User Manual

---Apply to WL-R210 Series 3G/4G Router

V3.1

http://www.wlink-tech.com

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Caution

Due to product updates or functional upgrading, we may renew the content of this file, and this file only for reference. All statement, information, suggestion.etc in this file does not compose any form of guarantee and we WLINK reserves the right of final explanation.

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Contents

1 Product Introduction

1.1 Product overview

WLINK industrial Router use industrial grade design, high-powered 32bit MIPS network processor, embedded industrial grade, high powered, multi-band frequency mobile 4G/3G+ communication module, support WCDMA, HSPA+、TD/FDD-LTE、EVDO（CDMA 2000）etc., high-speed mobile, wide band, provide quick, convenient internet access or private network transmission to customer, optional built-in WI-FI module or multi-LAN port, provide wire-line network or wireless WLAN share high speed wide band access, meanwhile, customized high security VPN (Open VPN、IPSec、SSL), to construct safe channel, widely used in financial, electric power, environment, oil, transportation, security, etc..

WLINK industrial series router provide WEB GUI, optional CLI configuration interface, customer can configure only by IE explore or Telnet/SSH, various configuration method, concise and friendly interface make configuring and managing of all router terminal easier, meanwhile, WLINK provides M2M terminal management platform to manage all router terminal with remote management. User can monitor all terminals which connected to platform successfully by this platform, provide long-distance control, parameter configuration, and long-distance upgrade service.

1.2 Model introduction

WLINK industrial grade router series have single module / single SIM card, single module / double SIM card, double module / double SIM card design, support multi-band frequency WCDMA, HSPA+, TD/FDD-LTE, EVDO（CDMA 2000) etc., mobile wide-band, backward compatibility with GPRS、EDGE、CDMA 1x, etc., mobile narrow-band, optional built-in Wi-Fi module to build WLAN network, optional GPS module Expansion positioning function, to suit different requirement and different network environment of different operators, our series router have many available models for option, below is the product model indications in detail, for more optional models, please consult local distributors /resellers.

Table 1-1 Router partial model table

Model	LTE	3G	Interface	Dual SIM	WiFi	GPS	DL	UL
WL-R210L-d	FDD LTE 2600/2100/1800/900/800MHz	UMTS 800/850/900/1900/2100MHz	2x LAN 1x RS232 3x I/O	√	√		100M	50M
WL-R210L-g	FDD LTE 2600/2100/1800/900/800MHz	UMTS 800/850/900/1900/2100MHz	2x LAN 1x RS232 3x I/O	√	√	√	100M	50M
WL-R210LH-d	FDD LTE 800/850/900/1800 /1900/2100/2600MHz	UMTS 2100/1900/850/900MHz	2x LAN 1x RS232 3x I/O	√	√		100M	50M
WL-R210LH-g	FDD LTE 800/850/900/1800 /1900/2100/2600MHz	UMTS 2100/1900/850/900MHz	2x LAN 1x RS232 3x I/O	√	√	√	100M	50M
WL-R210H-d		HSPA+ 2100/1900/850MHz	2x LAN 1x RS232 3x I/O	√	√		21M	5.76M
WL-R210H-g		HSPA+ 2100/1900/850MHz	2x LAN 1x RS232 3x I/O	√	√	√	21M	5.76M
WL-R210H1-d		HSPA+ 2100/1900/900/850MHz	2x LAN 1x RS232 3x I/O	√	√		21M	5.76M
WL-R210H1-g		HSPA+ 2100/1900/900/850MHz	2x LAN 1x RS232 3x I/O	√	√	√	21M	5.76M
WL-R210H2-d		HSPA 2100/1900/900/850MHz	2x LAN 1x RS232 3x I/O	√	√		14M	5.76M
WL-R210H2-g		HSPA 2100/1900/900/850MHz	2x LAN 1x RS232 3x I/O	√	√	√	14M	5.76M
WL-R210D-d		HSDPA 900/2100 or 850/1900MHz	2x LAN 1x RS232 3x I/O	√	√		7.2M	5.76M
WL-R210D-g		HSDPA 900/2100 or 850/1900MHz	2x LAN 1x RS232 3x I/O	√	√	√	7.2M	5.76M
WL-R210E-d		EVDO 800MHz	2x LAN 1x RS232 3x I/O	√	√		3.1M	1.8M
WL-R210E-g		EVDO 800MHz	2x LAN 1x RS232 3x I/O	√	√	√	3.1M	1.8M

1.3 Product Appearance

Table 1-2 WLINK Router Appearance

Series	R200	R210	R520
Appearance			
Ports	2*LAN (Default)	2*LAN(Default) +Dual SIM 3*I/O, GPS, WLAN Optional	1*WAN + 4*LAN + single module/dual SIM, dual module/dual SIM
Product category			

1.4 Typical Application Diagram

WLINK 4G/3G Router are widely used in Telecom, economic, advertisement, traffic, environment protection business area.

For example, in economic area, WL-R210 Series Router connect server by IPSec & GRE to ensure data security, tiny design makes it easily installed into ATM machine. All these technology ensure safe and reliable data transmission, and minimize the probability of network disconnection, and maximize the usability of economic business like ATM, POS .etc.

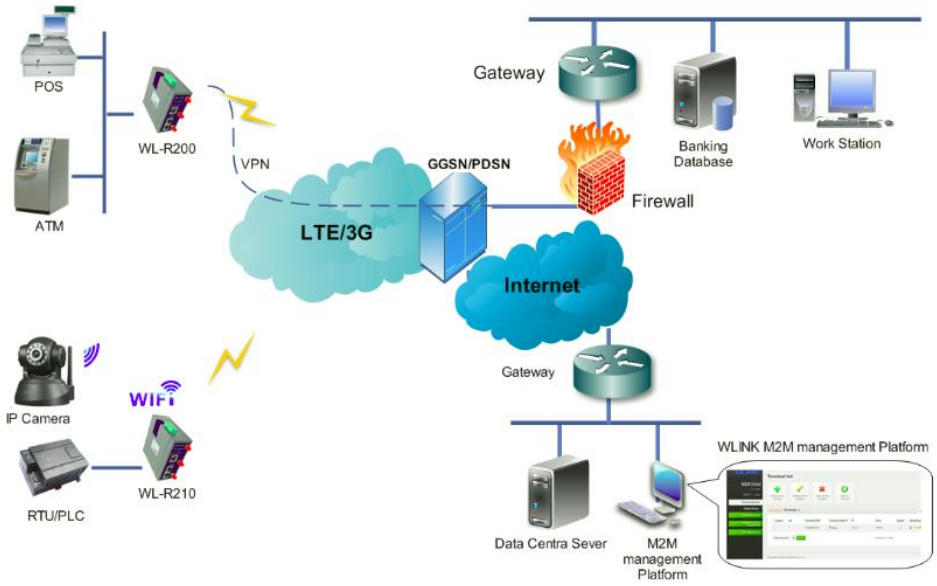


Figure 1-1 Network Topology

1.5 Features

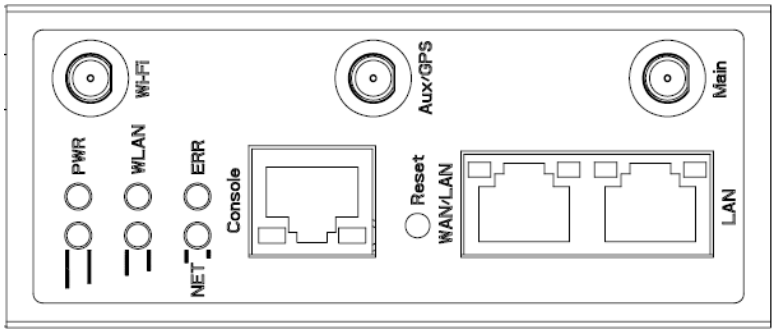
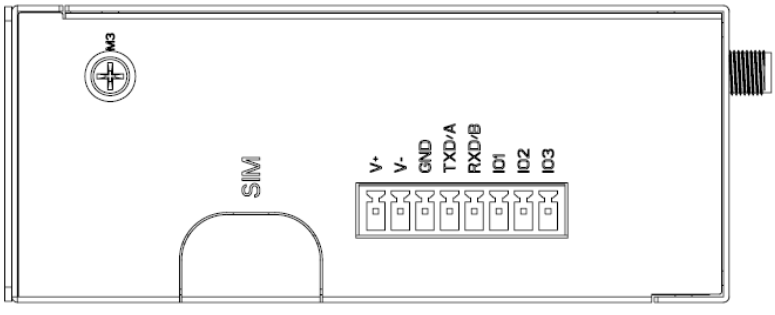
- Various cellular module optional, LTE/HSPA+/EVDO/CDMA2000 optional
- Support IEEE802.11b/g/n Wi-Fi AP function, extended support to Wi-Fi terminal, WDS bridging, support WEP, WPA/WPA2 Personal/Enterprise, TKIP/AES, etc., Authenticated encryption mode
- Support virtual data and private network（APN/VPDN）
- Optional support RS-232/RS-485 interface data transparent transmission and protocol conversion
- Support on-demand dialing, include timing on/off-line, voice or SMS control on/off-line, data trigger online or link idle offline
- Support TCP/IP protocol stack, support Telnet, HTTP, SNMP, PPP, PPPoE, etc., network protocol
- Support VPN Client（PPTP, L2TP）,optional support Open VPN, IPSec, HTTPs, SSH, etc. advanced VPN function
- Provide friendly user interface, use normal web internet explorer to easily configure and manage, long-distance configure Telnet/SSH + CLI
- Optional IPv6 protocol stack
- Optional support M2M terminal management platform
- WDT watchdog design, keep system stable
- Customization as per customer’s demand

2 Hardware Installation

This chapter is mainly for installation introduction, there would be some difference between the scheme and real object. But the difference won't have any influence to products performance.

2.1 Panel:

Table 2-1 WL-R210 Structure

WLINK Tech.	R210 series
Front	
Top	

NOTE

There are some difference on Antenna interface and indicator light for the device with extended Wi-Fi, GPS features.

Table 2-2 Router Interface

Port	Instruction	Remark
USIM	Plug type SIM Slot, support 1.8/3V/5V automatic detection.	
Main	3G/LTE antenna, SMA connector, 50Ω.	
Aux/GPS	Optional for LTE MIMO antenna or GPS antenna ,SMA connector, 50Ω.	Optional
Wi-Fi	Wi-Fi antenna, SMA connector,	Optional
LAN	10/100Base-TX，MDI/MDIX self-adaption.	
WAN/LAN	10/100Base-TX，MDI/MDIX self-adaption.	Default as LAN
Reset	Reset button,(press on button at least 5 seconds)	
PWR	Power connector	5 ～ 26V DC
I/O	1/O 1 and 2 is digital input, and I/O 3 is digital output.	
Console	RJ45-DB9 cable for CLI configuration.	

2.2 LED Status

Table 2-3 Router LED indictor Status

silk-screen	status		Indication
Signal	Signal	Solid Light	LED1 indicates signal is weak(CSQ0~10). LED2 indicates signal is good(CSQ11~19. LED3 indicates signal is strong (CSQ20~31)
	Signal 1	Blink	dialing
		Solid Light	online
PWR	Solid Light		System power operation.
WLAN	Solid light		WLAN enable, but no data communication.
	Blinking quickly		Data in transmitting
	Dark		WLAN disable
ERR	Dark		System operation and LTE/3G online.
	Solid Light(Red)		System fail indicator. It indicates SIM card/ module fail.
LAN	Green	Solid light	Connected
	Green	Blinking	Data in transmitting.

silk-screen	status		Indication
	Green	Dark	Disconnection.

NOTE

There are some difference in the LED indicator of the router with expanded Wi-Fi, GPS function and single module/double SIM.

Dimension

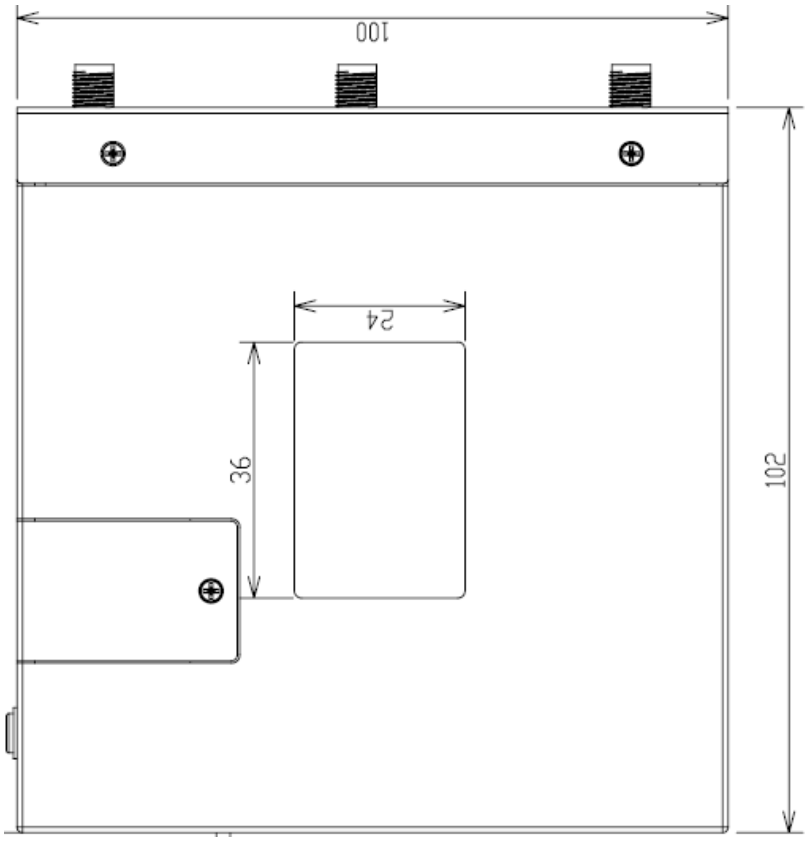


Figure 2-2 R210 Series Router Dimension

2.3 How to Install

2.4.1 SIM/UIM card install

If use dual SIM/UIM card router, you need insert dual SIM before configure it. After inserting, please follow below steps to connect the router.

CAUTION

Before connecting, please disconnect any power resource of router

2.4.2 Ethernet Cable Connection

Use an Ethernet cable to connect the cellular Router with computer directly, or transit by a switch.

2.4.3 Serial Port Connection

If you want to connect the router via serial port to laptop or other devices, you should prepare a serial port or RJ45 cable, this cable is optional available from WLINK. One end connect to computer serial port, the other end connects to the console port of the router

CAUTION

Before connecting, please disconnect any power resource.

2.4.4 Power Supply

In order to get high reliability, WLINK Series Router power adapt supports wide voltage input range from +5V to +36VDC, support hot plug and complex application environment.

2.4.5 Review

After insert the SIM/UIM card and connect Ethernet cable and antenna, connect power supply adaptor or power cable.

CAUTION

Please connect the antenna before power on, otherwise the signal maybe poor because of impedance mismatching.

Notice:

Step 1 Check the antenna connection.

Step 2 Check SIM/UIM card, confirm SIM/UIM card is available.

Step 3 Power on the industrial Router

----END

3 Router Configuration

This Chapter introduces the parameter configuration of the router, the router can be configured via web internet explorer, Firefox, or chrome. Here we take GUIs 7 system and Internet Explorer 9.0 as sample.

3.1 Local Configure

The router supports to be configured by local Ethernet port, you could specify a static IP or DHCP get IP for your computer. The default IP address is 192.168.1.1，subnet mask is 255.255.255.0, please refer to followings:

Step 1 Click “start > control panel”, 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.

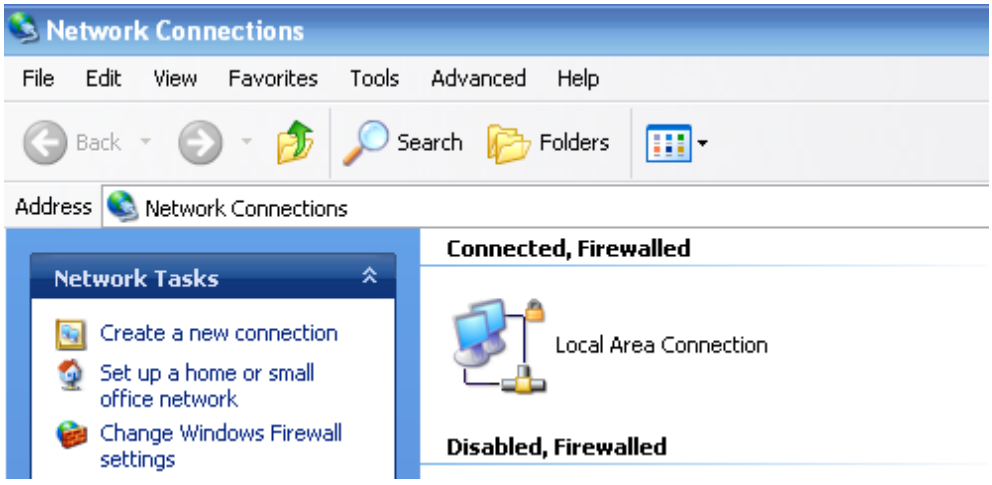


Figure 3-3 Network Connection

Step 2 Obtain a IP address automatically or set up IP address,192.168.1.xxx(XXX can be any number between 2～254)

Step 3 Run an Internet Explorer and visit “http://192.168.1.1/”, to enter identify page.

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

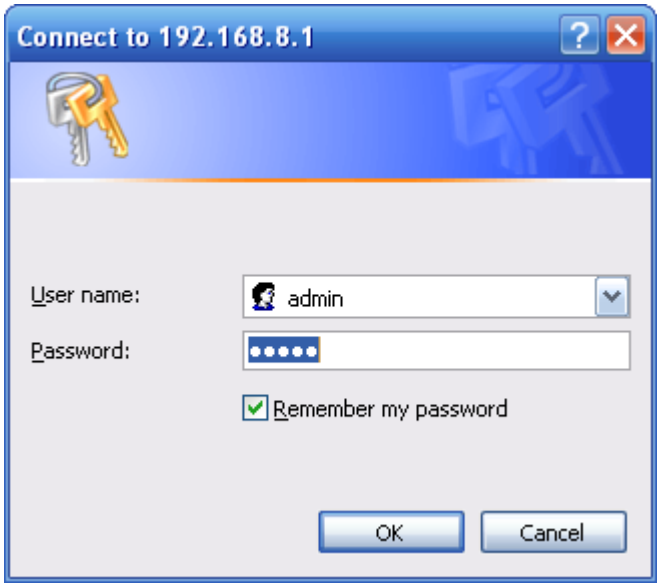


Figure 3-4 User Identify Interface

----END

3.2 Basic Configuration

NOTE

Different software version have different web configuration interface, here take R210 2.6.0.1 version as example.

After visit the WEB interface, you can check the current status of Router, or modify router configuration via web interface, below is the introduction for the common setting.

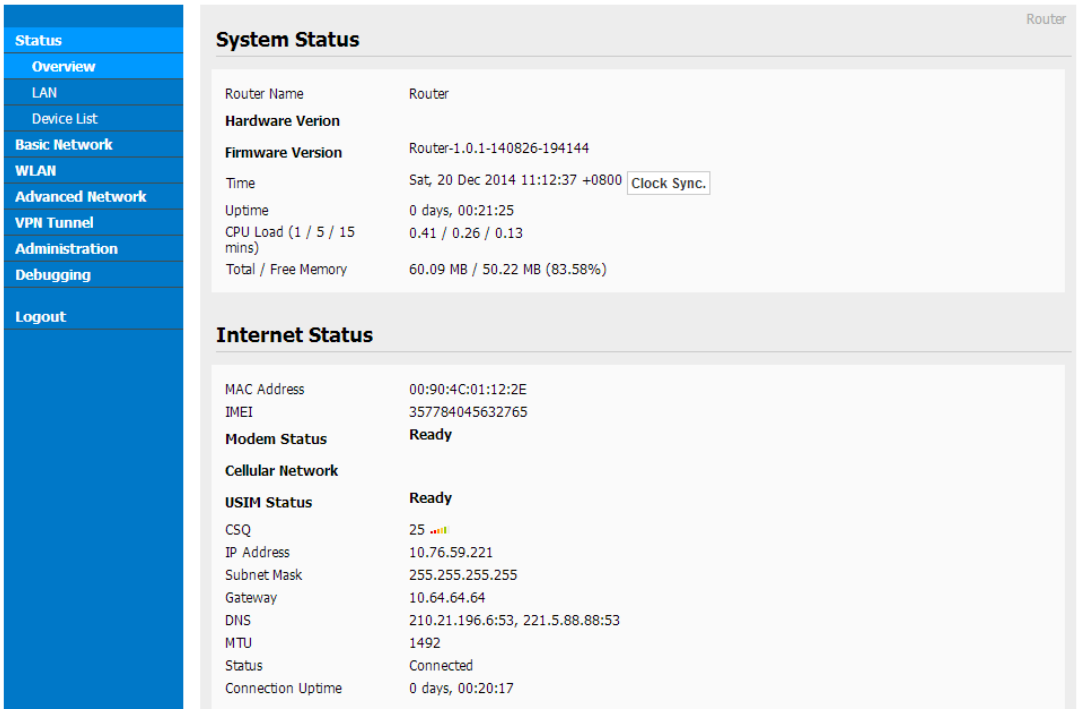


Figure 3-5 Router Status GUI

3.2.1 **Cellular Network Configure**

Step 1 Single Click Basic Network-> Cellular, you can modify relevant parameter according to the application.

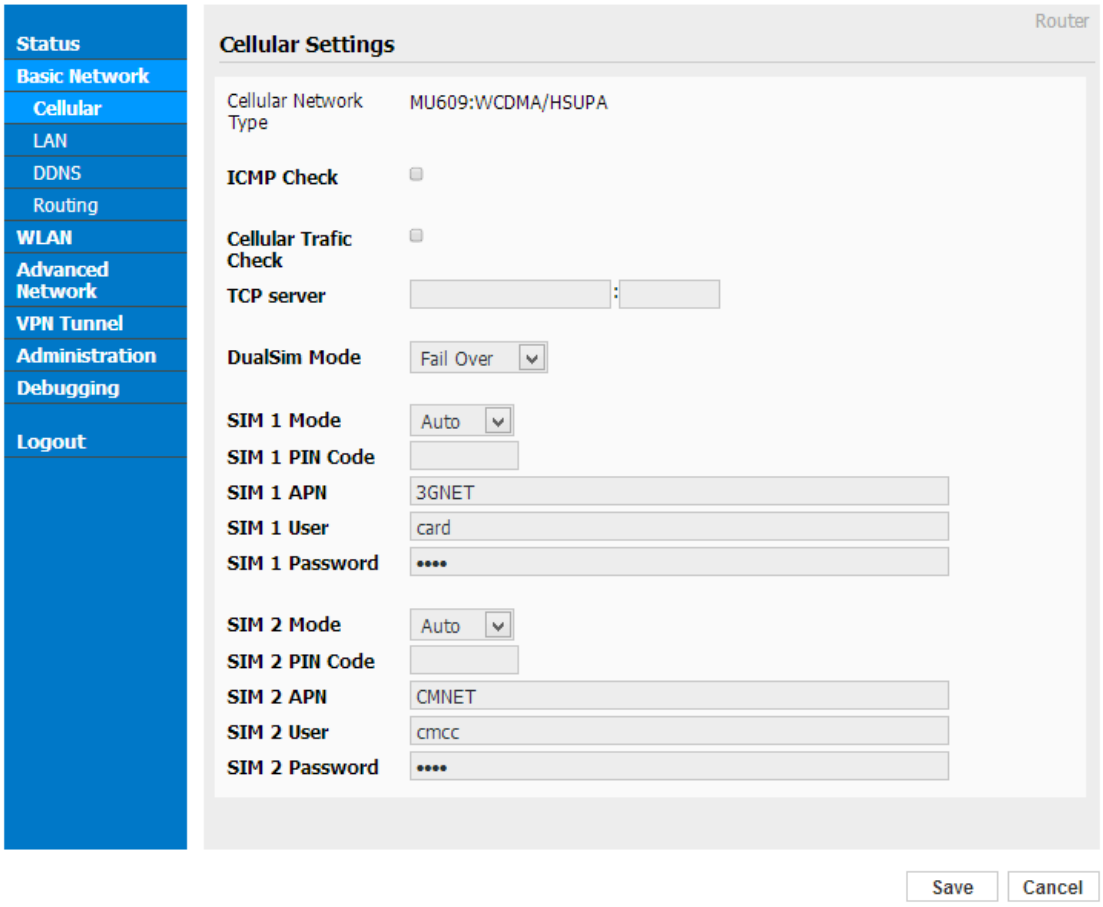


Figure 3-1 Dual SIM GUI

Table 3-1 Cellular Instruction

Parameter	Instruction
Enable	Enable SIM card dial
ICMP check	To enable or disable ICMP check rules. Enable the ICMP check and setup a reachable IP address as destination IP. Once ICMP check failed, router will switch SIM card.
SIM Mode	Select the network type
APN	APN, provided by local ISP, usually CDMA/EVDO network do not need this parameter
User	SIM card user name is provided by ISP
Password	SIM card password is provided by ISP

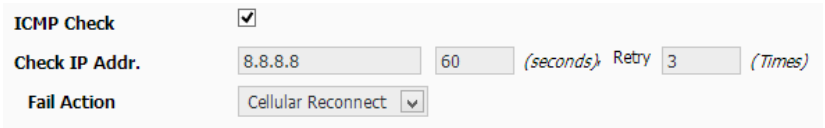
NOTE ICMC Check and Cellular Traffic Check are alternative.

【ICMP Check】

Enable ICMP, Router will automatically check whether the defined IP address is reachable per 60s. If the IP address is unreachable and ICMP check is timeout at the first time, it will check 2 time as 3s interval. If the third time is still failed, the

router will implement fail action as you configured..

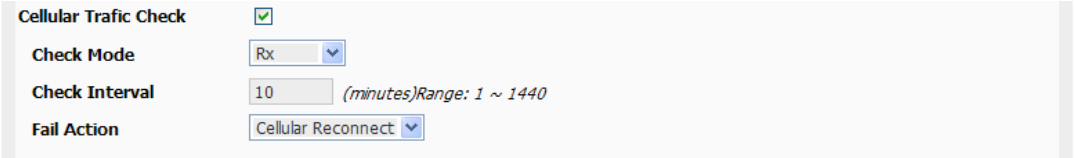
The Check IP is an public IP or company server IP address.



【Cellular Traffic Check】

【Check Mode】there are Rx(Receive), Tx(Transmission) and Rx/Tx check modes.

【Rx】Router will check the 3G/LTE cellular receiver traffic. If no receiver traffic within the defined check interval, the router will implement the specified action 日 reconnect or reboot.



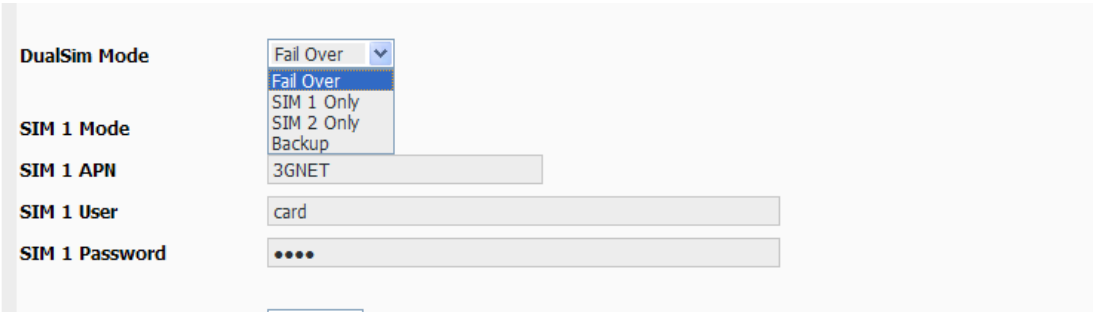
【SIM Mode】

【Fail Over】SIM card mutual backup. Once SIM card is failed, it will switch to the SIM2 and work on SIM2. Once SIM2 is failed, it will switch back to SIM1.

【SIM1 Only】Just SIM1 is available.

【SIM2 Only】Just SIM2 is available.

【Backup】SIM1 is the primary SIM. Once SIM1 is failed, it will switch to SIM2 and work on SIM2 within the defined time. Once the time is over, it will switch back to SIM1.



Step 2 After Setting, please click “save” icon.

----End

3.2.2 **LAN Setting**

Step 1 Single Click “ Basic Network>LAN” to enter below interface

Figure 3-2 LAN Setting GUI

Table 3-2 LAN Setting Instruction

Parameter	Instruction
Router IP Address	Router IP address, default IP is 192.168.1.1
Subnet Mask	Router subnet mask, default mask is 255.255.255.0
DHCP	Dynamic allocation IP service, after enable, it will show the IP address range and options of lease
IP Address Range	IP address range within LAN
Lease	The valid time

Step 2 After setting, please click “save” to finish, the device will reboot.

----End

3.2.3 **Dynamic DNS Setting**

Step 1 Single click “Basic Network->DDNS to enter the DDNS setting page.

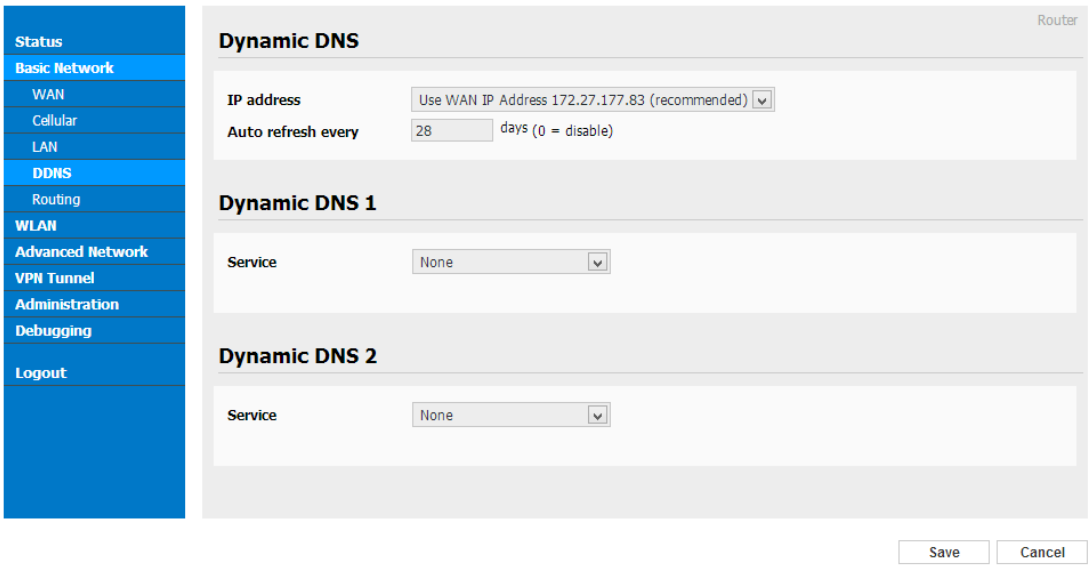


Figure 3-3 Dynamic DNS Setting

Table 3-3 DDNS Setting Instruction

parameter	Instruction
IP address	Default is standard DDNS protocol, for customized protocol, please contact Wlink engineer. Usually, use default IP 0.0.0.0
Auto refresh time	Set the interval of the DDNS client obtains new IP, suggest 240s or above
Service provider	Select the DDNS service provider that listed.

Step 2 Please Click “Save“ to finish.

----End

3.2.4 **Routing Setting**

Step 1 Single click “Basic Network->Routing to enter the DDNS setting GUI.

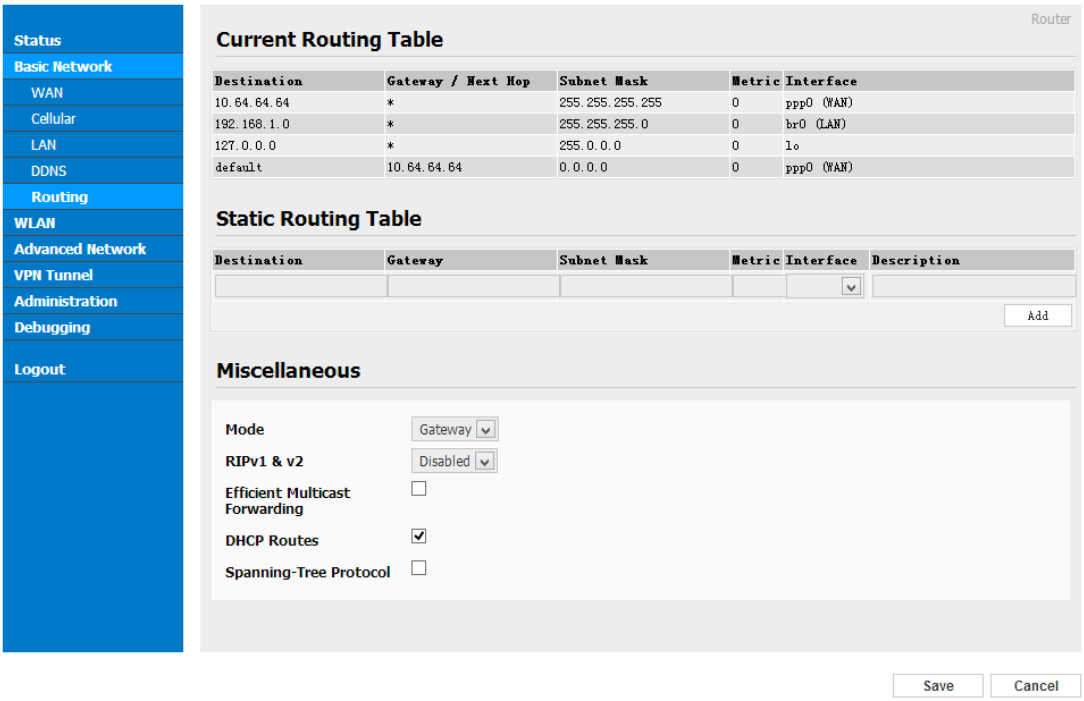


Figure 3-4 Routing Setting

Table 3-4 Routing Setting Instruction

Parameter	Instruction
Destination	Router can reach the destination IP address.
Gateway	Next hop IP address which the router will reach
Subnet Mask	Subnet mask for destination IP address
Metric	Metrics are used to determine whether one particular route should be chosen over another.
Interface	Interface from router to gateway.
Description	Describe this routing name.

Step 2 Please Click " Save " to finish.

3.3 WLAN Setting

It's mainly for router which support Wi-Fi, you can modify and configure WLAN parameter through Web GUI, below is the common setting

3.3.1 Basic Setting

Step 1 Click "WLAN->Basic Setting" to configure relative parameter

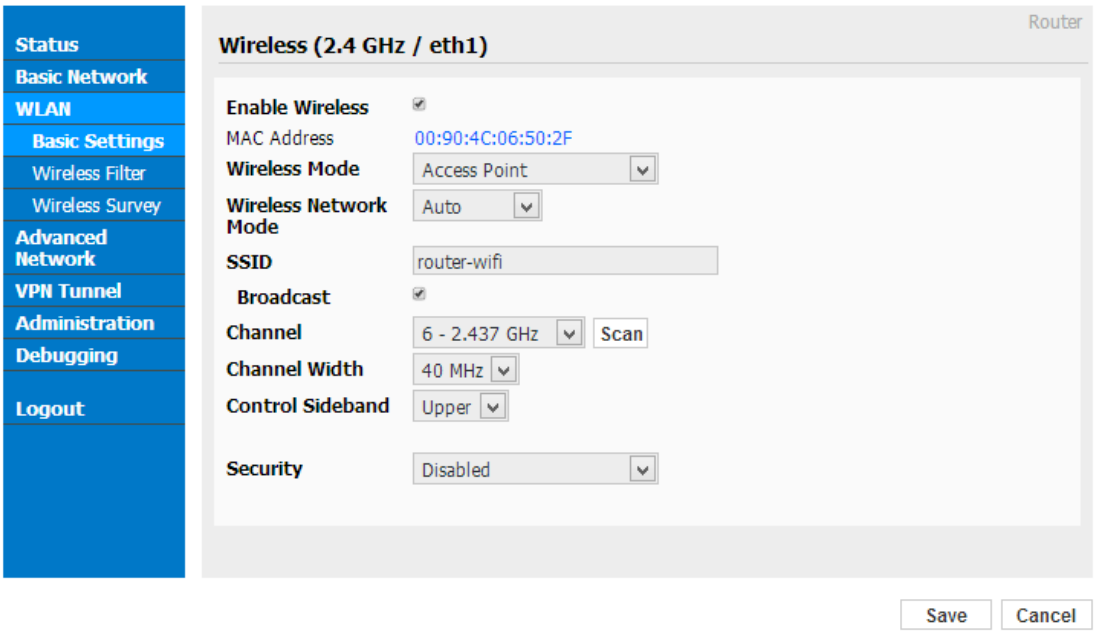


Figure 3-5 WLAN Basic Settings GUI

Table 3-5 Basic Setting Instruction

Parameter	Instruction
Enable wireless	Enable or Disable the Wireless
Wireless mode	Support AP, AP+WDS, Bridge, Client, WDS
Wireless Network protocol	Support Auto, IEEE 11b/g/n selectable
SSID	The default is router, can be modified as per application.
Channel	The channel of wireless network, suggest keep the default
Channel Width	20MHZ and 40MHZ alternative
Security	Support various encryption method

Step 2 Please click “Save” to finish.

----End

3.3.2 **Wireless Filter Setting**

Step 1 Single click “WLAN > Wireless Filter”.

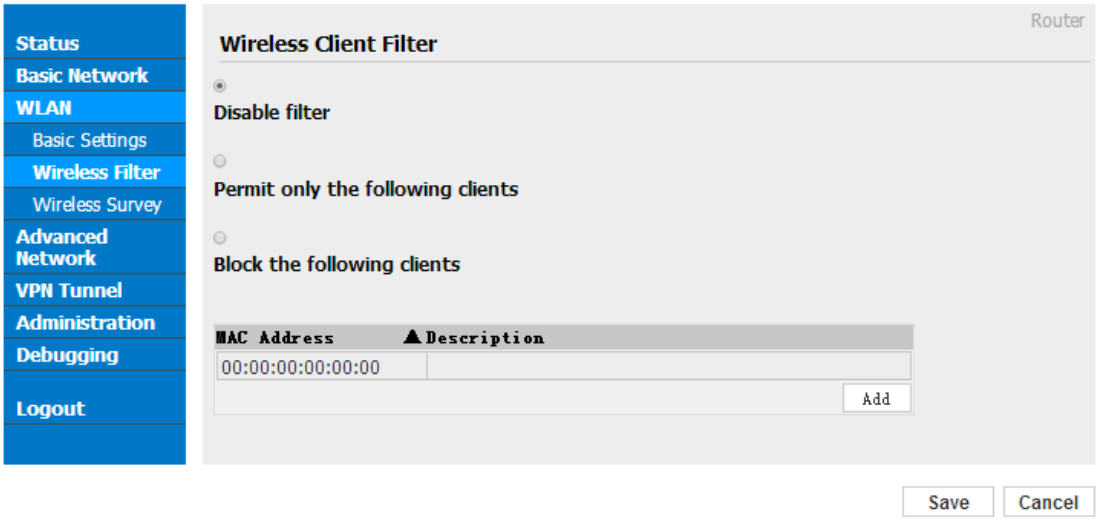


Figure 3-6 Wireless Client Filter Setting GUI

The Wireless Filter enable to set the permitted client or prohibit the specific client to connect the WiFi, However, this feature is invalid for wired connection application.

Table 3-6 "Wireless Client Filter" Setting Instruction

Parameter	Instruction
Disable Filter	Choose to disable
Permit on the following client	Only allow the listed MAC address to connect to router by wireless
Block the follow Client	Prevent the listed MAC address to connect to router by wireless

Step 2 Please click "save" to finish

----End

3.3.3 **Wireless Survey**

Step 1 Please click "WLAN> Wireless Survey" to check survey.

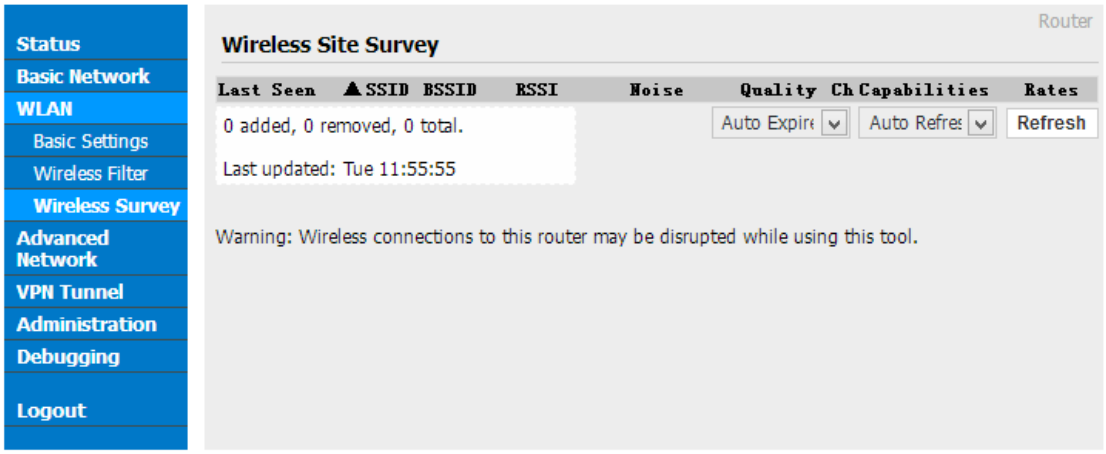


Figure 3-7 Wireless Survey Setting GUI

----End

3.4 Advanced Network Setting

3.4.1 Port Forwarding

Step 1 Please click “Advanced Network > Port Forwarding” to enter the GUI, you may modify the router name, Host name and Domain name according to the application requirement.

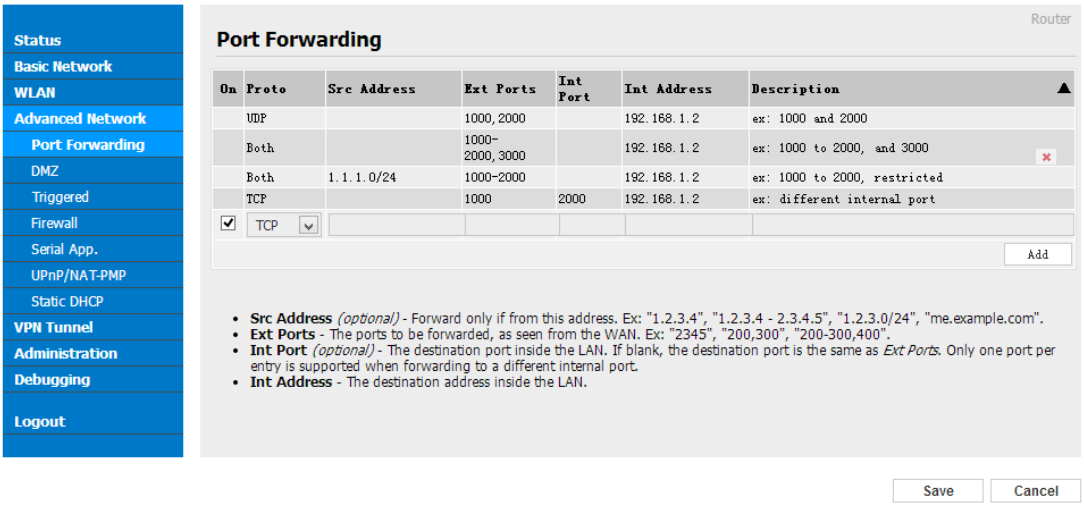


Figure 3-8 Port Forwarding GUI

Table 3-7 “Port Forwarding” Instruction

Parameter	Instruction
Protocol	Support UDP, TCP, both UDP and TCP
Src. Address	Source IP address. Forward only if from this address.
Ext. Ports	External ports. The ports to be forwarded, as seen from the WAN.
Int. Port	Internal port. The destination port inside the LAN. If blank, the destination port is the same as Ext Ports. Only one port per entry is supported when forwarding to a different internal port.
Int. Address	Internal Address. The destination address inside the LAN.
Description	Remark the rule

Step 2 Please click ”save” to finish

----End

3.4.2 **DMZ Setting**

Step 1 Please click “Advanced Network> DMZ” to check or modify the relevant parameter.

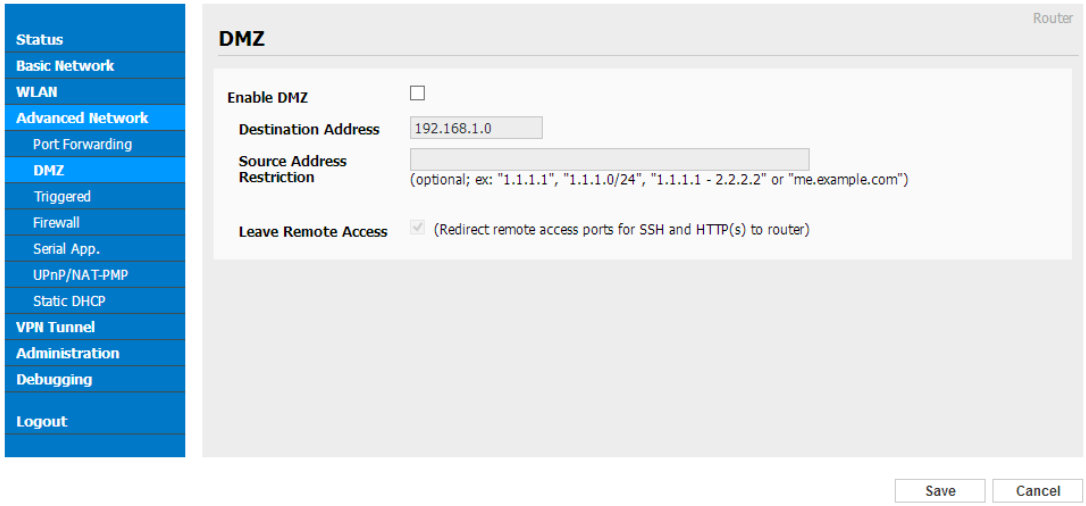


Figure 3-9 DMZ GUI

Table 3-8 “DMZ” Instruction

parameter	Instruction
Destination Address	The destination address inside the LAN.
Source Address Restriction	If no IP address inside, it will allow all IP address to access. If define IP address, it will just allow the defined IP address to access.
Leave Remote Access	

Step 2 Please click ”save” to finish

----End

3.4.3 **Triggered Setting**

Step 1 Please click “Advanced Network> Triggered” to check or modify the relevant parameter.

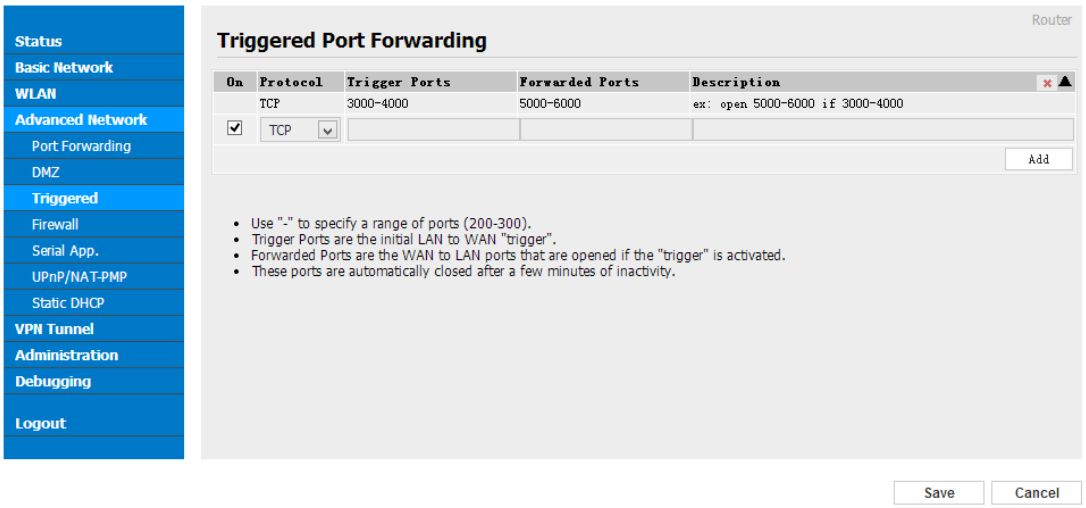


Figure 3-10 Triggered GUI

Table 3-9 “Triggered” Instruction

parameter	Instruction
Protocol	Support UDP, TCP, both UDP and TCP
Triggered Ports	Trigger Ports are the initial LAN to WAN "trigger".
Transferred Ports	Forwarded Ports are the WAN to LAN ports that are opened if the "trigger" is activated.
Note	Port triggering opens an incoming port when your computer is using a specified outgoing port for specific traffic.

Step 2 Please click ”save” to finish.

----End

3.4.4 **Firewall Setting**

Step 1 Please click “Advanced Network> Firewall” to check or modify the relevant parameter.

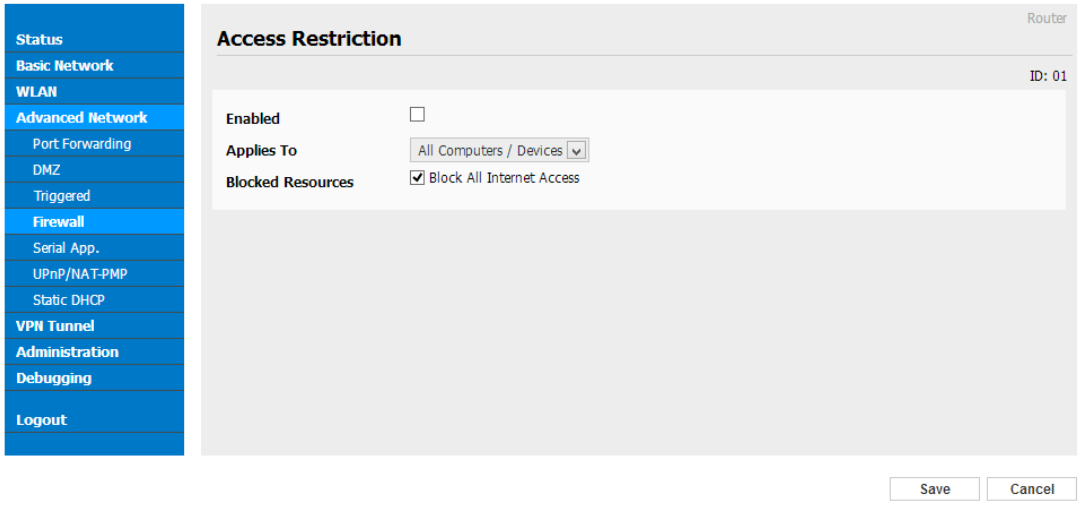


Figure 3-11 Firewall Setting GUI

Table 3-10 “Firewall” Instruction

Parameter	Instruction
Applies To	White list.
Blocked Resources	Black list.

Step 2 Please click ”save” to finish.

3.4.5 **Serial App. Setting**

Step 1 Please click “Advanced Network> Serial App” to check or modify the relevant parameter.

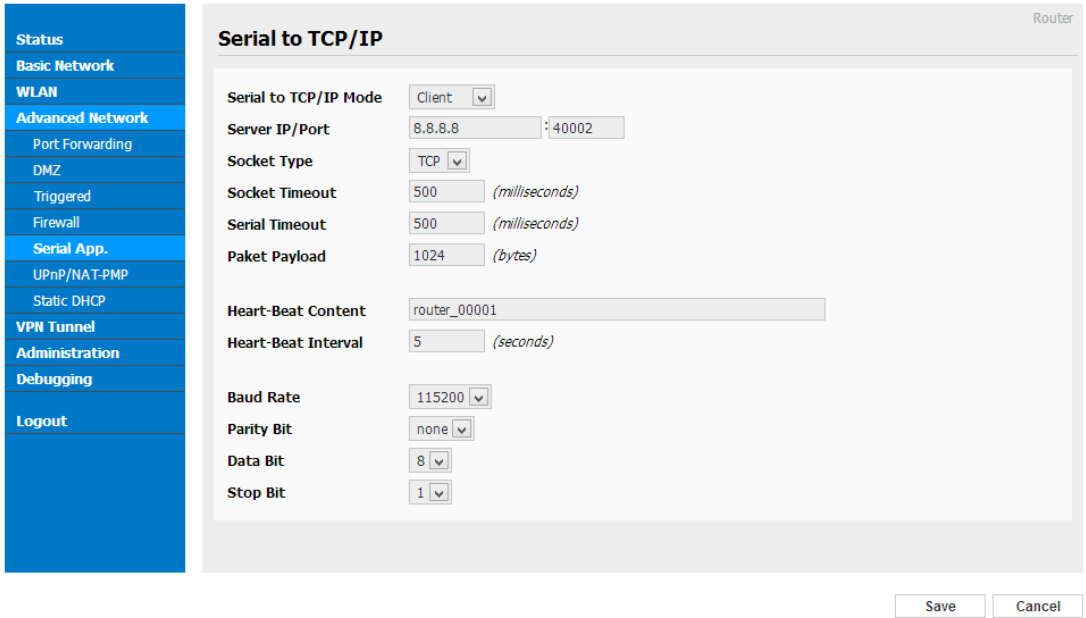


Figure 3-12 Serial App Setting GUI

Table 3-11 "Serial App" Instruction

Parameter	Instruction
Serial to TC/IP mode	Support Disable, Server and Client mode. Such as Client.
Server IP/Port	IP address and domain name are acceptable for Server IP
Socket Type	Support TCP/UDP protocol
Socket Timeout	Router will wait the setting time to transmit data to serial port.
Serial Timeout	Serial Timeout is the waiting time for transmitting the data package that is less the Packet payload. If the last package equals to the Packet payload, Serial port will transmit it immediately. The default setting is 500ms.
Packet payload	Packet payload is the maximum transmission length for serial port data packet. The default setting is 1024bytes.
Heart-beat Content	Send heart beat to the defined server to keep router online. Meantime, it's convenient to monitor router from server.
Heart beat Interval	Heart beat interval time
Baud Rate	112100 as default
Parity Bit	None as default
Data Bit	8bit as default
Stop Bit	1bit as default

Step 2 Please click "save" to finish.

3.4.6 **UPnp/NAT-PMP Setting**

Step 1 Please click "Advanced Network> Upnp/NAT-PMP" to check or modify the relevant parameter.

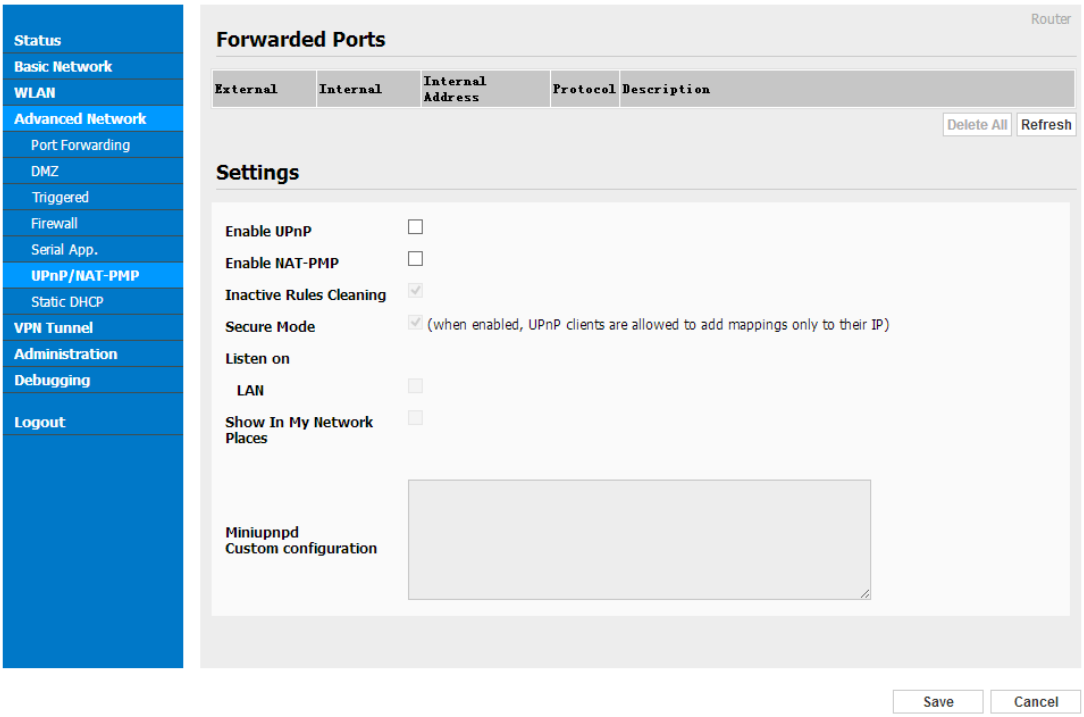


Figure 3-13 UPnp/NAT-PMP Setting GUI

Step 2 Please click ”save” to finish.

3.4.7 **Static DHCP Setting**

Step 1 Please click “Advanced Network> Static DHCP” to check or modify the relevant parameter.

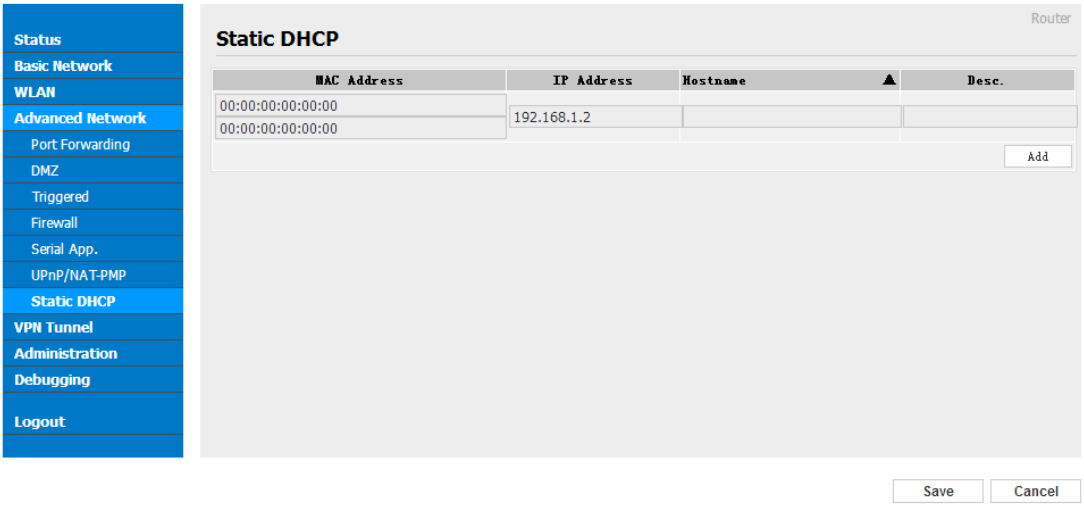


Figure 3-14 Static DHCP Setting GUI

Step 2 Please click ”save” to finish.

3.5 VPN Tunnel

3.5.1 GRE Setting

Step 1 Please click “VPN Tunnel> GRE” to check or modify the relevant parameter.

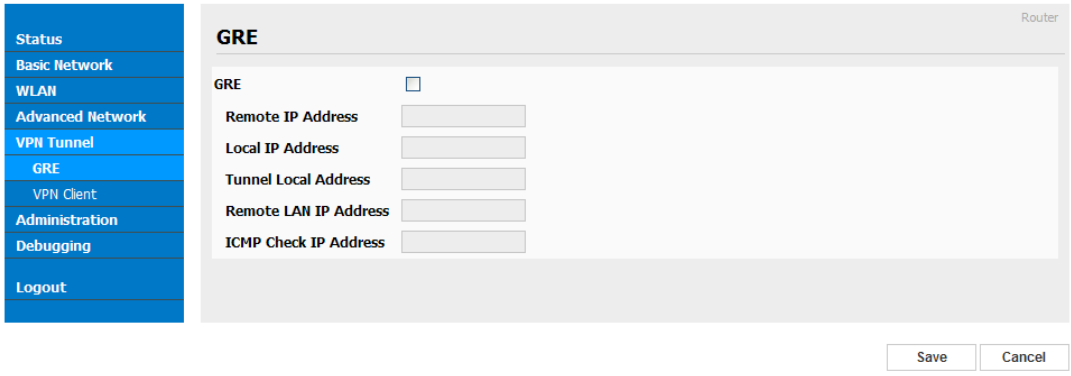


Figure 3-15 GRE Setting GUI

Table 3-12 “GRE” Instruction

Parameter	Instruction
Remote IP Address	GRE peer IP address. Usually a public IP address
Local IP Address	Local IP address for LAN.
Tunnel Local IP address	GRE Tunnel local IP address which is a virtual IP address.
Remote LAN IP Address	GRE Tunnel remote IP address which is a virtual IP address.
ICMP Check IP Address	It’s a reachable IP address. Once the ICMP check is failed, GRE will be established again.

Step 2 Please click ”save” to finish.

3.5.2 VPN Client Setting

Step 1 Please click “VPN Tunnel> VPN Client” to check or modify the relevant parameter.

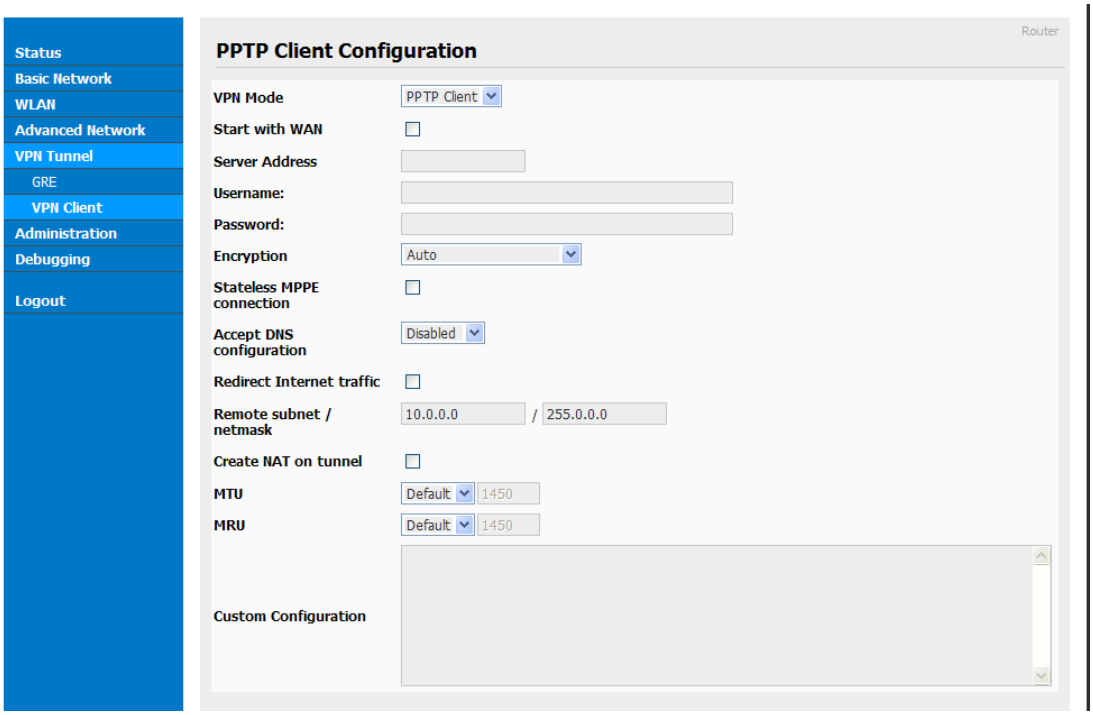


Table 3-13 “VPN Client” Instruction

parameter	Instruction
VPN Mode	VPN Mode for PPTP and L2TP
Server Address	VPN Server IP address.
User name	As the configuration requested.
Password	As the configuration requested.
Encryption	As the configuration requested.
Stateless MPPE	As the configuration requested.
Accept DNS	As the configuration requested.
Remote Subnet	As the configuration requested.
Create NAT on Tunnel	As the configuration requested.

Step 2 Please click ”save” to finish.

3.6 Administration

3.6.1 Identification Setting

Step 1 Please click ”Administrator> Identification” to enter the GUI, you may modify the router name, Host name and Domain name according to self-requirement.

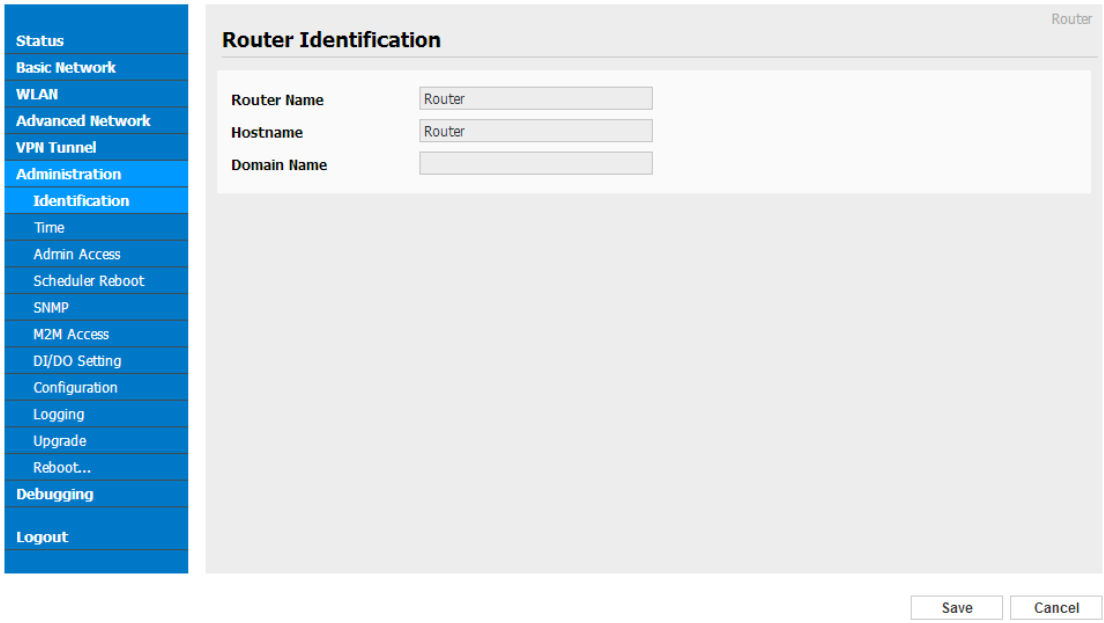


Figure 3-16 Router Identification GUI

Table 3-14 "Router Identification" Instruction

Parameter	Instruction
Router name	Default is router, can be set maximum 32 character
Host name	Default is router, can be set maximum 32 character
Domain name	Default is empty, support maximum up to 32 character, it is the domain of WAN, no need to configure for most application.

Step 2 Please click "save" to finish

----End

3.6.2 **Time Setting**

Step 1 Please click “Administrator> time” to check or modify the relevant parameter.

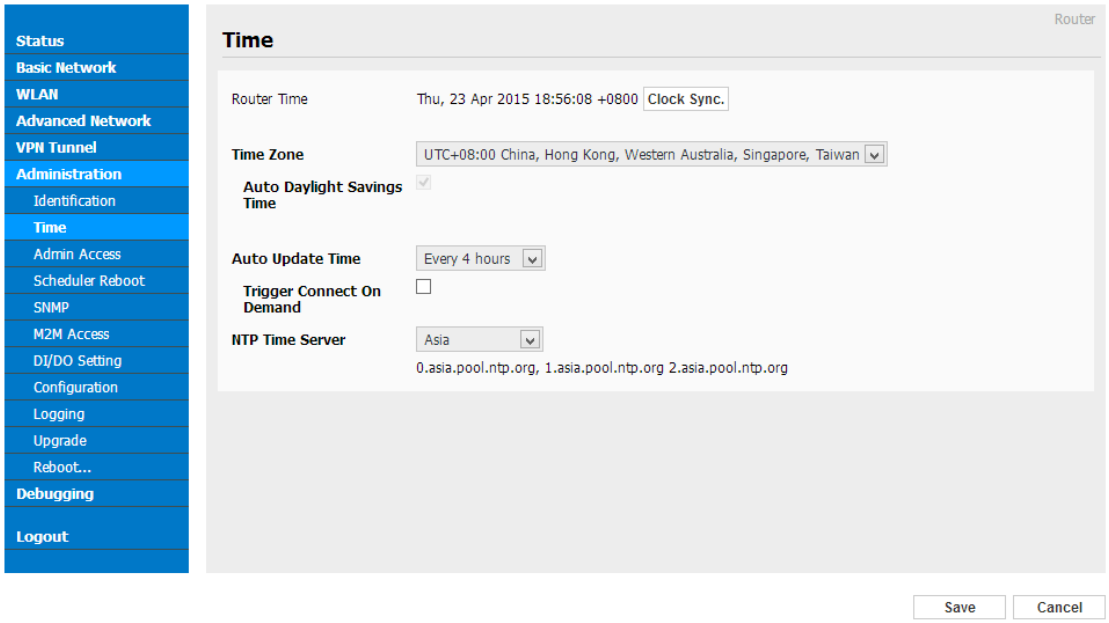


Figure 3-17 System Configuration GUI

CAUTION

If the device is online but time update is fail, please try other NTP Time Server.

Step 2 Please click “save to finish.

----End

3.6.3 **Admin Access Setting**

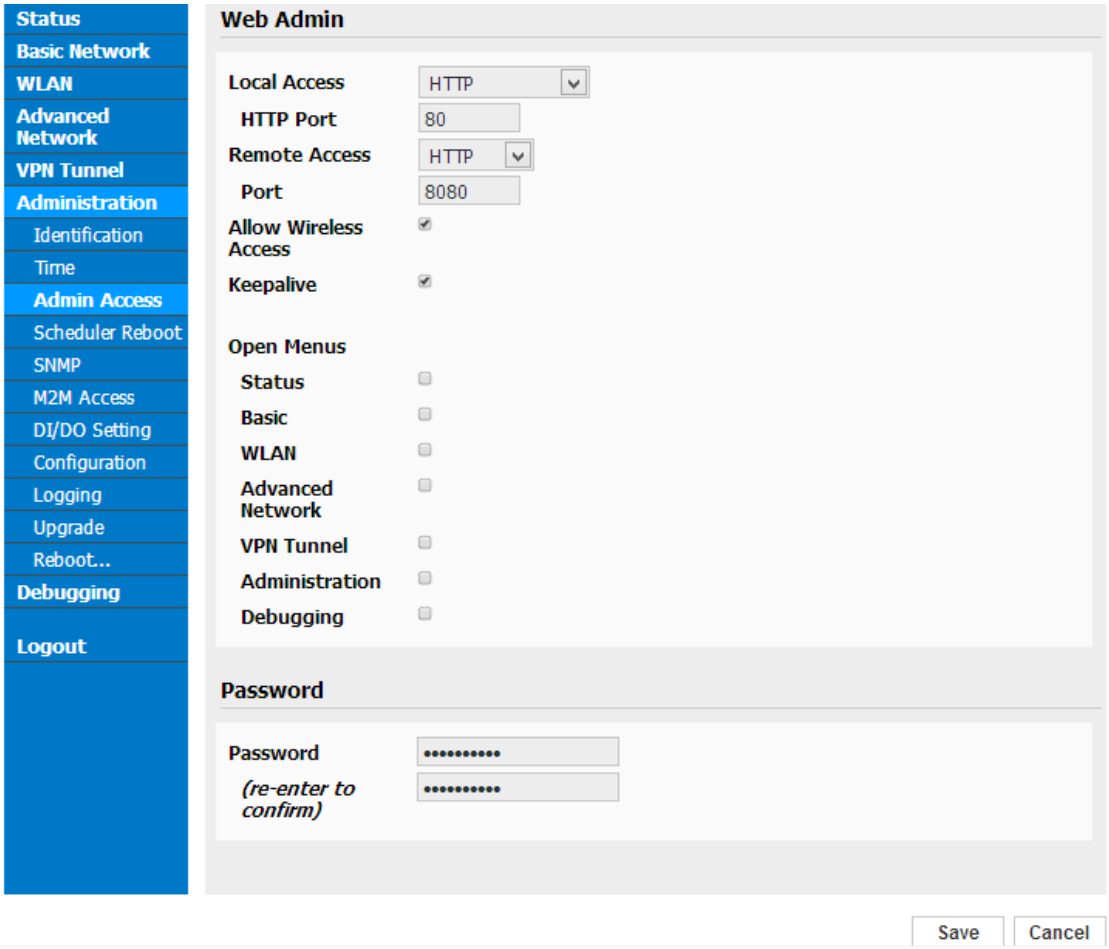
Step 1 Please click “Administrator>Admin” to check and modify relevant parameter.

In this page, you can configure the basic web parameter, make it more convenient for usage. Please note the “password” is the router system account password.

Figure 3-18 Admin Setting GUI

Step 2 Please click save iron to finish the setting

----End



3.6.4 **Schedule Reboot Setting**

Step 1 Please click “Administrator>Schedule Reboot” to check and modify relevant parameter.

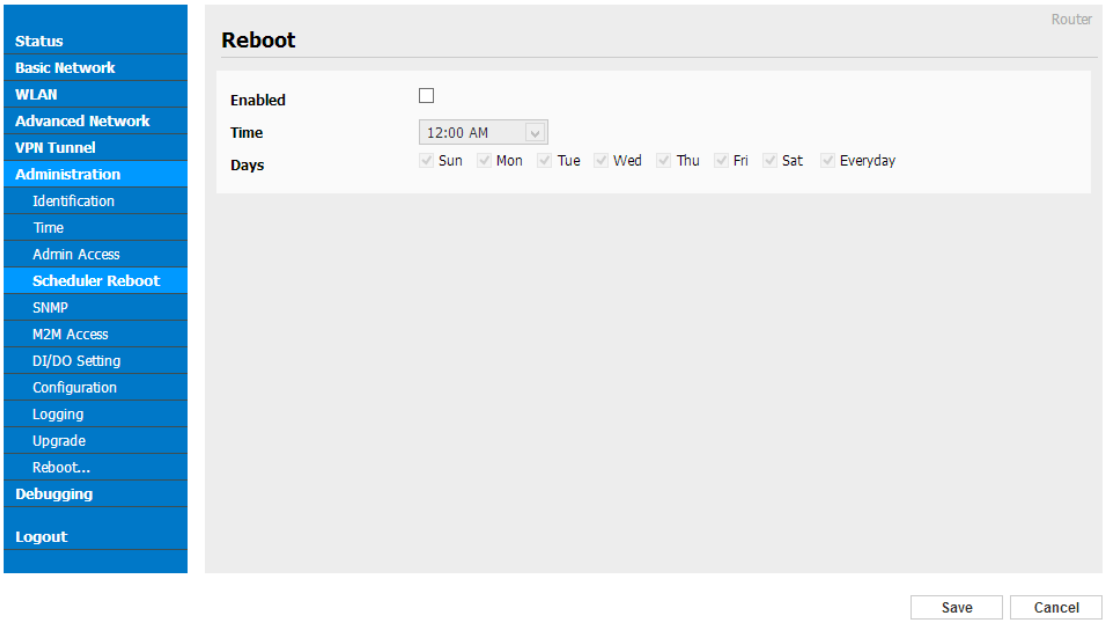


Figure 3-19 Scheduler Reboot Setting GUI

Step 2 Please click save iron to finish the setting

----End

3.6.5 **SNMP Setting**

Step 1 Please click “Administrator>SNMP” to check and modify relevant parameter.

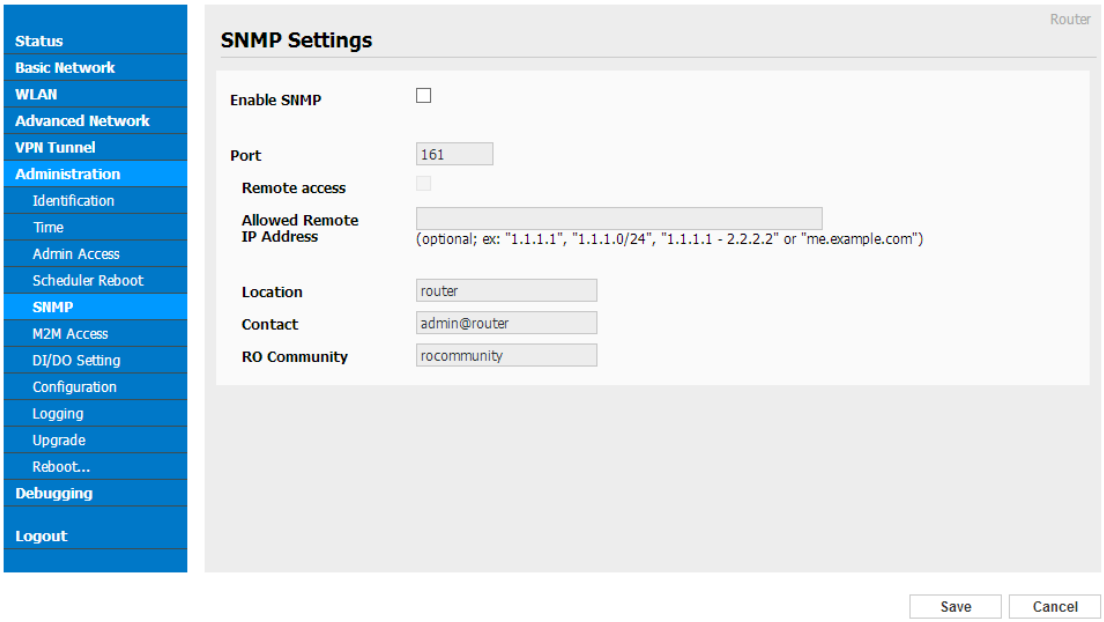


Figure 3-20 SNMP Setting GUI

Step 2 Please click save iron to finish the setting

----End

3.6.6 **M2M Access Setting**

Step 1 Please click “Administrator>M2M Access” to check and modify relevant parameter.

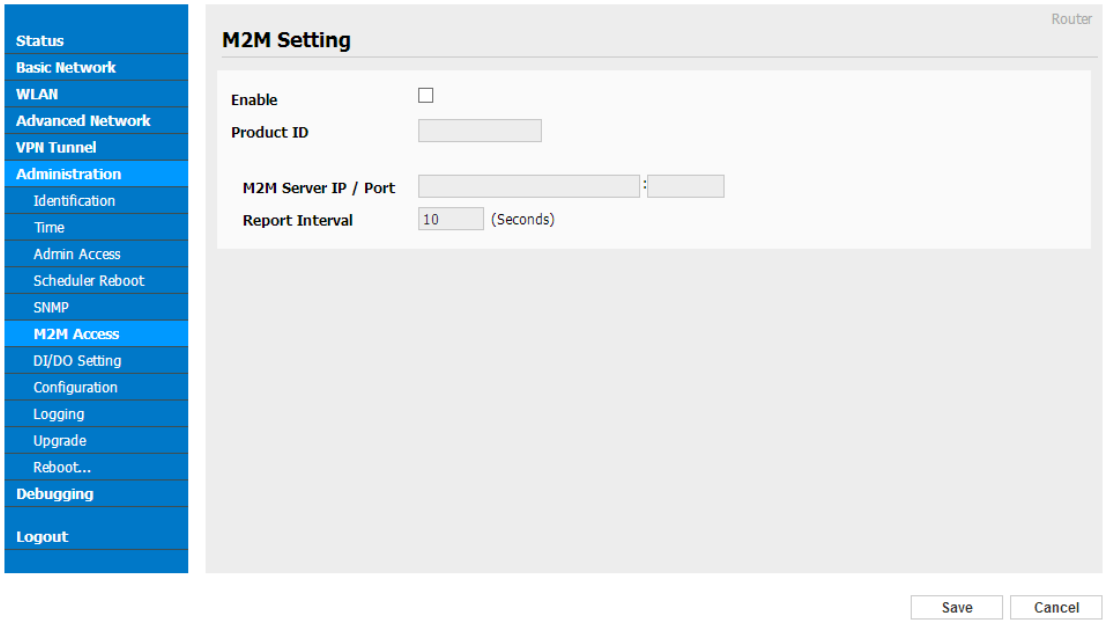


Figure 3-21 M2M Access Setting GUI

Step 2 Please click save iron to finish the setting

----End

3.6.7 **DI/DO Setting**

Step 1 Please click “Administrator>DI/DO Setting” to check and modify relevant parameter.

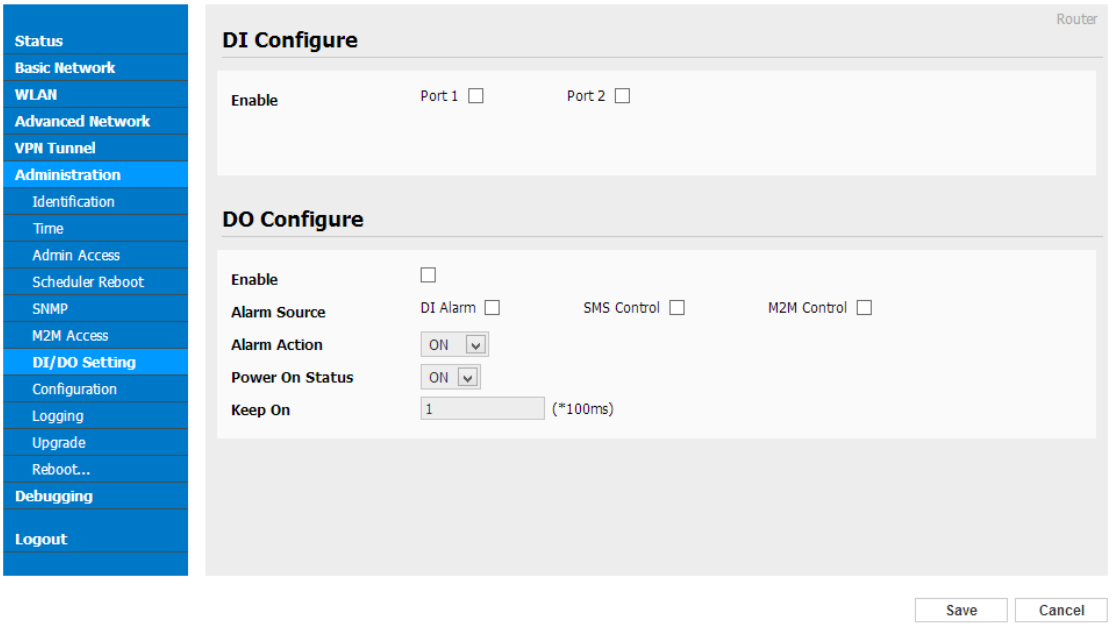


Figure 3-22 DI/DO Setting GUI

3.6.7.1 DI Configure

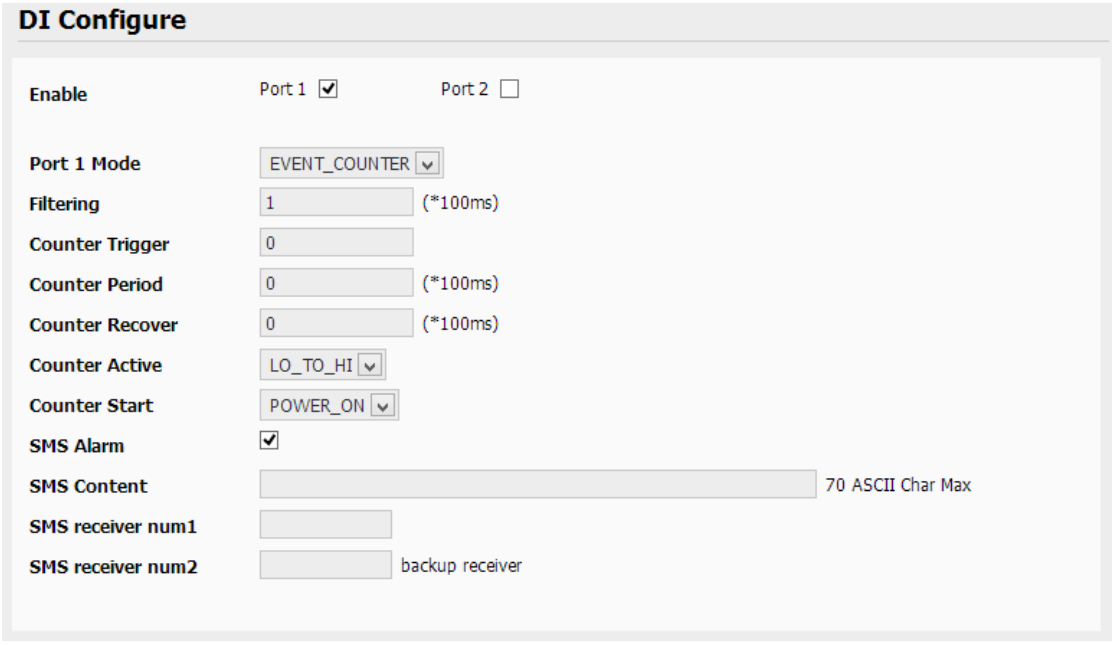


Table 3-15 “DI” Instruction

Parameter	Instruction
Enable	Enable DI. Port1 is for I/O1 and Port2 is I/O2. Both I/O1 and I/O2 are DI ports
Mode	Selected from OFF, ON and EVENT_COUNTER modes. OFF Mode: When I/O connects to GND, it will trigger alarm. ON Mode: When I/O does not connect to GND, it will trigger alarm. EVENT_COUNTER Model: Enter EVENT_COUNTER mode.
Filter	Software filtering is used to control switch bounces. Input (1~100)*100ms. Under OFF and ON modes, WL-R210 detects pulse signal and compares with first pulse shap and last pulse shape. If both are the same level, WL-R210 will trigger alarm. Under EVENT_COUNTER mode, if first pulse shap and last pulse shape are not the same level, WL-R210 will trigger alarm according to Counter Action setting.
Counter Trigger	Available when DI under Event Counter mode Input from 0 to 100. (0=will not trigger alarm) It will trigger alarm when counter reaches this value. After triggering alarm, DI will keep counting but no trigger alarm again.
Counter Period	It’s a reachable IP address. Once the ICMP check is failed, GRE will be established again.
Counter Recover	it will re-count after counter trigger alarm. The value is 0~30000(*100ms). 0 means no counter.
Counter Action	HI_TO_LO and LO_TO_HI is available when DI under Event Counter mode. In Event Counter mode, the channel accepts limit or proximity switches and counts events according to the ON/OFF status. When LO_TO_HI is selected, the counter value increase when the attached switch is pushed. When HI_TO_LO is selected, the counter value increases when the switch is pushed and released.
Counter Start	Available when DI under EVENT_COUNTER mode. Start counting when enable this feature.
SMS Alarm	The alarm SMS will send to specified phone group. Each phone group include up to 2 phone numbers.
SMS Content	70 ASCII Char Max
Number 1	SMS receiver phone number.
Number 2	SMS receiver phone number.

Step 2 Please click ”save” to finish.

3.6.7.1 DO Configure

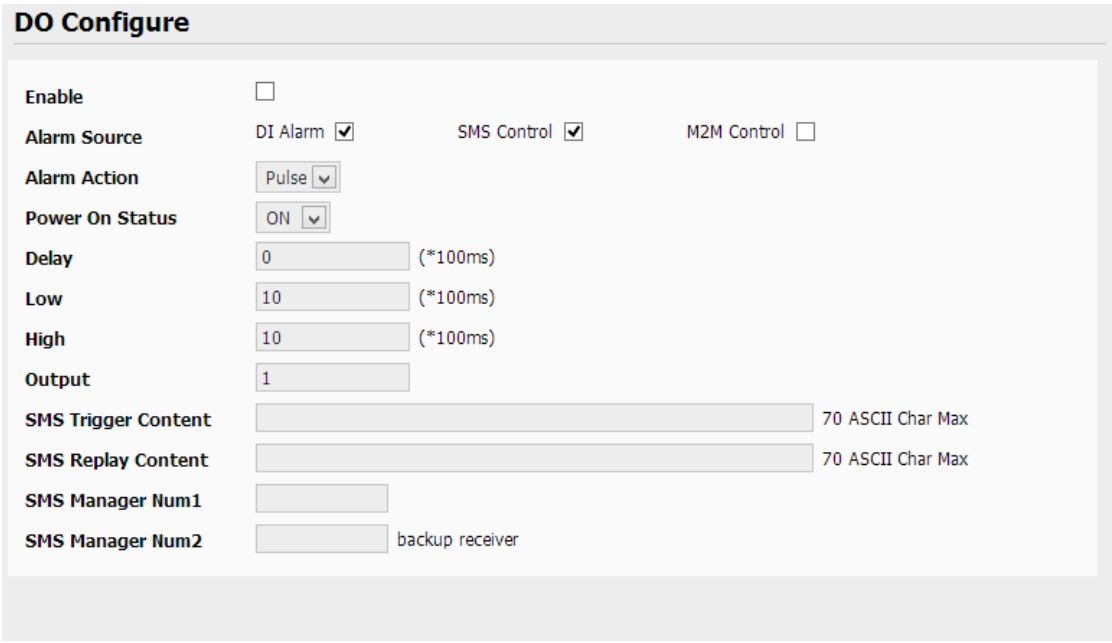


Table 3-16 “DO” Instruction

Parameter	Instruction
Enable	1 DO as selected
Alarm Source	Digital output initiates according to different alarm source. Select from DI Alarm, SMS Control and M2M Control. Selections can be one or more. DI Alarm: Digital Output triggers the related action when there is alarm from Digital Input. SMS Control: Digital Output triggers the related action when receiving SMS from the number in phone book. M2M Control: it’s not ready.
Alarm Action	Digital Output initiates when there is an alarm. Selected from “OFF”, “ON”, “Pulse”. OFF: Open from GND when triggered. ON: Short contact with GND when triggered. Pulse: Generates a square wave as specified in the pulse mode parameters when triggered.
Power on Status	Specify the digital Output status when power on. Selected from OFF and ON. OFF: Open from GND. ON: Short contact with GND.
Keep On	Available when digital output Alarm On Action/Alarm Off Action status is ON, input the Digital Output keep on status time. Input from 0 to 255 seconds. (0=keep on until the next action)
Delay	Available when enable Pulse in Alarm On Action/Alarm Off Action. The first pulse will be generated after a “Delay”.

Parameter	Instruction
	Input from 0 to 30000ms. (0=generate pulse without delay)
Low	Available when enable Pulse in Alarm On Action/Alarm Off Action. In Pulse Output mode, the selected digital output channel will generate a square wave as specified in the pulse mode parameters. The low level widths are specified here. Input from 1 to 30000 ms.
High	Available when enable Pulse in Alarm On Action/Alarm Off Action. In Pulse Output mode, the selected digital output channel will generate a square wave as specified in the pulse mode parameters. The high level widths are specified here. Input from 1 to 30000 ms.
Output	Available when enable Pulse in Alarm On Action/Alarm Off Action. The number of pulses, input from 0 to 30000. (0 for continuous pulse output)
SMS Trigger Content	Available when enable SMS Control in Alarm Source. Input the SMS content to enable “Alarm On Action” by SMS (70 ASIC II char max).
SMS Reply Content	Input the SMS content, which will be sent after DO was triggered. (70 ASIC II char max).
Number 1	SMS receiver phone number.
Number 2	SMS receiver phone number.

Step 3 Please click ”save” to finish.

3.6.8 **Configuration Setting**

Step 1 Please click “ Administrator> Configuration ” to do the backup setting

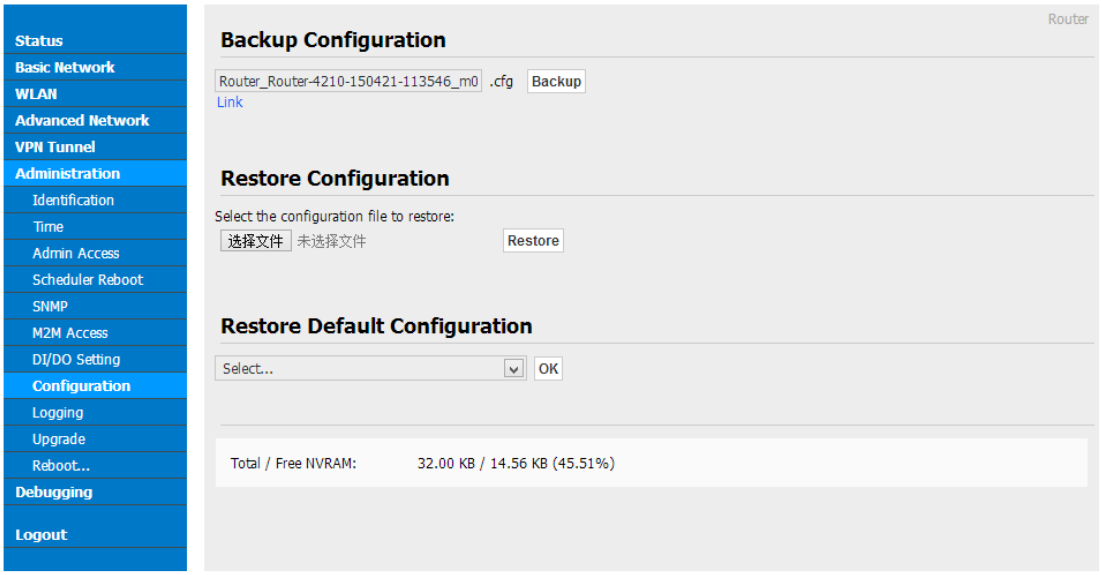


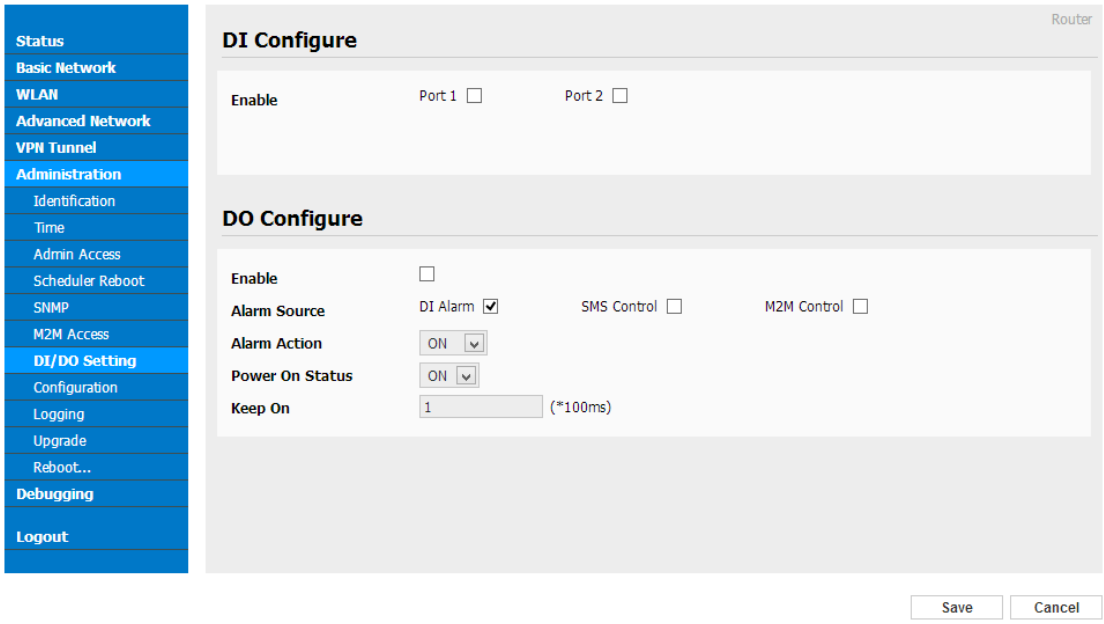
Figure 3-23 Backup and Restore Configuration GUI

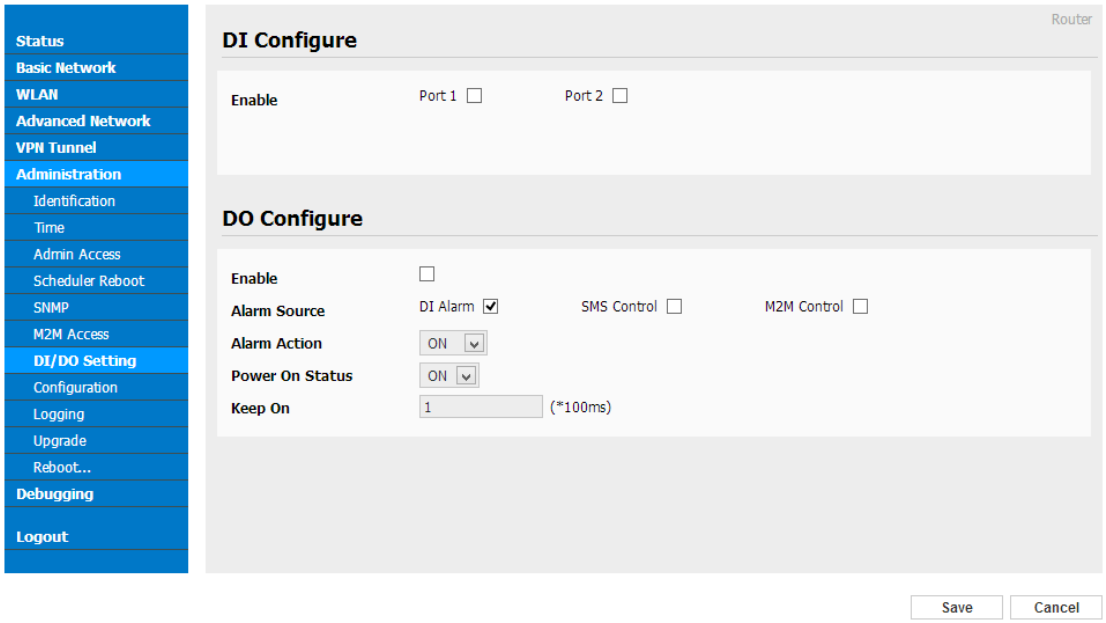
CAUTION

Restore Default would lose all configuration information, please be careful.

Step 2 After setting the backup and restore configuration. The system will reboot automatically.

----End




Status
Basic Network
WLAN
Advanced Network
VPN Tunnel
Administration
Identification
Time
Admin Access
Scheduler Reboot
SNMP
M2M Access
DI/DO Setting
Configuration
Logging
Upgrade
Reboot...
Debugging
Logout
Router
DI Configure
Enable
Port 1
Port 2
DO Configure
Enable
Alarm Source
DI Alarm
SMS Control
M2M Control
Alarm Action
ON
Power On Status
ON
Keep On
1
(*100ms)
Save
Cancel

3.6.9 **System Log Setting**

Step 1 Please click “Administrator> Logging” to start the configuration, you can set the file path to save the log (Local or remote sever).

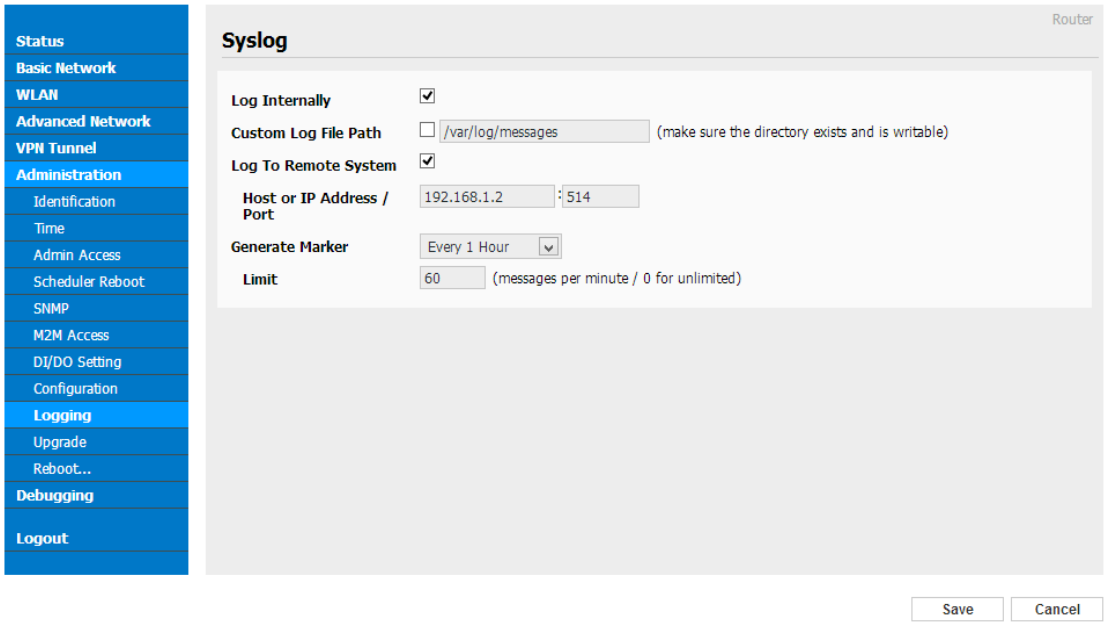


Figure 3-24 System log Setting GUI

Step 2 After configure, please click “Save” to finish.

----End

3.6.10 **Firmware upgrade**

Step 1 Please click “Administrator>firmware upgrade” to open upgrade firmware tab.

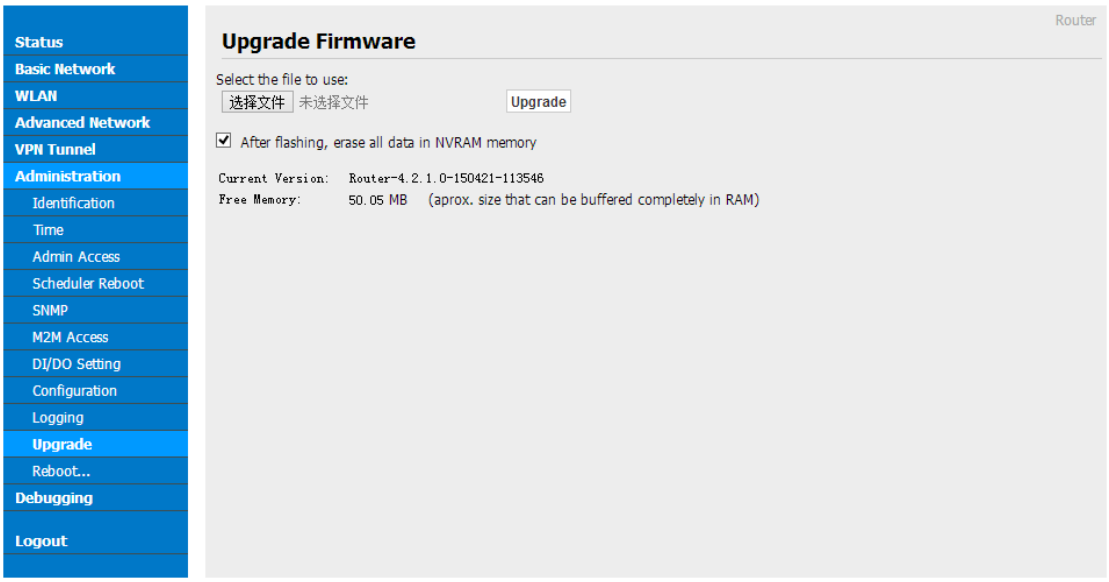


Figure 3-25 Firmware Upgrade GUI

NOTE

When upgrading, please don’t cut off the power.

3.6.11 **System Reboot**

Step 1 Please click “Administrator>Reboot” to restart the router. System will popup dialog to remind “Yes” or “NO” before the next step.

Step 2 If choose “yes”, the system will restart, all relevant update configuration will be effective after reboot.

----End

3.7 Debugging Setting

3.7.1 **Logs Setting**

Step 1 Please click “Debugging>Logs” to check and modify relevant parameter.

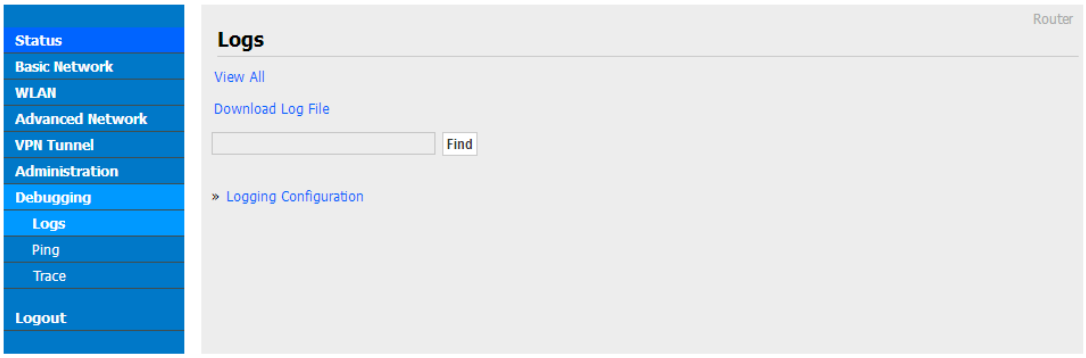


Figure 3-26 Logs GUI

Step 2 After configure, please click “Save” to finish.

----End

3.7.2 **Ping Setting**

Step 1 Please click “Debugging>Logs” to check and modify relevant parameter.

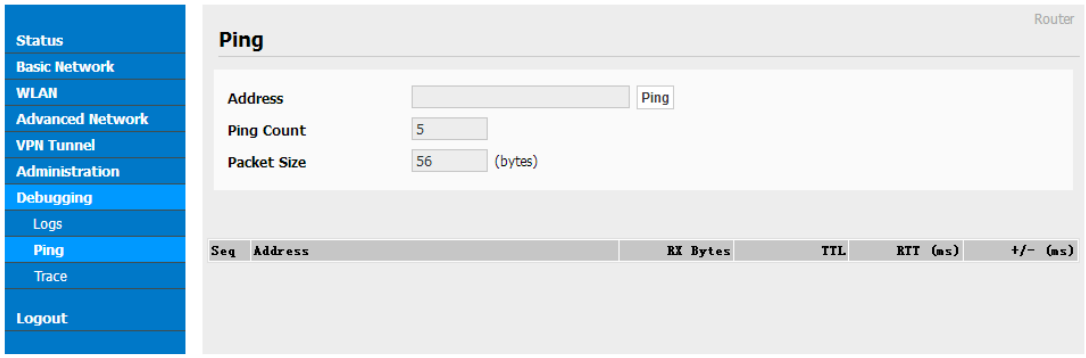


Figure 3-27 Ping GUI

Step 2 After configure, please click “Save” to finish.

----End

3.7.3 **Trace Setting**

Step 1 Please click “Debugging>Trace” to check and modify relevant parameter.

Figure 3-28 Trace GUI

Step 2 After configure, please click “Save” to finish.

----End

3.8 “Reset” Button for Restore Factory Setting

If you couldn’t enter web interface for other reasons, you can also use this way. “Reset” button is near to Console port in WL-R210 panel, This button can be used when the router is in use or when the router is turned on.

Press the “RST” button and keep more than 8 seconds till the NET light stopping blink. The system will be reverted to factory.

Table 3-17 System Default Instruction

Parameter	Default setting
LAN IP	192.168.1.1
LAN Subnet Mask	255.255.255.0
DHCP server	Enable
User Name	admin
Password	admin

NOTE

After reboot, the previous configuration would be deleted and restore to factory settings.

3.9 Appendix (For advanced optional features only)

3.9.1 GPS Setting

Step 1 Please click “Advanced Network> GPS” to view or modify the relevant parameter.

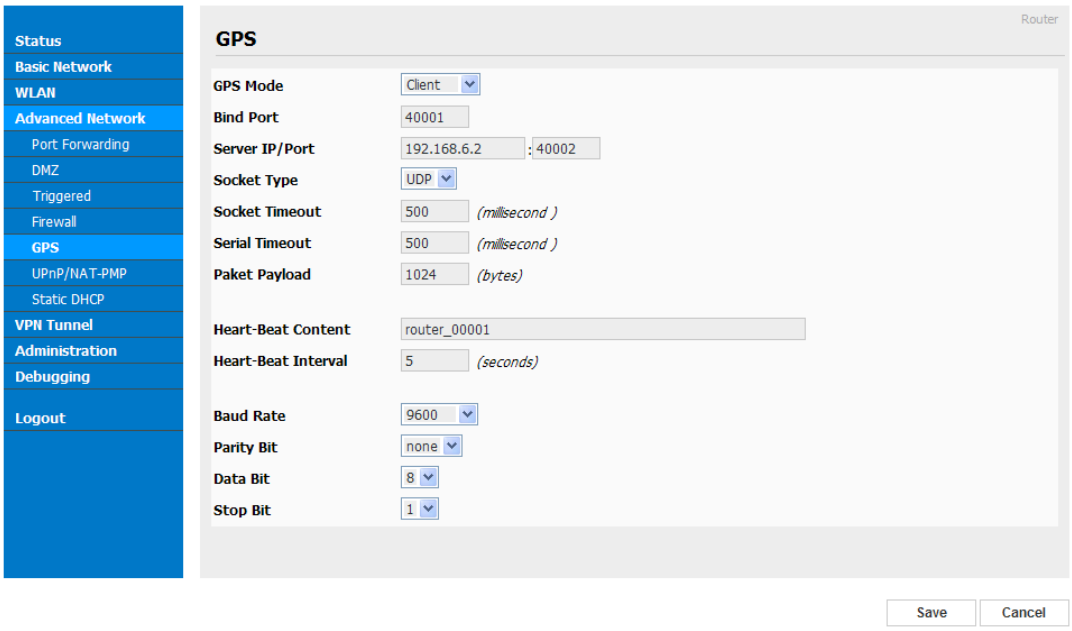


Figure 3-29 GPS Setting GUI

Table 3-18 “GPS” Instruction

parameter	Instruction
Bind Port	Local port for GPS data.
Server IP and Port	GPS server IP address and port.
Socket type	GPS data protocol.
Socket Timeout	The timeout for socket connection. If socket is not established, it will reconnect after the timeout time.
Serial Timeout	The time is defined by serial port buffer. After the time, router will send GPS to server.
Packet Payload	The max packet for GPS data.
Heart-Beat Content	GPS heart beat packet.
Heart-Beat Interval	The heart beat packet interval.

Step 2 Please click ”save” to finish

NOTE

GPS data format as below.

dtu.heartbeat.content,gps_date, gps_time, gps_use, gps_latitude, gps_NS, gps_longitude, gps_EW, gps_speed, gps_degrees, gps_FS, gps_HDOP, gps_MSL

e.g.

Router_00001,083238,120313,12,2230.31563,N,11355.02863,E