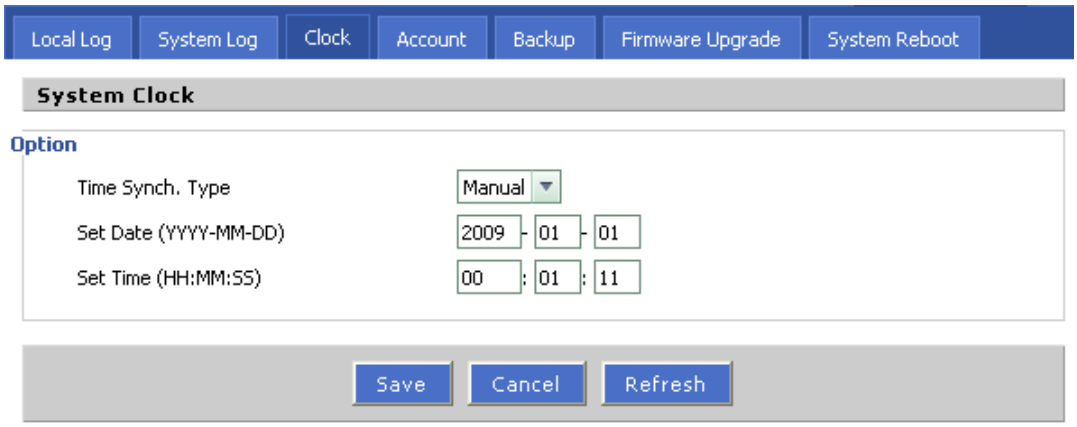


Fig. 3.3.8.3: Clock Configuration Interface

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.

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:

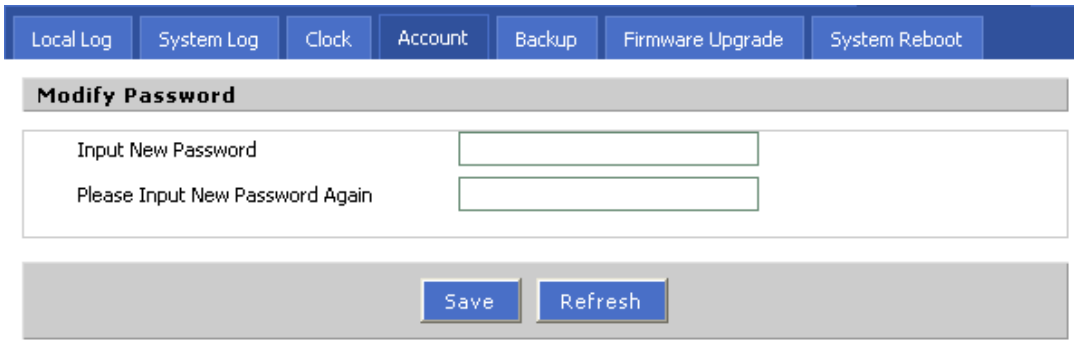


Fig. 3.3.8.4: Account Interface

The system clock configuration parameters include:

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

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:

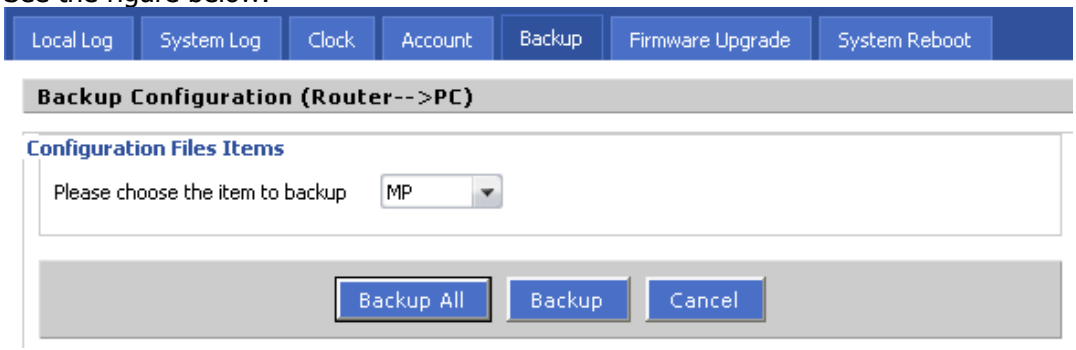


Fig. 3.3.8.5-1: Backup Configuration Interface

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:

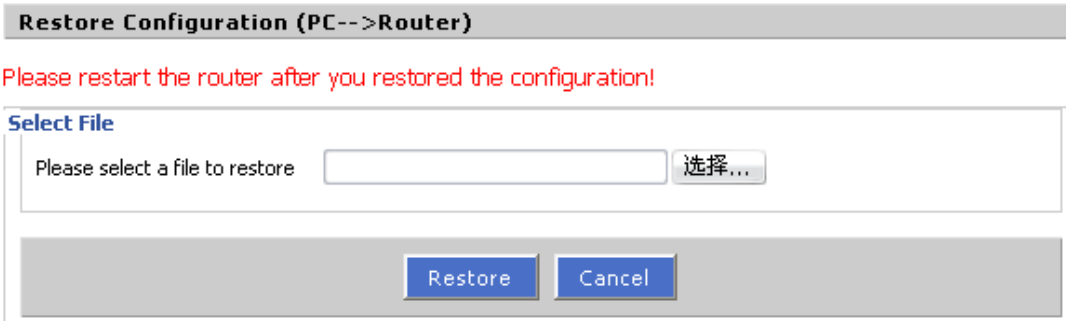


Fig. 3.3.8.5-2: Restoration Configuration Interface

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:

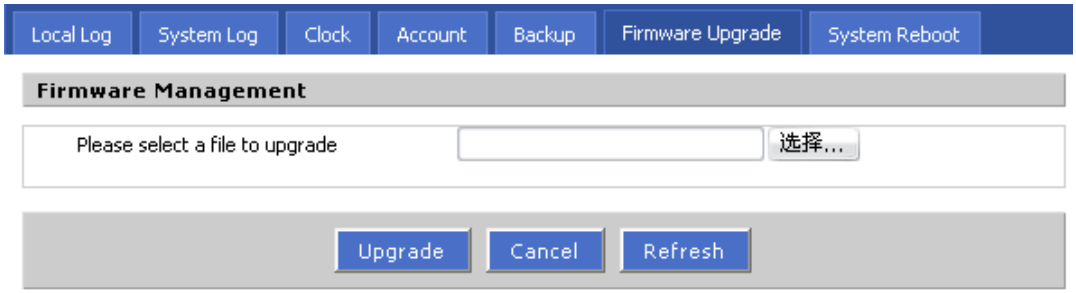


Fig. 3.3.8.6: Upgrade Management Interface

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:

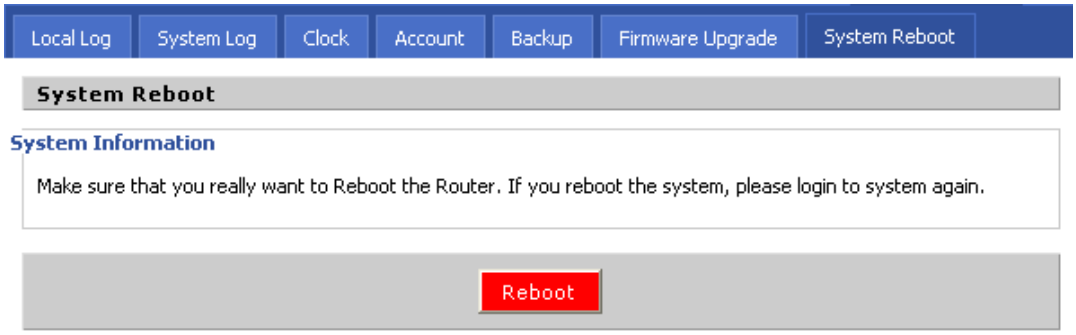


Fig. 3.3.8.7: System Reboot Interface

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
- Embedded Modem
- Route Table
- DHCP Client

Fig. 3.3.9: Status Information Tab

Tab description:

【Base Information】: Display the system information.
【LAN】: Display LAN 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. E-Lins H900 Cellular 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 E-Lins H900 Cellular Router correctly by Ethernet cable?
  (Note: H900 Router's LINK indicator and PC's Link indicator must be on).
- ✓ Whether PC's TCP/IP environment is configured correctly?
  (Note: If H900 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

E-Lins H900 Cellular Router is designed with the platform technology, whose software can be upgraded with the development of the communication and network technology.

WEB upgrade:

E-Lins H900 Cellular 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.