POTS in a BOX® CDS-9090

LTE VoIP Dual Band Wi-Fi Router

User Manual V1.1

DATAREMOTE
MOVING DATA OVER WIRELESS

Table of Contents

1 Preface

Thank you for choosing CDS-9090 wireless router with VoIP. This product will allow you to make ATA calls using your broadband connection, and provides Wi-Fi router function.

This manual provides basic information on how to install and connect CDS-9090 wireless router with VoIP to the Internet. It also includes features and functions of LTE connection, wireless router with VoIP components, and how to use it correctly.

Before you can connect CDS-9090 to the Internet and use it, you must have a high-speed broadband connection installed. A high-speed connection includes environments such as DSL, LTE wireless network, cable modem, Wi-Fi access point, and a leased line.

CDS-9090 wireless router with VoIP is a stand-alone device, which requires no PC to make Internet calls. This product facilitates clear and reliable voice quality on Internet, which is fully compatible with SIP industry standards and able to interoperate with many other SIP devices and software on the market.

2 LED Indicators and Connectors

Before you use the high-speed router, please get acquainted with the LED indicators and connectors first.

2.1 LED Indicators

Rear Panel	LED	Status	Explanation
	**PWR**	On (GREEN)	The router is powered on (External Power) and running normally.
		On Blinking (GREEN)	The router is powered on (Internal Power - BAT) and running normally.
		OFF	The router is powered off.
	SYS	On (GREEN)	System OK
		On (RED)	System Fault (SW or HW)
	BATTERY(BAT)	On (GREEN)	Battery Charged
		On Blinking (GREEN)	Battery Charging
		Red	Battery Low or not connected
	FXS ports	On (GREEN)	Registered
		OFF	Not Registered
	WPs	OFF	Not Registered
		On (GREEN)	Active for Key registration
	WiIFi Client	OFF	Non active for Key registration
		On (GREEN)	Wireless Client Connected
		On Blinking (GREEN)	Wireless traffic (Data)
	WIFI AP	OFF	The Wireless Client is powered off or not connected
		On (GREEN)	Wireless AP ready
		On Blinking (GREEN)	Wireless traffic (Data)
	WAN ETH	OFF	The Wireless AP is powered off
		On (GREEN)	Connected (Registered)
		On Blinking (GREEN)	Connected (Data)
	Cell 1/2	OFF	Disconnected
		On (GREEN)	Connected (Registered)
		On Blinking (GREEN)	Connected (Data)

	RSSI	OFF	Disconnected
		On (GREEN)	Strong
		On Blinking (GREEN)	Medium
	CELL DCD	On (RED)	Weak
		On (GREEN)	LTE
		On Blinking (GREEN)	3G
	SIM	Off	No Service
		On (GREEN)	SIM Accepted

Rear Panel	Interface	Description
	DC	**Connector for a power adapter.**
	WAN	**Connector for accessing the Internet.**
	LAN1/2/3/4	**Connectors for local networked devices.**

2.2 Hardware Installation

Before starting to configure the router, you have to connect your devices correctly.

Step 1.Connect Line port to land line jack with a RJ-11 cable.

Step 2.Connect the WAN port to a modem or switch or router or Internet with an Ethernet cable.

Step 3.Connect one port of 4 LAN ports to your computer with a RJ-45 cable. This device allows you to connect 4 PCs directly.

Step 4.Connect one end of the power cord to the power port of this device. Connect the other end to the wall outlet of electricity.

Step 5.Check the Power and WAN, LAN LEDs to assure network connections.

3 Interactive Voice Response

In any circumstance, pressing the following command to enter relevant function. The following table lists command, and description.

Voice Menu Setting Options

Operation code	Contents
1	**Step 1**. Pick up phone and press "****" to start IVR **Step 2**. Choose "1", and CDS-9090 report the current WAN port connection type **Step 3**. Prompt "Please enter password", user need to input password with end char # if user want to configuration WAN port connection type. ✧ The password in IVR is same as the one of WEB login, user can use phone keypad to enter password directly, and the matching table is in Note 4. ✧ For example: WEB login password is "admin", so password in IVR is "admin" too, user input "23646" to access and then configuration WAN connection port. Step 4.Report "operation successful" if password is right. Step 5.Choose the new WAN port connection type from 1.DHCP and 2.Static Step 6.Report "operation successful", this means user make the changes successfully, and then CDS-9090 will return to sound prompting **"please enter your option, one WAN Port ……"**. ✧ Note: add "#" to assume after input password and selected new WAN port connection type
2	**Step 1**. Pick up phone and press "****" to start IVR **Step 2**. Choose "2", and CDS-9090 report current WAN Port IP Address **Step 3.** Input the new WAN port IP address and with the end char #, ✧ using "*" to replace ".", user can input 192*168*20*168 to set the new IP address 192.168.20.168 ✧ press # key to indicate that you have finished **Step 4.** Report "operation successful" if user operation properly. ✧ Note: If you want to quit by the wayside, press "**".
3	**Step 1**. Pick up phone and press "****" to start IVR **Step 2**. Choose "3", and CDS-9090 report current WAN port subnet mask **Step 3.** Input a new WAN port subnet mask and with the end char # ✧ using "*" to replace ".", user can input 255*255*255*0 to set the new WAN port subnet mask 255.255.255.0 ✧ press # key to indicate that you have finished **3)** Report "operation successful" if user operation properly. ✧ Note: If you want to quit by the wayside, press "**".

4	**Step 1.** Pick up phone and press “****” to start IVR **Step 2**. Choose “4”, and CDS-9090 report current gateway **Step 3**. Input the new gateway and with the end char # ✧ using “*” to replace “.”, user can input 192*168*20*1 to set the new gateway 192.168.20.1 ✧ press # (pound) key to indicate that you have finished **3**) Report “operation successful” if user operation properly. ✧ Note: If you want to quit by the wayside, press “**”.
5	**Step 1.** Pick up phone and press “****” to start IVR **Step 2**. Choose “5”, and CDS-9090 report current DNS **Step 3.** Input the new DNS and with the end char # ✧ using “*” to replace “.”, user can input 192*168*20*1 to set the new gateway 192.168.20.1 ✧ press # (pound) key to indicate that you have finished **3)** Report “operation successful” if user operation properly. ✧ If you want to quit by the wayside, press “**”.
6	**Step 1** .Pick up phone and press “****” to start IVR **Step 2**. Choose “6”, and CDS-9090 report “Factory Reset” **Step 3.** Prompt "Please enter password", the method of inputting password is the same as operation 1. ✧ If you want to quit by the wayside, press “*”. **Step 4**. Prompt “operation successful” if password is right and then CDS-9090 will be factory setting. **Step 5**. Press “7” reboot to make changes effective.
7	**Step 1**. Pick up phone and press “****” to start IVR **Step 2**. Choose “7”, and CDS-9090 report “Reboot” **Step 3** .Prompt "Please enter password", the method of inputting password is same as operation 1. **Step 4.** CDS-9090 will reboot if password is right and operation is properly.
8	**Step 1.** Pick up phone and press “****” to start IVR **Step 2.** Choose “8”, and CDS-9090 report “WAN Port Login” **Step 3.** Prompt "Please enter password", the method of inputting password is same as operation 1. ✧ If you want to quit by the wayside, press “*”. **Step 4**. Report “operation successful” if user operation properly. **Step 5**. Prompt “1enable 2disable”,choose 1 or 2, and with confirm char # **Step 6.** Report “operation successful” if user operation properly.

9	**Step 1**. Pick up phone and press “****” to start IVR **Step 2.** Choose “9”, and CDS-9090 report “ WEB Access Port” **Step 3**. Prompt “Please enter password”, the method of inputting password is same as operation 1. **Step 4.** Report “operation successful” if user operation properly. **Step 5.** Report the current WEB Access Port **Step 6.** Set the new WEB access port and with end char # **Step 7.** Report “operation successful” if user operation properly.
0	**Step 1.** Pick up phone and press “****” to start IVR **Step 2.** Choose “0”, and CDS-9090 report current Firmware version

Notice:

- When using Voice Menu, press * (star) to return the main menu.
- If any changes made in the IP assignment mode, please reboot the CDS-9090 to take the setting into effect.
- When enter IP address or subnet mask, use “*”(Star) to replace “.” (Dot).

  For example, to enter the IP address 192.168.20.159 by keypad, press these keys: 192*168*20*159, use the #(pound) key to indicate that you have finished entering the IP address.
- #(pound) key to indicate that you have finish entering the IP address or subnet mask
- When assigning IP address in Static IP mode, setting IP address, subnet mask and default gateway is a must. If in DHCP mode, please make sure that DHCP SERVER is available in your existing broadband connection to which WAN port of CDS-9090 is connected.
- The default LAN port IP address of CDS-9090 is 192.168.1.1 and do not set the WAN port IP address of CDS-9090 in the same network segment of LAN port of CDS-9090, otherwise it may lead to the CDS-9090 fail to work properly.
- You can enter the password by phone keypad, the matching table between number and letters as follows:

- To input: D, E, F, d, e, f -- press ‘3’
- To input: G, H, I, g, h, i -- press ‘4’
- To input: J, K, L, j, k, l -- press ‘5’

- To input: M, N, O, m, n, o -- press ‘6’
- To input: P, Q, R, S, p, q, r, s -- press ‘7’
- To input: T, U, V, t, u, v -- press ‘8’
- To input: W, X, Y, Z, w, x, y, z -- press ‘9’
- To input all other characters in the administrator password-----press ‘0’,
  E.g. password is ‘admin-admin’, press ‘236460263’

4 Configuring Basic Settings

4.1 Administrator Management

This chapter explains how to setup a password for an administrator user and how to adjust settings for accessing Internet successfully.

CDS-9090 supports two-level management: administrator and user. For administrator mode operation, please type "**admin/Password1**" on Username/Password and click **Login** button to configuration.

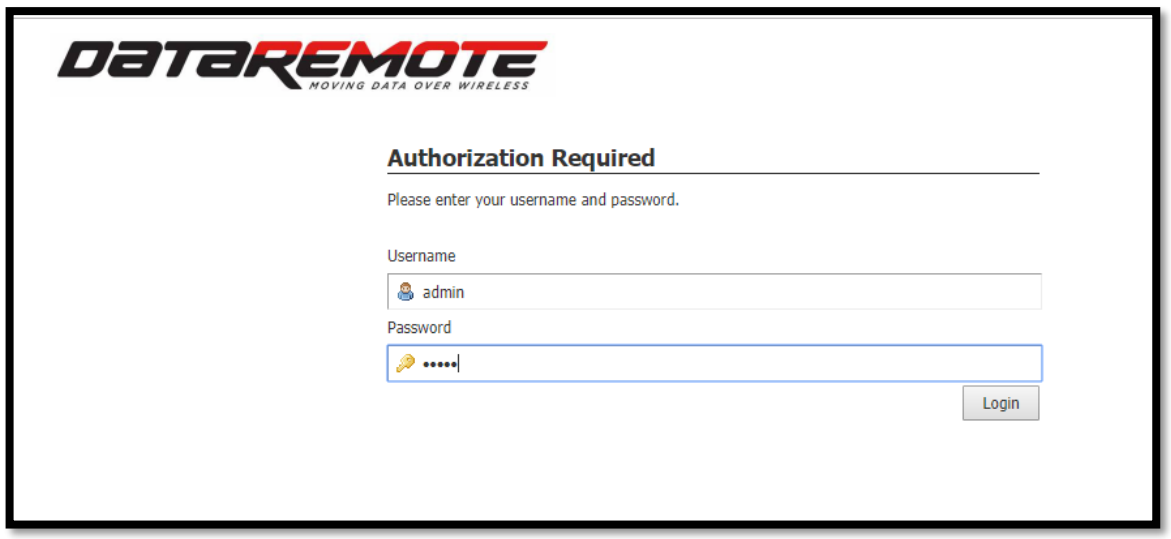
4.2 Accessing Web Page

4.2.1 From LAN port

1. Make sure your PC have connected to the router's LAN port correctly.

> **Notice:** You may either simply set up your computer to get IP dynamically from the router or set up the IP address of the computer to be the same subnet as **the default IP address of router is 192.168.1.1**. For the detailed information, please refer to the later section - **Trouble shooting of the guide.**

2. Open a web browser on your PC and type **http://192.168.1.1.** The following window will be open to ask for username and password, and you can choose language.



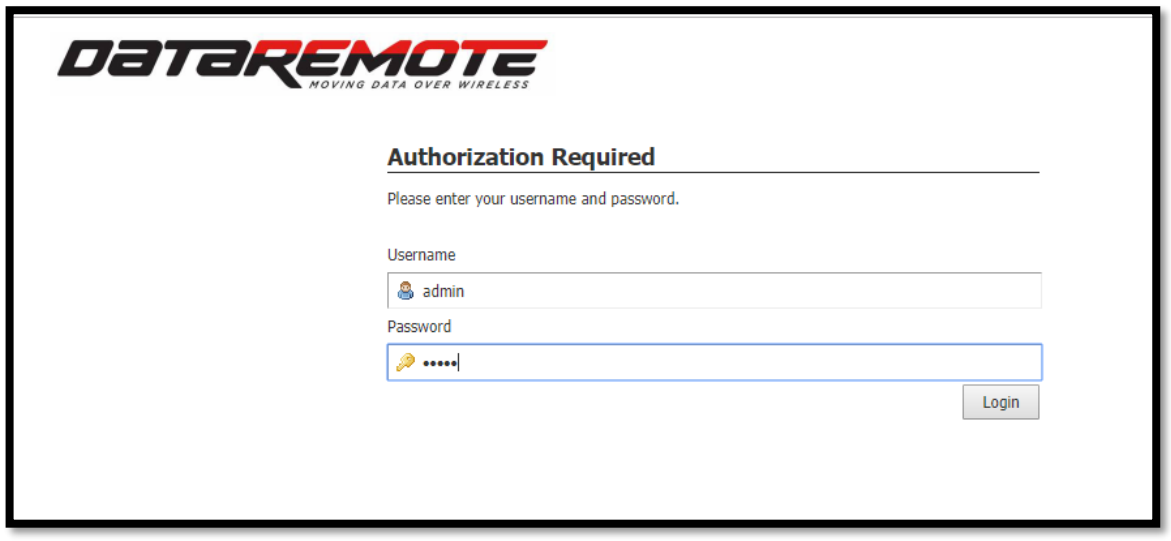
3. For administrator mode operation, please type "**admin/Password1**" on Username/Password and click Login to configuration.

> **Notice**: If you fail to access to the web configuration, please go to "Trouble Shooting" for detecting and solving your problems.

4. The web page can be logged out after 5 minutes without any operation.

4.2.2 From WAN port

1. Make sure your PC can connect to the router's WAN port correctly.
2. Getting the IP addresses of WAN port using Voice prompt.
3. Open a web browser on your PC and type **http://the IP address of WAN port.** The following window will be open to ask for username and password.

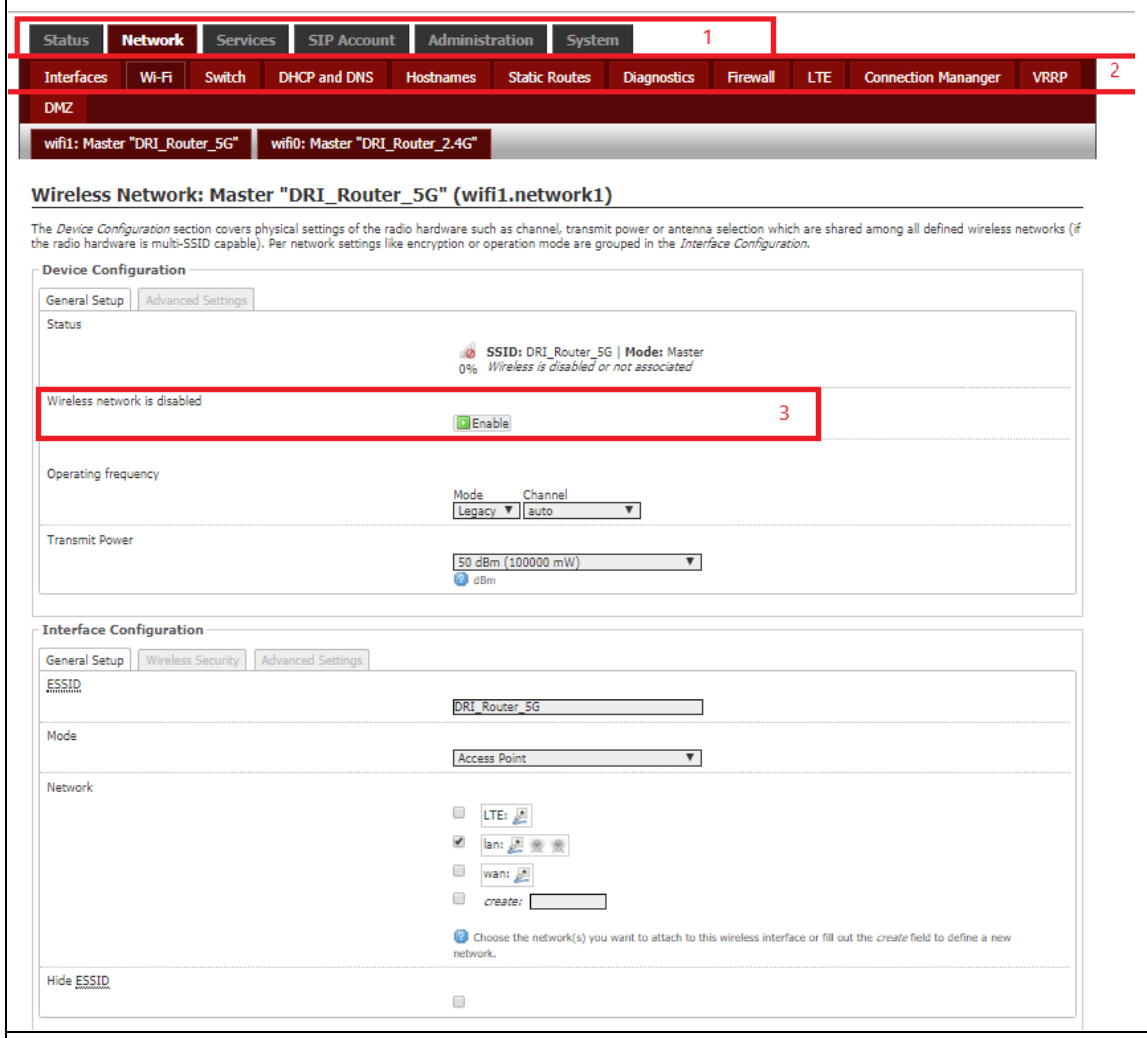


4. For administrator mode operation, please type "**admin/Password1**" on Username/Password and click Login to configuration.

Notice: If you fail to access to the web configuration, please go to "Trouble Shooting" for detecting and solving your problem.

5. The web page can be logged out after 5 minutes without any operation.

4.3 Webpage

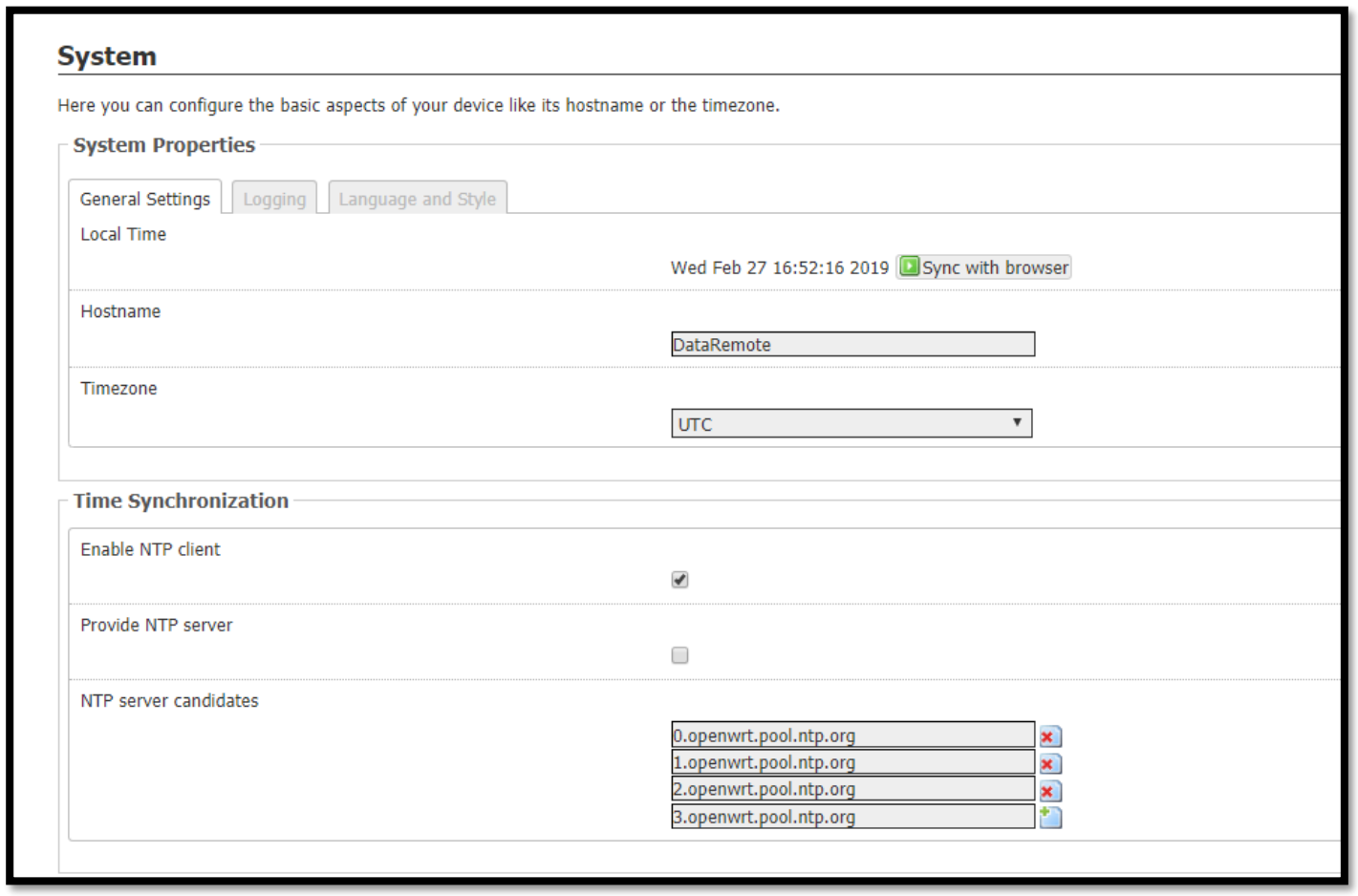


No.	Name	Description
1	Navigation bar	Click navigation bar, many sub-navigation bar will appear in the place 2
2	Title	Click sub-navigation bar to choose one configuration page
3	Parameter	To configuration the parameters
	Save & Apply	• Every time making some changes, user should press this button to confirm the changes. • Save button will only save the changes but they won't be applied
	Back to Overview	To return to the original page

		Reset	Reset the changes that have been made

4.4 Setting up the Time Zone

Open **System/System** webpage as shown below, please select the **Time Zone** for the router installed and specify the **NTP server** and set the update interval in **NTP synchronization**.

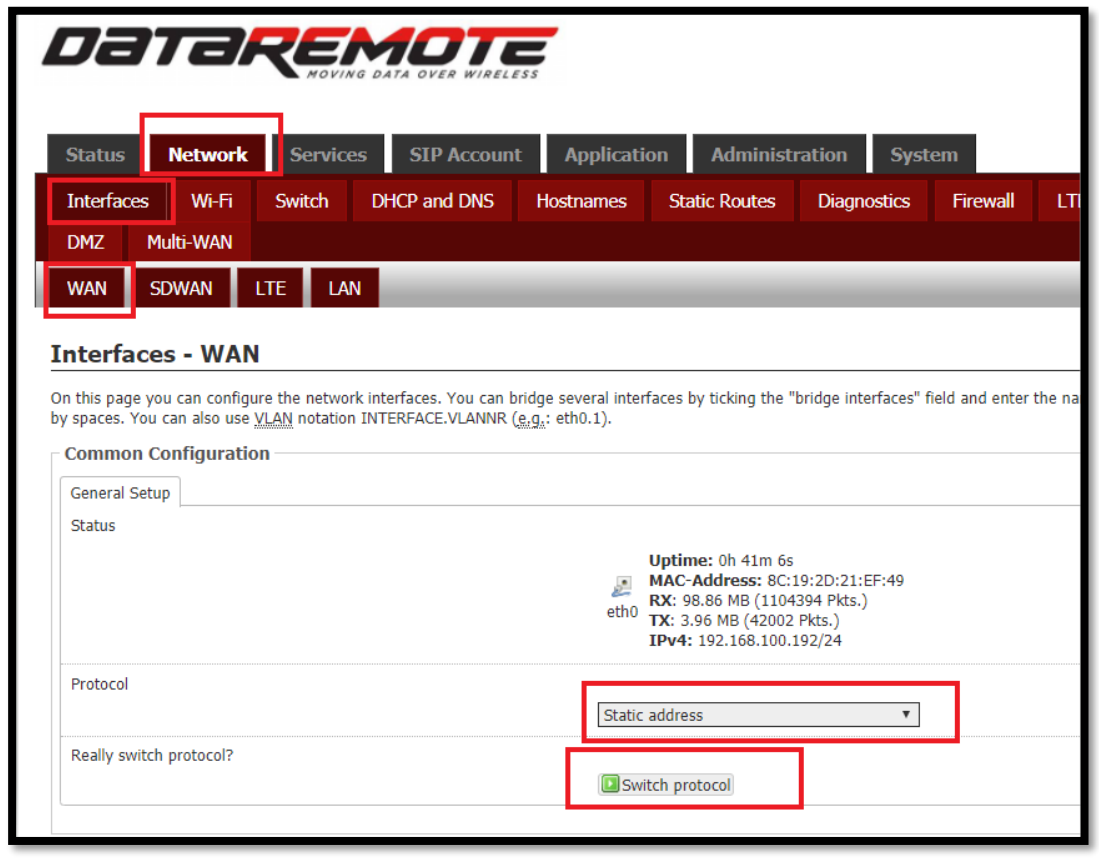


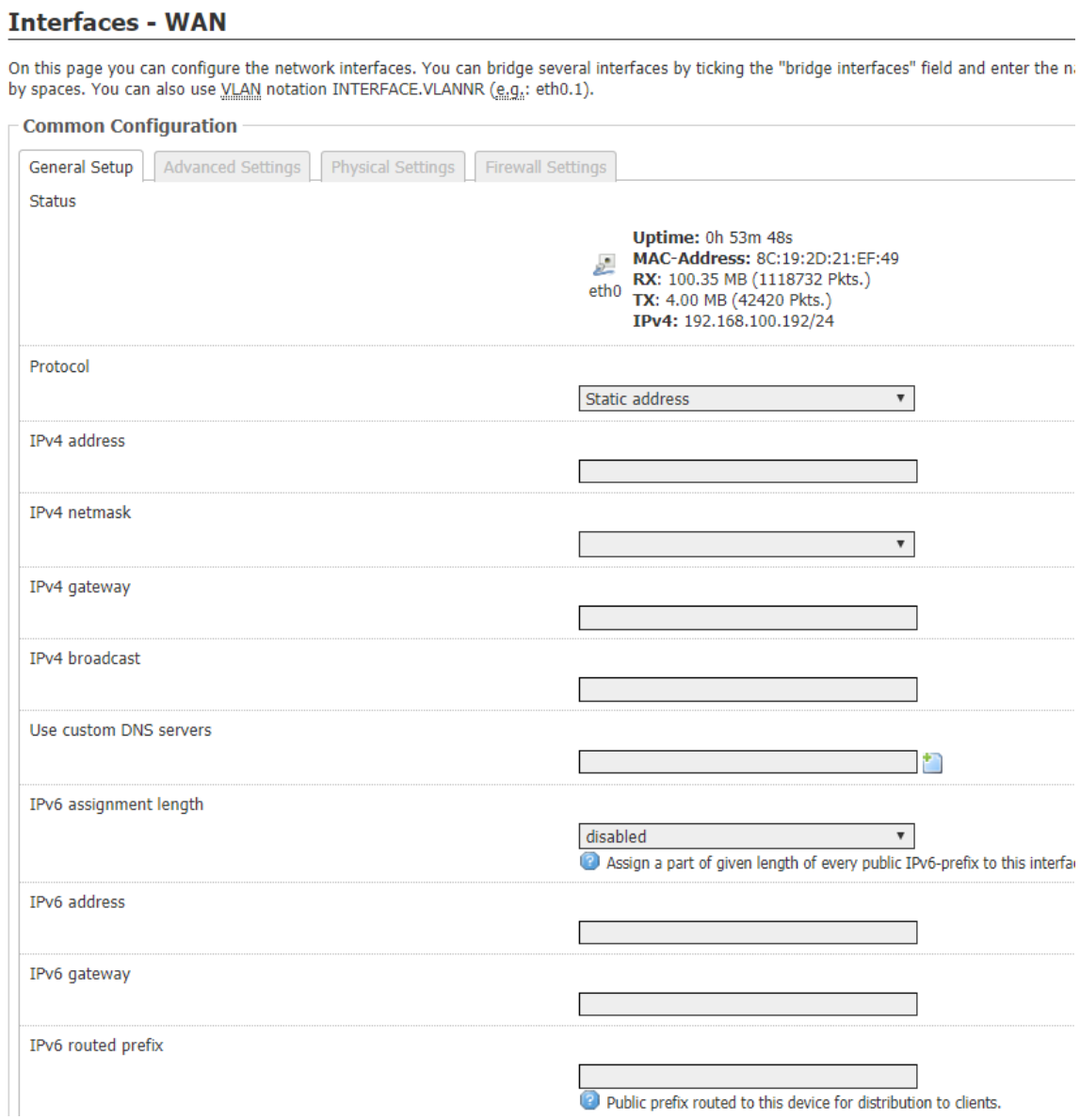
4.5 Setting up the Internet/WAN Connection

Open the **Network/Interfaces/WAN** webpage as shown below; please select the appropriate **IP Mode** according to the information from your ISP. On this page you can configure the network interfaces. You can bridge several interfaces by ticking the "bridge interfaces" field and enter the names of several network interfaces separated by spaces. You can also use VLAN notation INTERFACE.VLANNR (e.g.: eth0.1).

4.5.1 Static IP

You will receive a fixed public IP address or a public subnet, namely multiple public IP addresses from your DSL or Cable ISP service providers. In most cases, a Cable service provider will offer a fixed public IP, while a DSL service provider will offer a public subnet. If you have a public subnet, you could assign an IP address to the WAN interface.

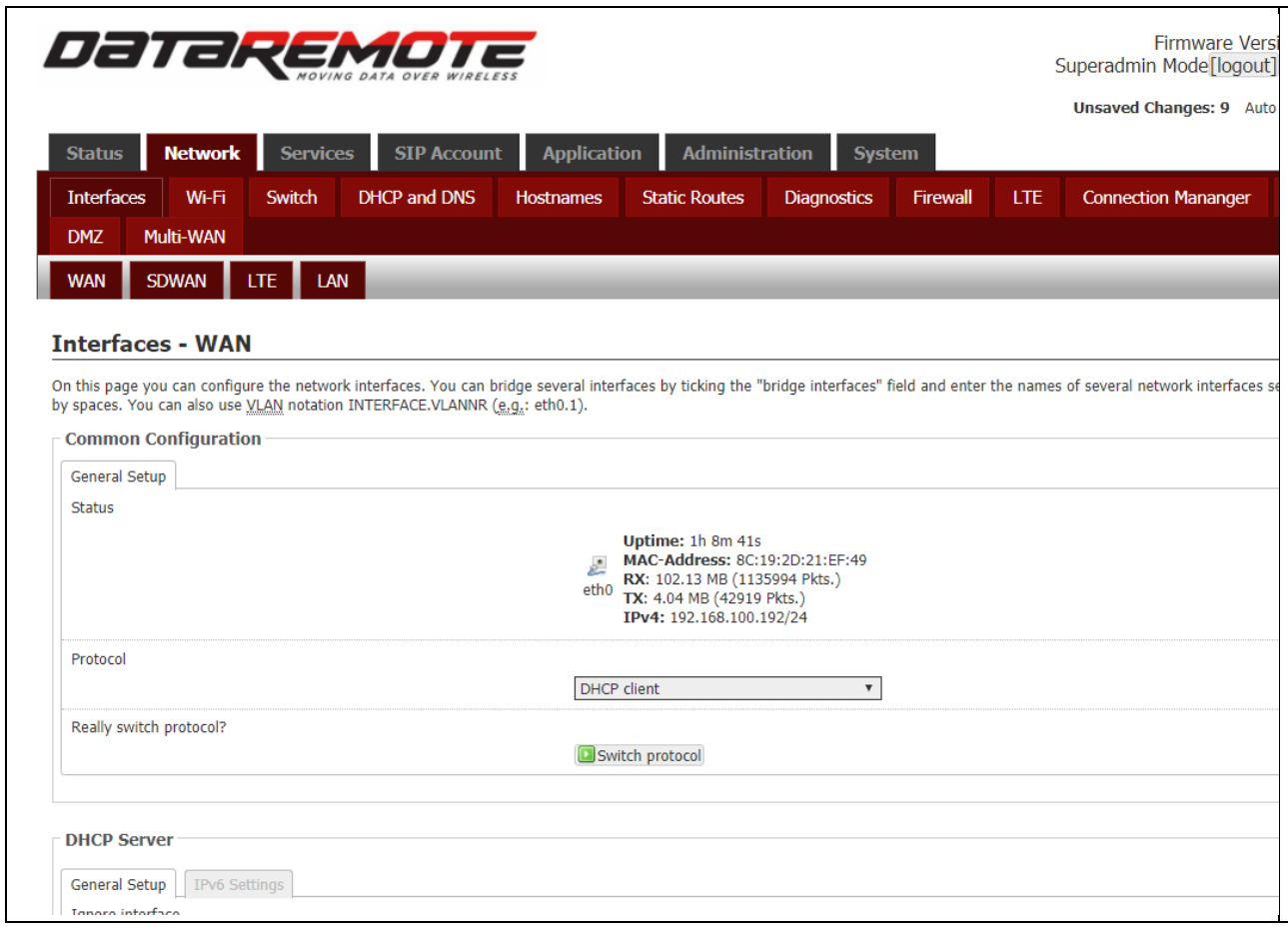




Protocol	• Use the dropdown menu select the desired protocol • Select “Switch Protocol”
IPV4 Netmask	Select the desired Netmask or select custom to insert your own custom netmask
IPV4 Address	Type the IP address
IPv4 broadcast	Type the broadcast IP
IPV4 Gateway	Type the gateway address for IPV4
Use custom DNS Server	Type in the Custom DNS IP address for the route You can always add another DNS IP address by selecting : 

4.5.2 DHCP

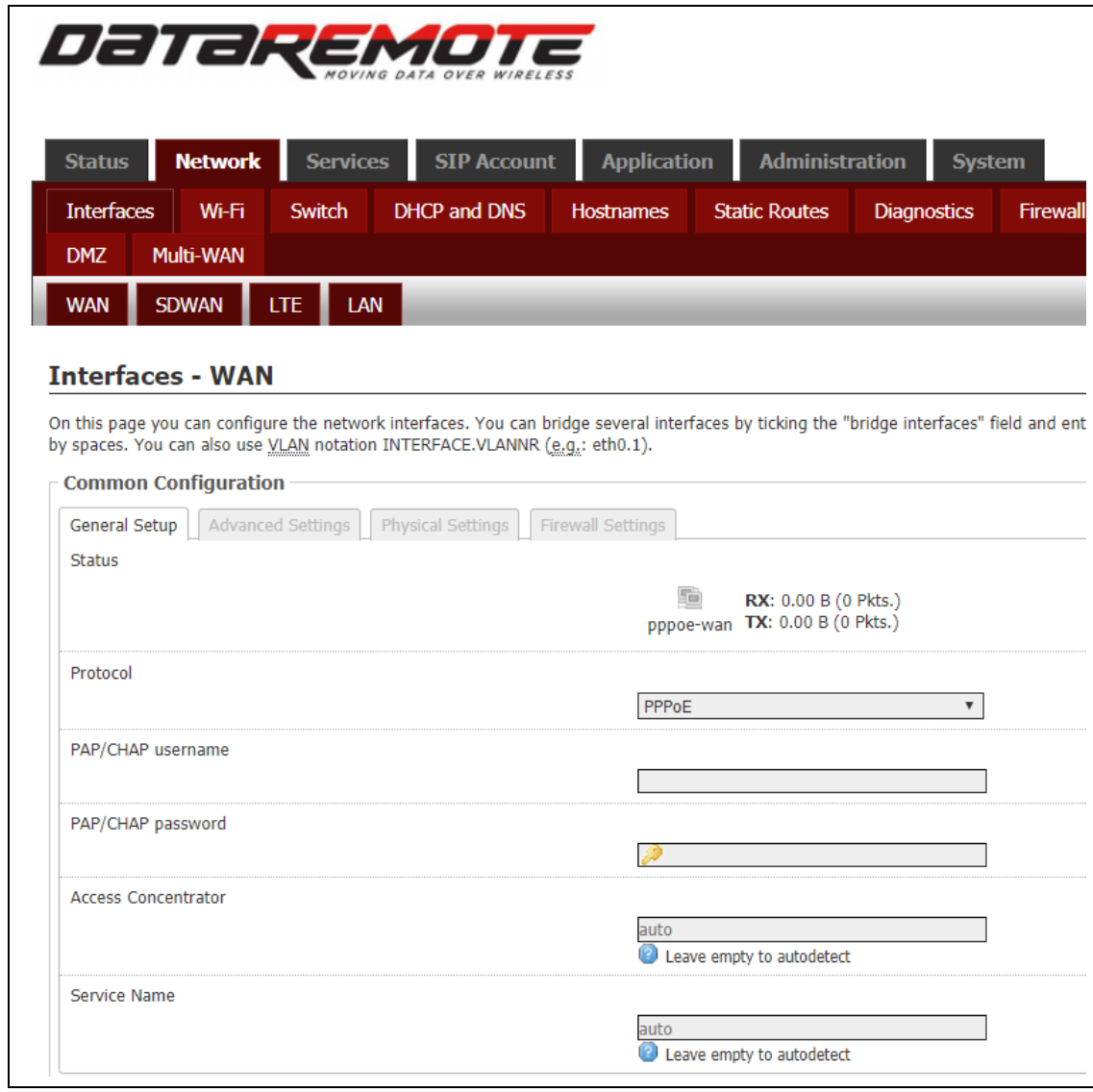
It is not necessary for you to type any IP address manually. Simply choose this type and the system will obtain the IP address automatically from DHCP server.

	**WAN IP Mode**	The mode for obtain IP address

4.5.3 PPPoE

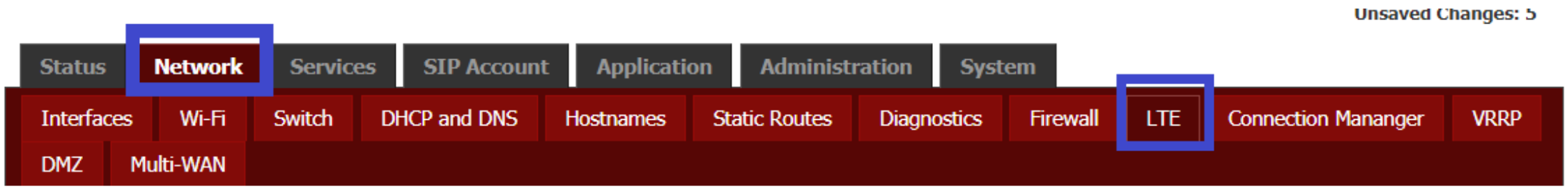
PPPoE stands for **Point-to-Point Protocol over Ethernet**. It relies on two widely accepted standards: PPP and Ethernet. It connects users through an Ethernet to the Internet with a common broadband medium, such as a single DSL line, wireless device or cable modem. All the users over the Ethernet can share a common connection.

PPPoE is used for most of DSL modem users. All local users can share one PPPoE connection for accessing the Internet. Your service provider will provide you information about user name, password, and authentication mode.

<table>
<tr>
<td rowspan="2"> 
</td>
<td>PAP/CHAP username</td>
<td>Assign a specific valid user name provided by the ISP</td>
</tr>
<tr>
<td>PAP/CHAP password</td>
<td>Assign a valid password provided by the ISP</td>
</tr>
</table>

4.6 Setting up the Internet/LTE Connection

4.6.1 LTE



LTE Modem Enable	Select to Disable, Auto Connect and Always Connect.
Dual SIM	Enable or Disable Dual SIM
Primary SIM	Set to Primary SIM to SIM1 or SIM2
Switch to Main SIM After Timeout	Enable or Disable to switch Secondary SIM if Primary SIM Fails

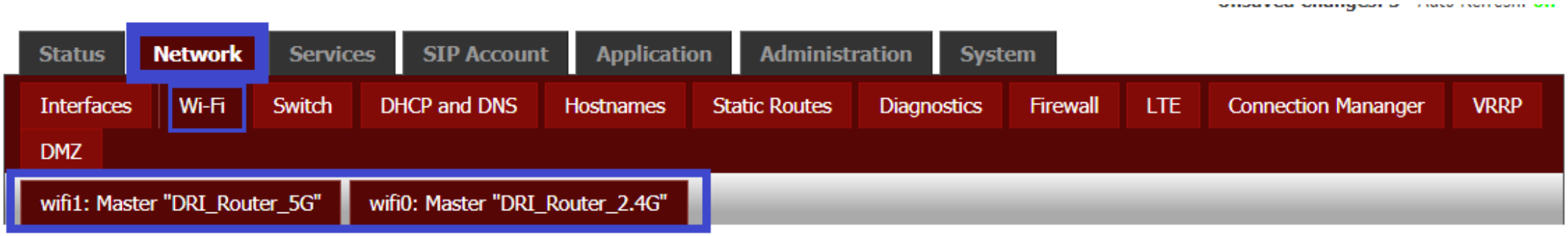
SIM1 APN	Enter SIM1 APN
SIM1 Dial Number	Insert SIM1 Dial number
SIM1 Username	Insert SIM1 Username
SIM1 Password	Insert SIM1 Password
SIM2 APN	Enter SIM2 APN
SIM2 Dial Number	Insert SIM2 Dial number
SIM2 Username	Insert SIM2 Username
SIM2 Password	Insert SIM2 Password

When LTE connected successfully, return the Status page, you can check the link status and the IP address obtained from the cellular carrier.

LTE Status

SIM Status	SIM1 Active and SIM2 No SIM
IMEI Code	866834040068848
IMSI Code	310410120189531
ICCID	89014103271201895313
Hardware Model	Quectel
Software Version	EC25AFFAR07A03M4G
Signal Strength	
RSSI	-51 dBm
Subscriber Number	15333301330
Service Provider	ATT
Service Type	LTE
Registration Status	registered, home network
Connection Status	Connected
Frequency	2
Channel	750
RSRQ	-12
RSRP	-87
SINR	11
Data Rate	up 0 kbit/s down 0 kbit/s
Send/Receviced	0.000KB / 0.000KB
IP Address	107.241.134.131
Subnet Mask	255.255.255.248
Default Gateway	107.241.134.132
Primary DNS	107.77.78.57
Secondary DNS	107.77.78.58

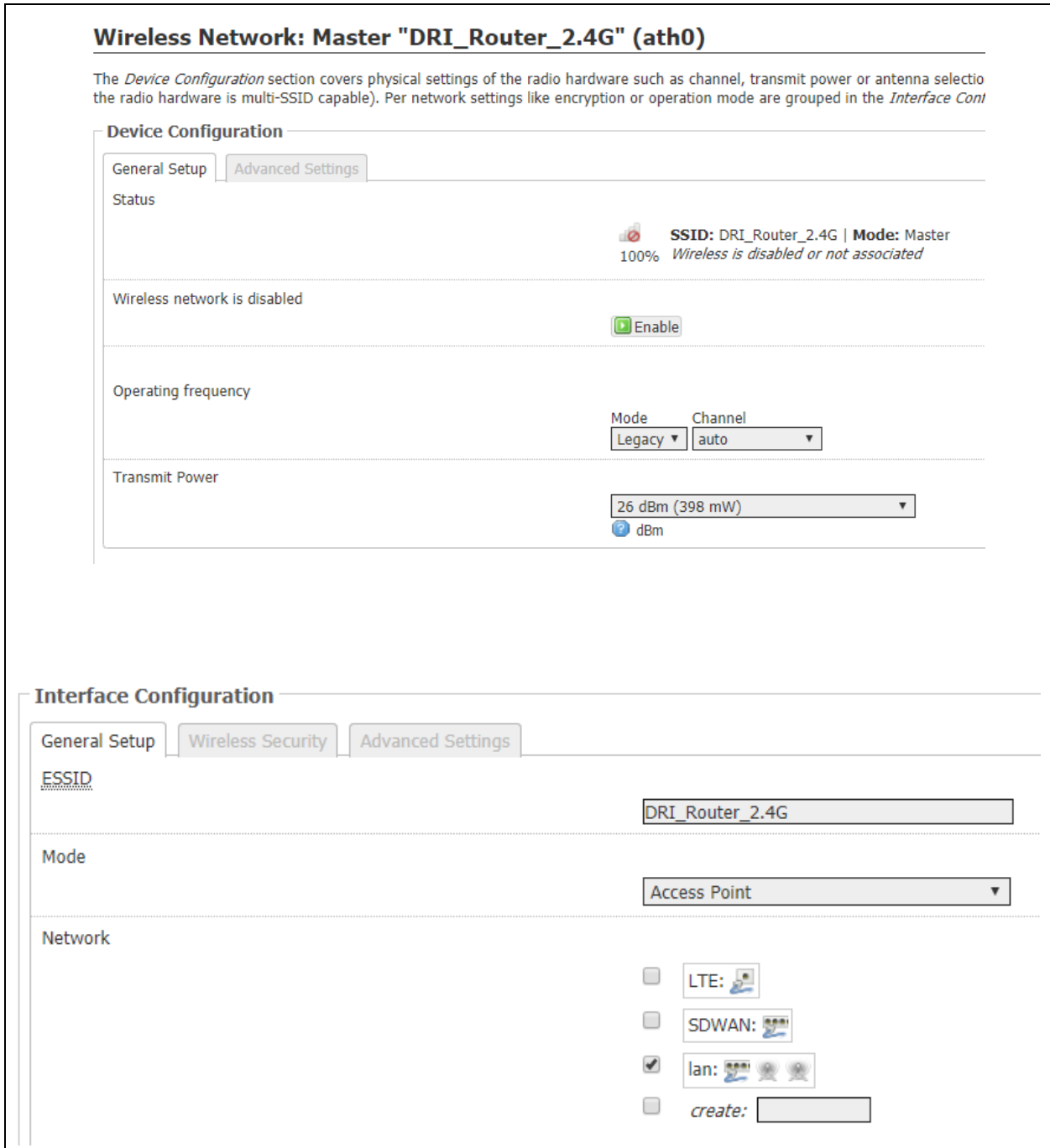
4.7 Setting up the Wireless Connection



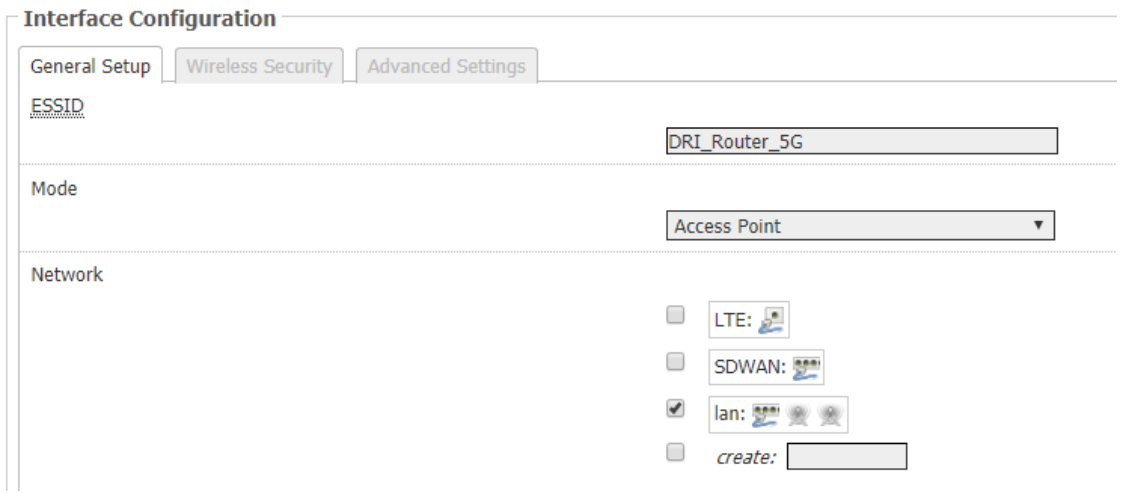
4.7.1 Enable Wireless and Setting SSID

Open **2.4G (5G) /Basic** webpage as shown below

	Enable	Select to enable



Operating Frequency	Select Mode & Channel
Transmit Power	Select Transmit power
Mode	Select to AP , Client. WiFi , AD-HOC, Access point(WDS), Client(WDS) , Static(WDS)
Network	Select the check box for desired network.
Select the Wireless Security Tab to select desired Wireless Security	Select Desired Security(WEP Open System , WEP Shared Key, WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-MSK Mixed Mode)

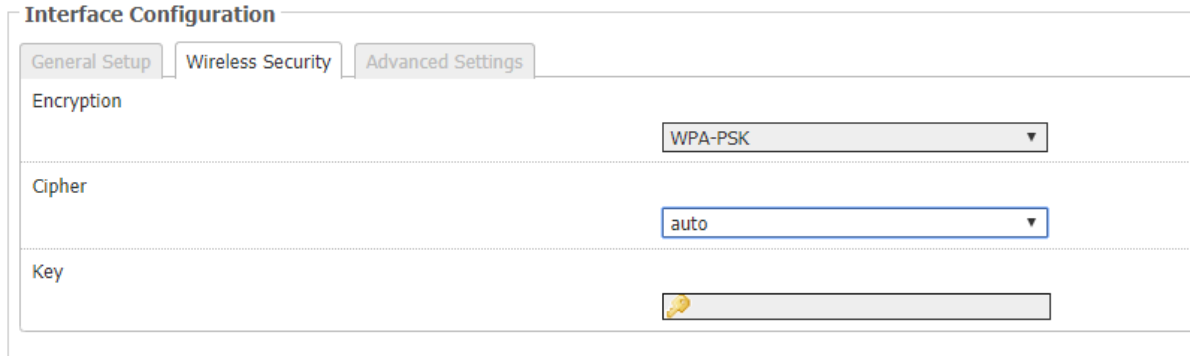
<table>
<tr>
<td rowspan="3"> 
</td>
<td>Mode</td>
<td>Select to AP , Client. WiFi , AD-HOC, Access point(WDS), Client(WDS) , Static(WDS)</td>
</tr>
<tr>
<td>Network</td>
<td>Select the check box for desired network.</td>
</tr>
<tr>
<td>Select the Wireless Security Tab to select desired Wireless Security</td>
<td>Select Desired Security(WEP Open System , WEP Shared Key, WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-MSK Mixed Mode)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</table>

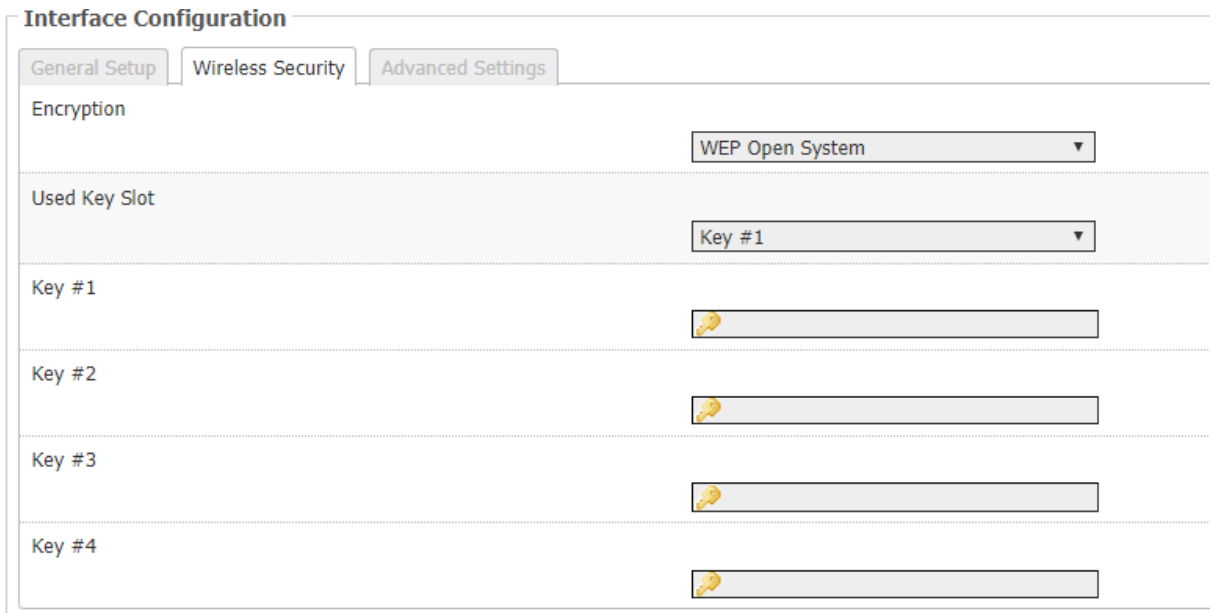
4.7.2 Encryption

Open **2.4G (5G)/Security** webpage to set the encryption of routers.

<table>
<tr>
<td rowspan="3">WEP Open System , WEP Shared Key, WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-MSK Mixed Mode

Open WPA-PSK

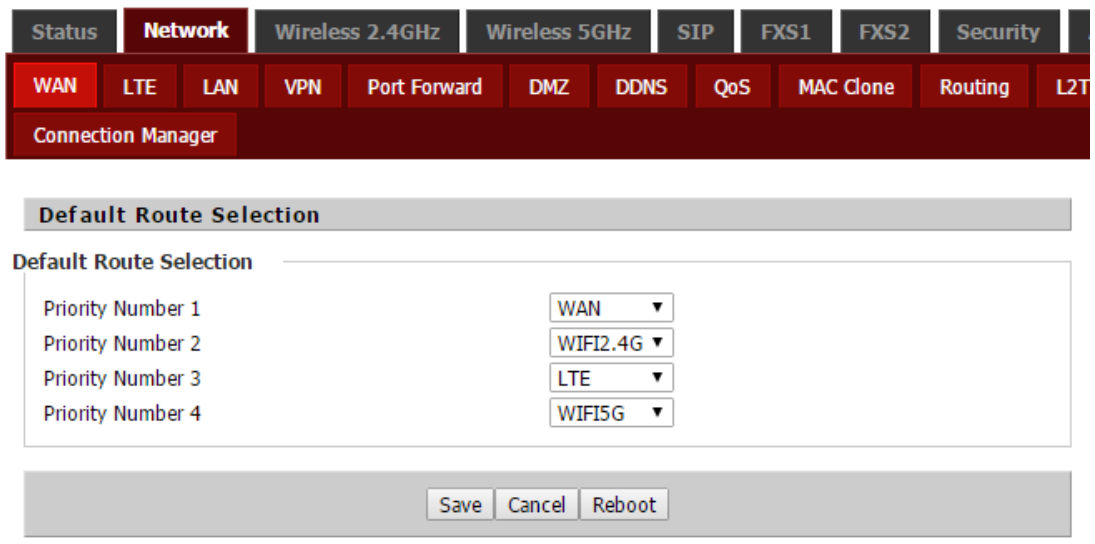
 

OPEN WEP
 
</td>
<td>Cipher</td>
<td>Select Cipher and choose desired option</td>
</tr>
<tr>
<td>Key</td>
<td>Enter desired Password</td>
</tr>
<tr>
<td>WEP Keys</td>
<td>Set the WEP key. Select 64-bit key to enter Hex is 10 characters, or ASCII code is 5characters; select 128-bit keys need to enter Hex is 26 characters, or ASCII is 13characters.</td>
</tr>
</table>

4.8 Setting up WAN Failover

4.8.1 WAN Failover List

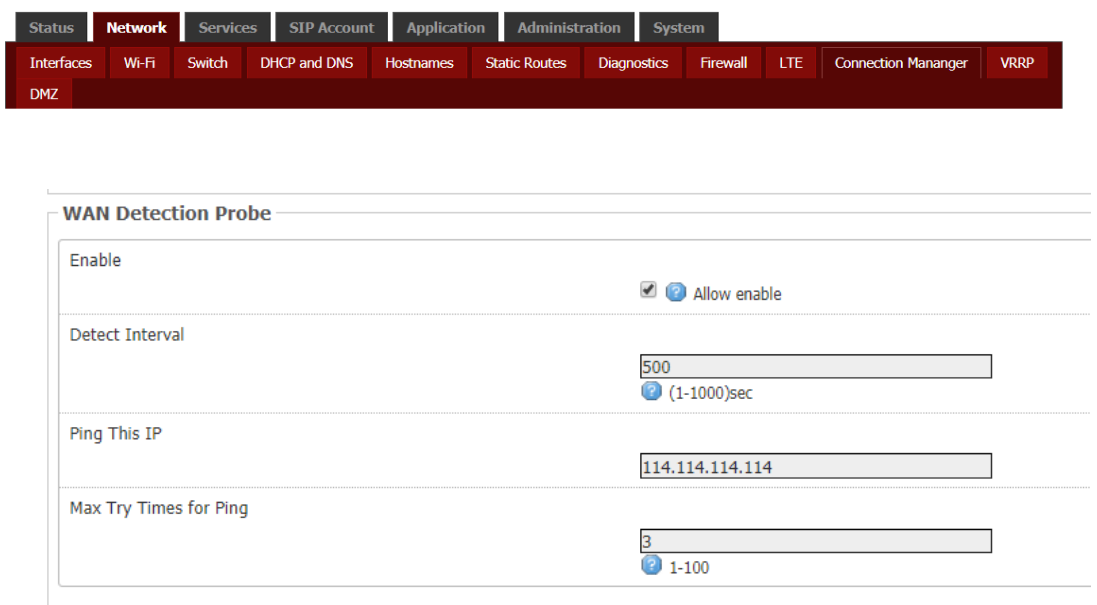
WAN Failover works in multiple outbound links to assure that you maintain Internet connectivity if a loss of connectivity occurs on one of your WAN connections. If one of your ISP links goes down, WAN Failover will automatically route all traffic over the other WAN(s) until service is restored.



CDS-9090 allows failover of the default route to WAN interfaces. This part of settings allows ranking each WAN interface in order of preferred usage for the default route. The default route will always be set to the highest-priority connected WAN interface. The assignment changes as WAN interfaces connect or disconnect from the current network.

Default Route Selection support WAN/ WiFi 2.4G/ LTE and WiFi 5.0G. WAN Failover list switch over from Number1 (highest priority) to Number 4 (lowest priority).

4.8.2 Connection Manager

<table>
<tr>
<td> 
</td>
<td>Enable</td>
<td>Enable this function, WAN Failover is based on ping result. Disable this function, WAN Failover is based on each interface physical status.</td>
</tr>
<tr>
<td></td>
<td>Detect Interval</td>
<td>Interval time for detecting WAN connection.</td>
</tr>
<tr>
<td></td>
<td>Ping this IP</td>
<td>The IP address for ping detection</td>
</tr>
<tr>
<td></td>
<td>Max Try Times for Ping</td>
<td>Setup the re-try times for ping</td>
</tr>
</table>

4.9 Register

4.9.1 Get the Accounts

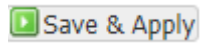
CDS-9090 has eight RJ-11 phone ports, you can use it to make SIP call, and before registering, you should get the SIP account from you administrator or provider.

4.9.2 Connections

Connect CDS-9090 to the Internet properly

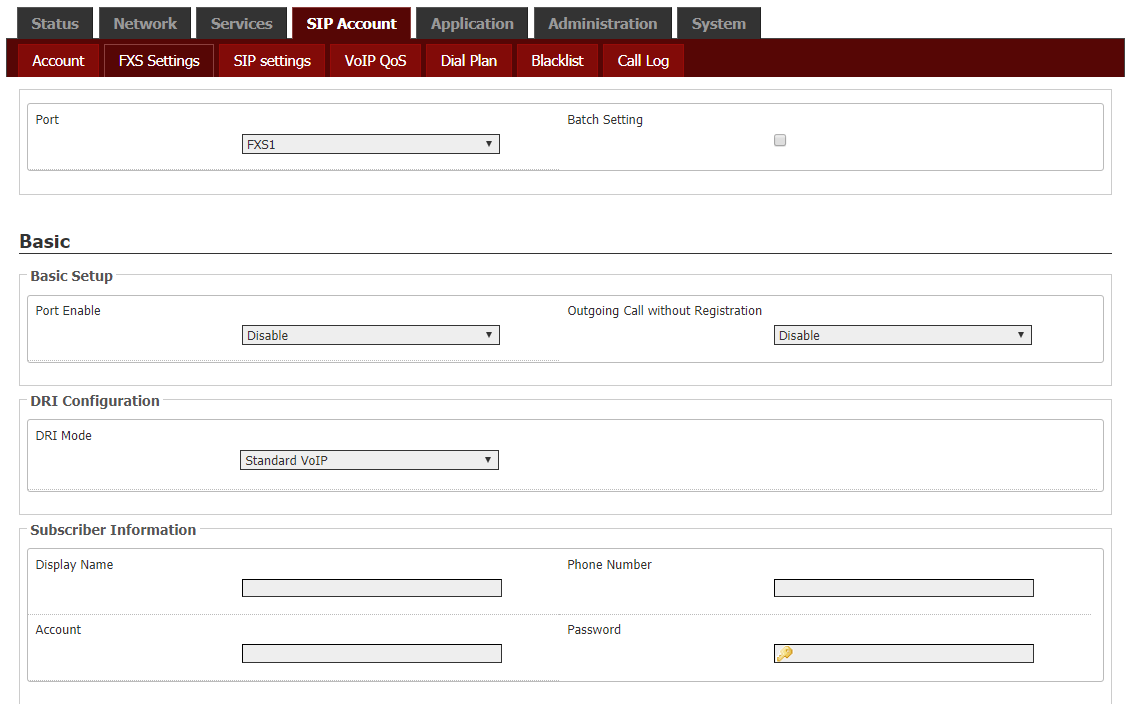
4.9.3 Configuration SIP from Webpage

Step 1.Open **SIP Account/Line 1** webpage, as the picture in the right side.
Step 2. Fill account which get from you administrator into Display Name parameter, Phone Number parameter, and Account parameter.
Step 3.Fill password which get from you administrator into Password parameter.

Step 4.Press 

button in the bottom of the webpage to save changes.

Note: if there is Please REBOOT to make the changes effective! please press Reboot button to make changes effective.



4.9.4 View the Register Status

To view the status, please open Status webpage and view the value of register status. The value is registered like the following picture which means CDS-9090 have registered normally and you can make calls.

4.10 Make Call

4.10.1 Calling phone or extension numbers

To make a phone or extension number call:
a) Both ATA and the other VoIP device (i.e., another ATA or other SIP products) have public IP addresses, or
b) Both ATA and the other VoIP device (i.e., another ATA or other SIP products) are on the same LAN using private or public IP addresses, or
c) Both ATA and the other VoIP device (i.e., another ATA or other SIP products) can be connected through a router using public or private IP addresses.

To make a call, first pick up the analog phone or turn on the speakerphone on the analog phone, input the IP address directly, end with #.

4.10.2 Direct IP calls

Direct IP calling allows two phones, that is, an ATA with an analog phone and another VoIP Device, to talk to each other without a SIP proxy. VoIP calls can be made between two phones if:
a) Both ATA and the other VoIP device (i.e., another ATA or other SIP products) have public IP addresses, or
b) Both ATA and the other VoIP device (i.e., another ATA or other SIP products) are on the same LAN using private or public IP addresses, or
c) Both ATA and the other VoIP device (i.e., another ATA or other SIP products) can be connected through a router using public or private IP addresses.

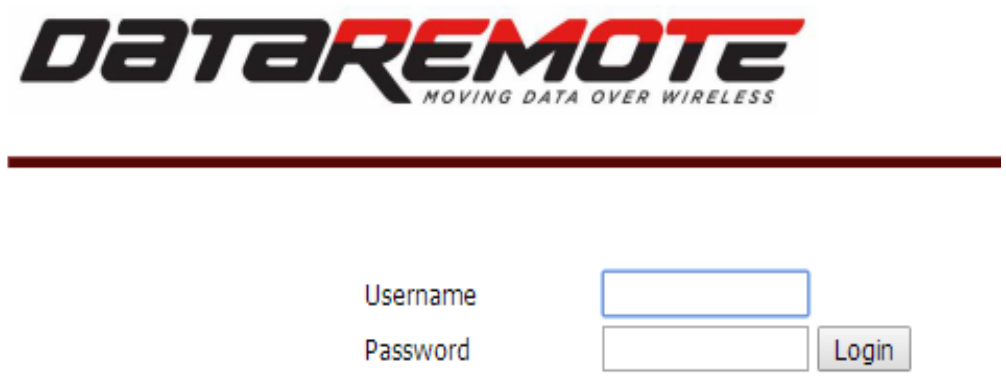
To make a direct IP call, first pick up the analog phone or turn on the speakerphone on the analog phone, Input the IP address directly, with the end “#”.

5 Web Configuration

This chapter will guide users to execute full configuration through admin mode operation.

5.1 Login

Step 1.Connect the LAN port of the router to your PC
Step 2.Open a web browser on your PC and type in **http://192.168.1.1**. The window will ask for typing username and password. And you can choose language, too.

	When login successfully, the webpage shows the basic information about the router, such as the current WAN IP, DNS server IP, WAN port connection mode, WAN link status, wireless SSID, wireless channel and F/W version

Step 3.Please type “**admin/Password1**” on Username/Password for administration operation. Now, the Main Screen will appear like below.

5.2 Status

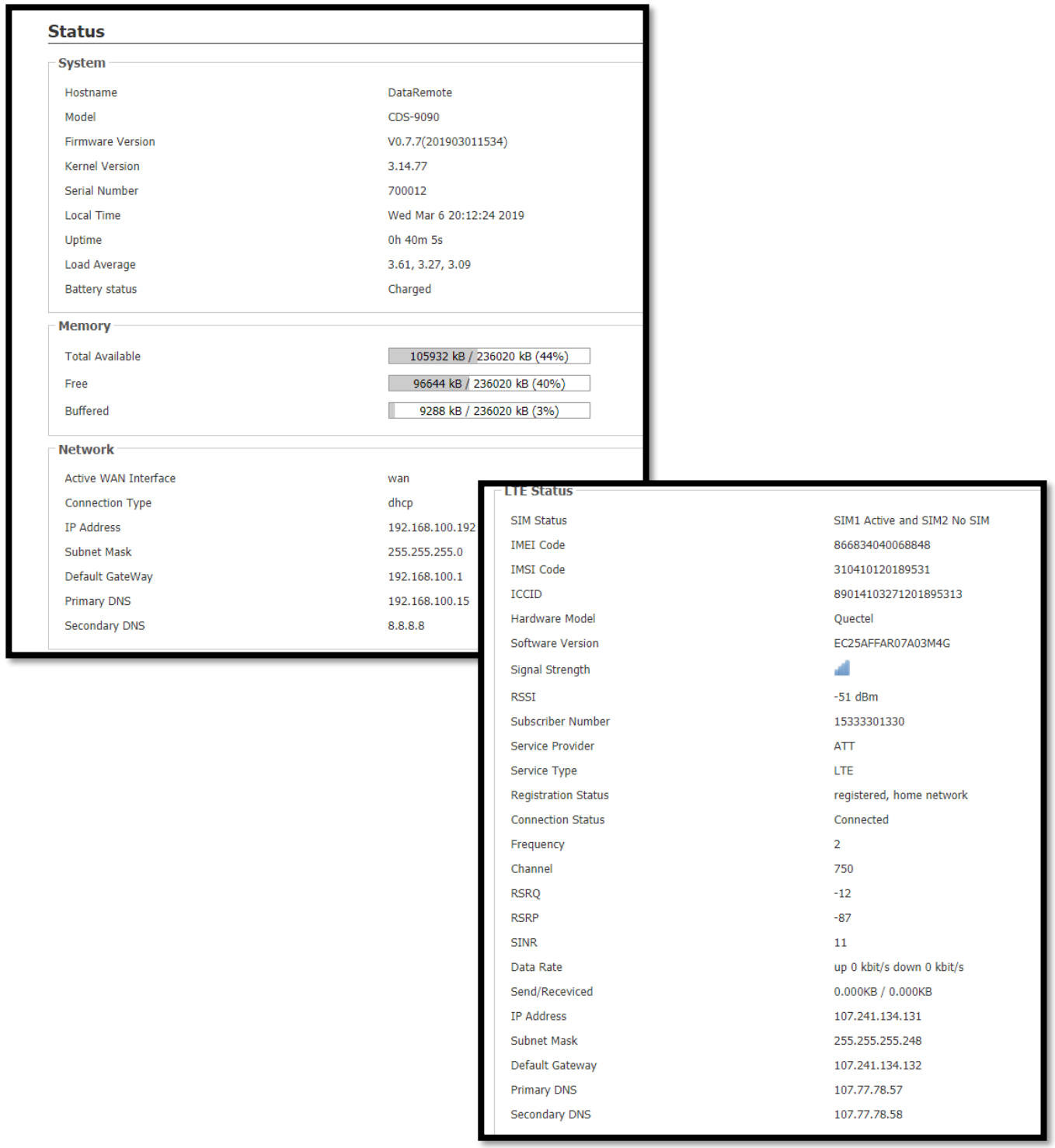
This webpage shows the status information about **product information, Network** and **system**.

It shows the basic information of the product, such as product name, serial number, MAC address, hardware version and software version.

It also shows the information of Link Status, WAN Port Status, memory and LAN Port Status.

And it shows the current time and the running time of the product.

The picture in the right side is the CDS-9090's Status webpage.



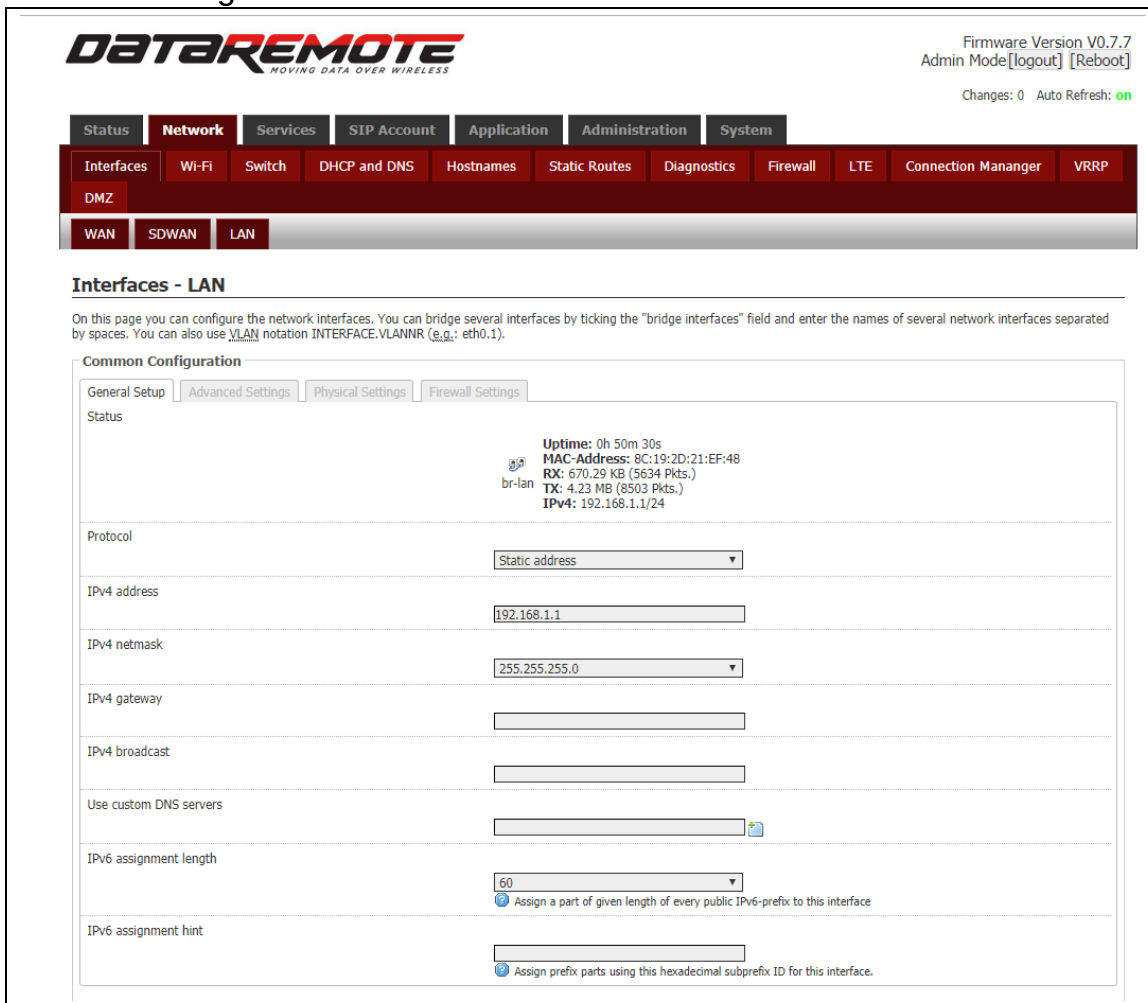
5.3 Network

You can configuration the LAN port, DDNS, Multi WAN,DMZ, MAC Clone, Port Forward and so on in these two bars.

5.3.1 LAN

LAN Port:

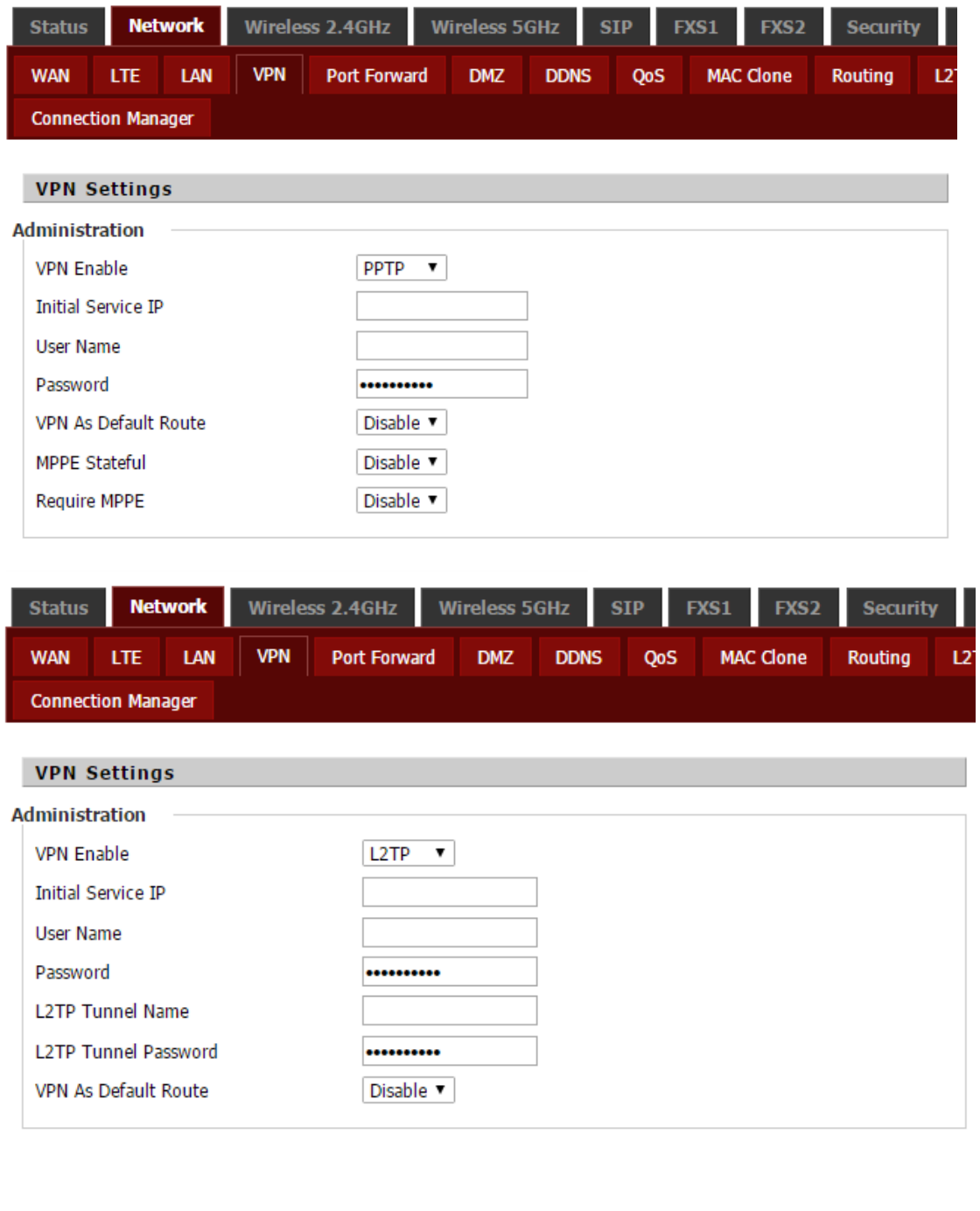
The most generic function of router is NAT. What NAT does is to translate the packets from public IP address to local IP address to forward the right packets to the right host and vice versa.



IPV4 address	Type in local IP address for connecting to a local private network
IPV4 Subnet Mask	Type in an address code that determines the size of the network.
DNS Mode	Set the DNS Mode from Auto and Manual.
Use custom DNS Servers	Input DNS IP address, you can also add more DNS IP address by selecting 
IPV4 broadcast	Input broadcast IP.

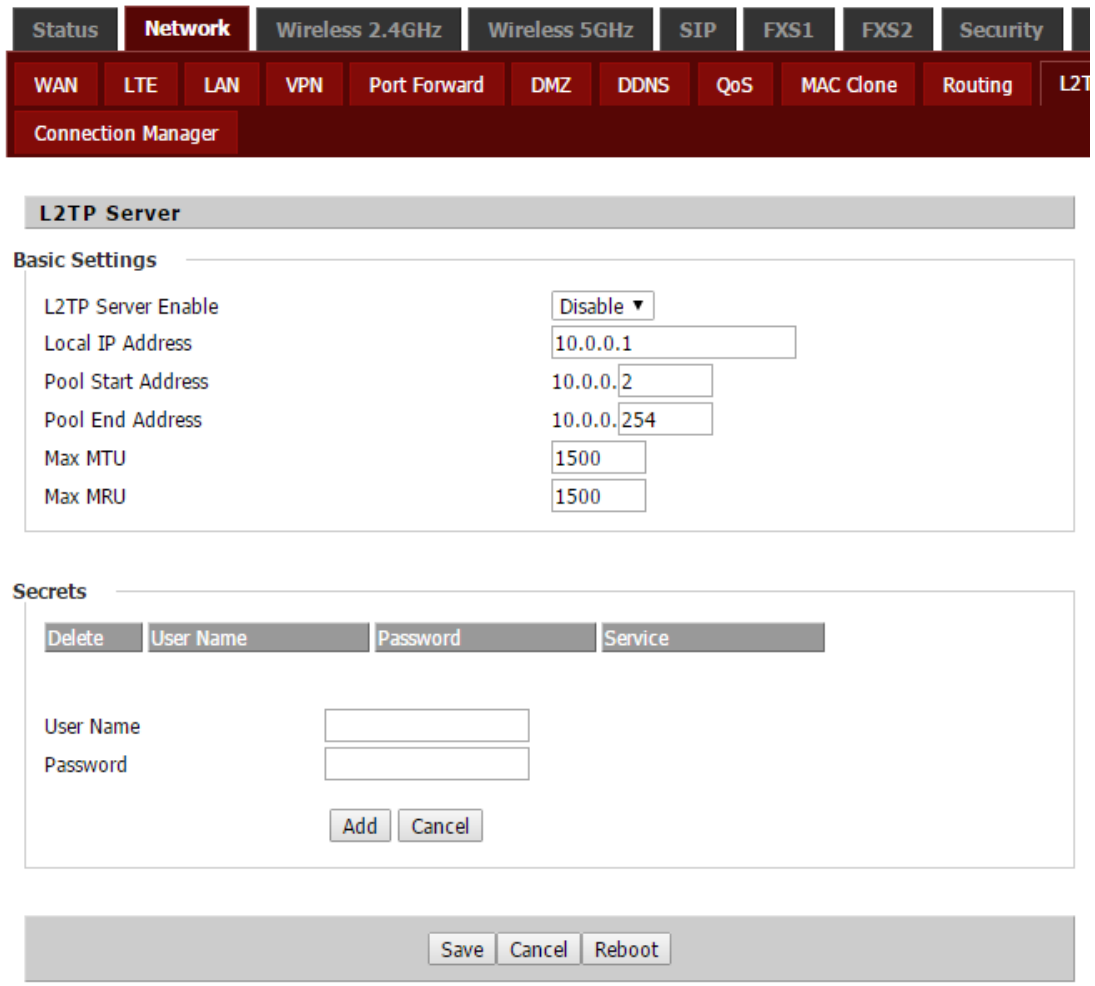
5.3.2 VPN/L2TP

VPDN



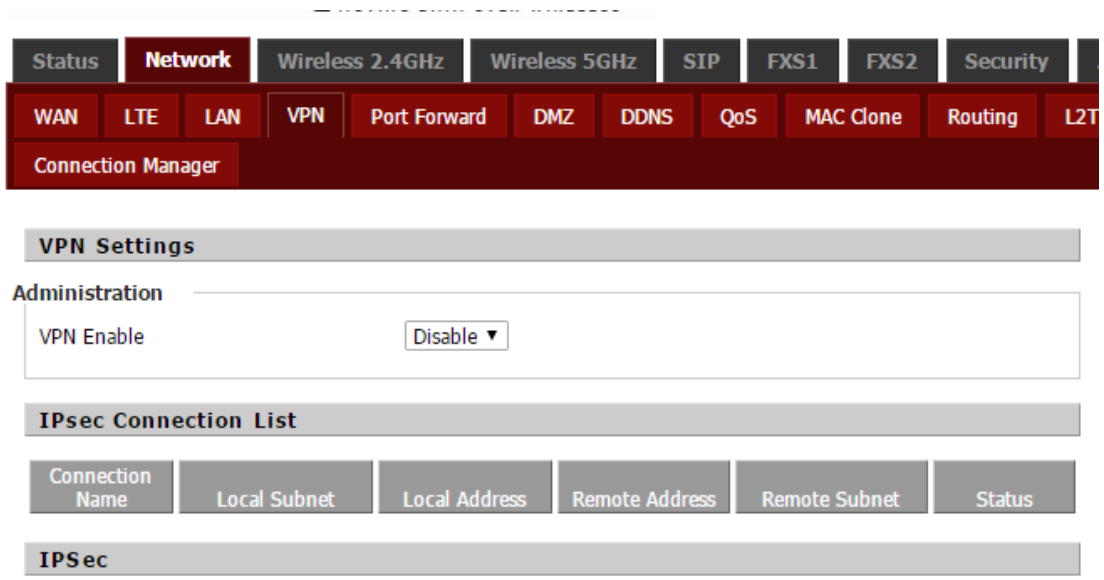
VPN Enable	Enable PPTP or L2TP VPN Client
Initial Service IP	VPN server IP address
User Name	The account for authentication
Password	The password for authentication
VPN As Default Route	The remote virtual IP as default gateway .
MPPE Stateful(PPTP Only)	Stateless encryption provides a lower level of performance, but will be more reliable in a lossy network environment.
Require MPPE(PPTP Only)	enable MPPE (Microsoft Point-to-Point Encryption). It's a protocol for encrypting data across PPP and VPN links.
L2TP Tunnel Name	Enter L2TP Tunnel Name.
L2TP Tunnel Password	Enter L2TP tunnel password in this item.

L2TP Server

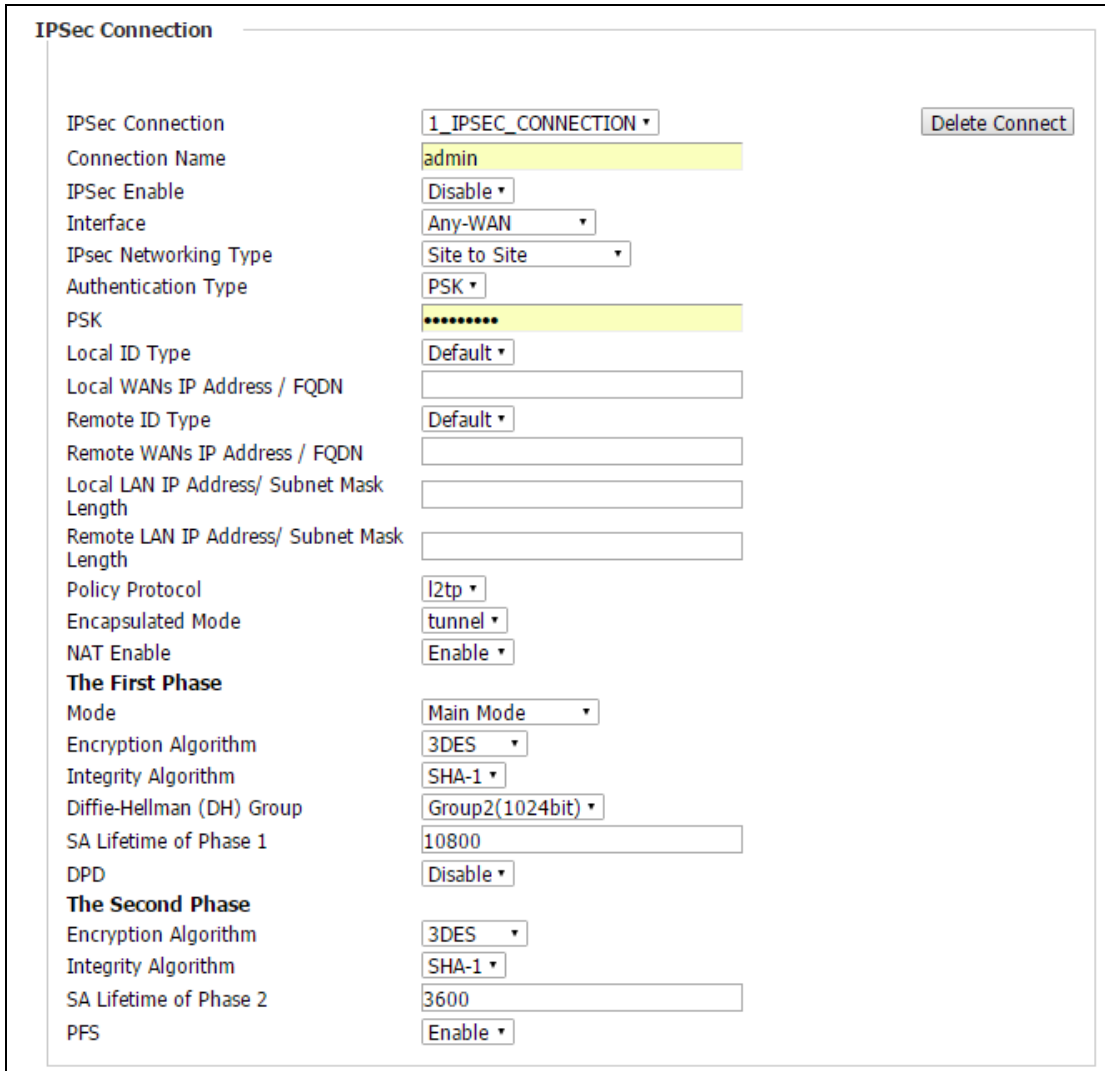


L2TP Server Enable	Select to enable L2TP server.
Local IP Address	Set the IP address of L2TP server.
Pool Start Address	Set the IP pool start IP address which will assign to the L2TP clients.
Pool End Address	Set the IP pool end IP address which will assign to the L2TP clients.
Max MTU	Maximum Transmission Unit. It is the identifier of the maximum size of packet, which is possible to transfer in a given environment.
Max MRU	Maximum Receiving Unit. It is the identifier of the maximum size of packet, which is possible to receive in a given environment.
User Name	Set the username which will assign to L2TP client.
Password	Set the password which will assign to L2TP client.

IPsec Connection



IPSec Connection List	The connection status of IPSec VPN
IPSec Connection	Select the specify VPN
Connection Name	The name of this IPSec VPN
IPSec Enable	Select to enable or disable IPSec VPN
Interface	Select the interface for encryption
IPSec Networking Type	The connection type of networking
Authentication Type	The authentication method of IPSec VPN
PSK	The secret of IPSec VPN
Local ID Type	Select the local ID type for IKE negotiation
Local WANs IP Address/FQDN	Local IP address or domain name for IKE negotiation
Remote ID Type	Select the remote ID type for IKE negotiation

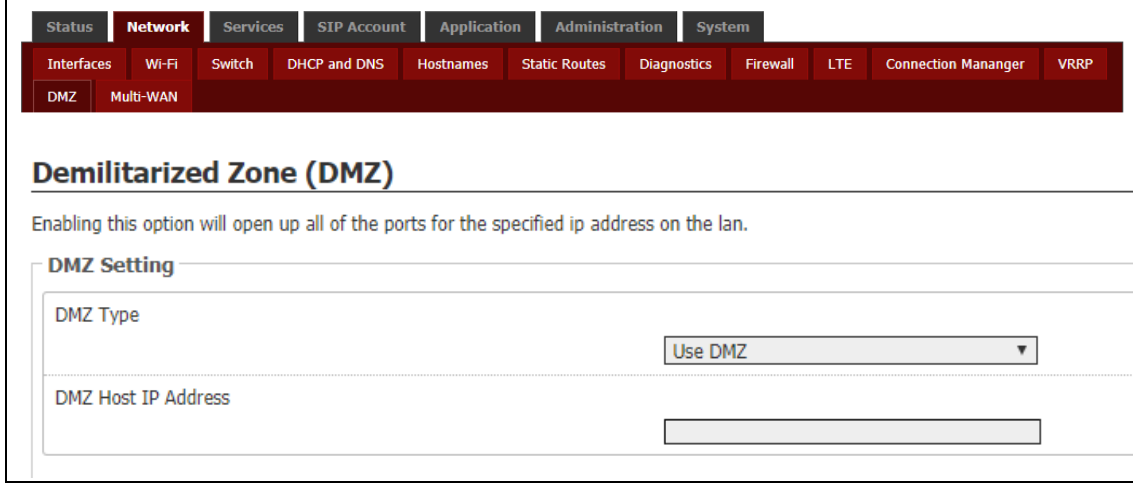


Remote WANs IP Address/FQDN	the address of remote side IPSec VPN server
Local LAN IP Address/ Subnet Mask Length	IPSec local protected subnet's address.
Remote LAN IP Address/ Subnet Mask Length	IPSec remote protected subnet's address.
Policy Protocol	The policy protocol for encryption
Encapsulated Mode	Select the security protocols
NAT Enable	Enable NAT Traversal for IPSec. This item must be enabled when router under NAT environment.
Mode	Select from "Main" and "aggressive" for the IKE negotiation mode in phase 1.
Encryption Algorithm	Select Encryption Algorithm to be used in IKE negotiation.
Integrity Algorithm	Select Integrity Algorithm to be used in IKE negotiation.
Diffie-Hellman (DH) Group	Select Diffie-Hellman Group to be used in key negotiation phase 1.
SA Lifetime of Phase 1	Set the lifetime in IKE negotiation.
DPD Time Interval(s)	Set the interval after which DPD is triggered if no IPSec protected packets is received from the peer.
DPD Timeout(s)	Set the timeout of DPD packets.

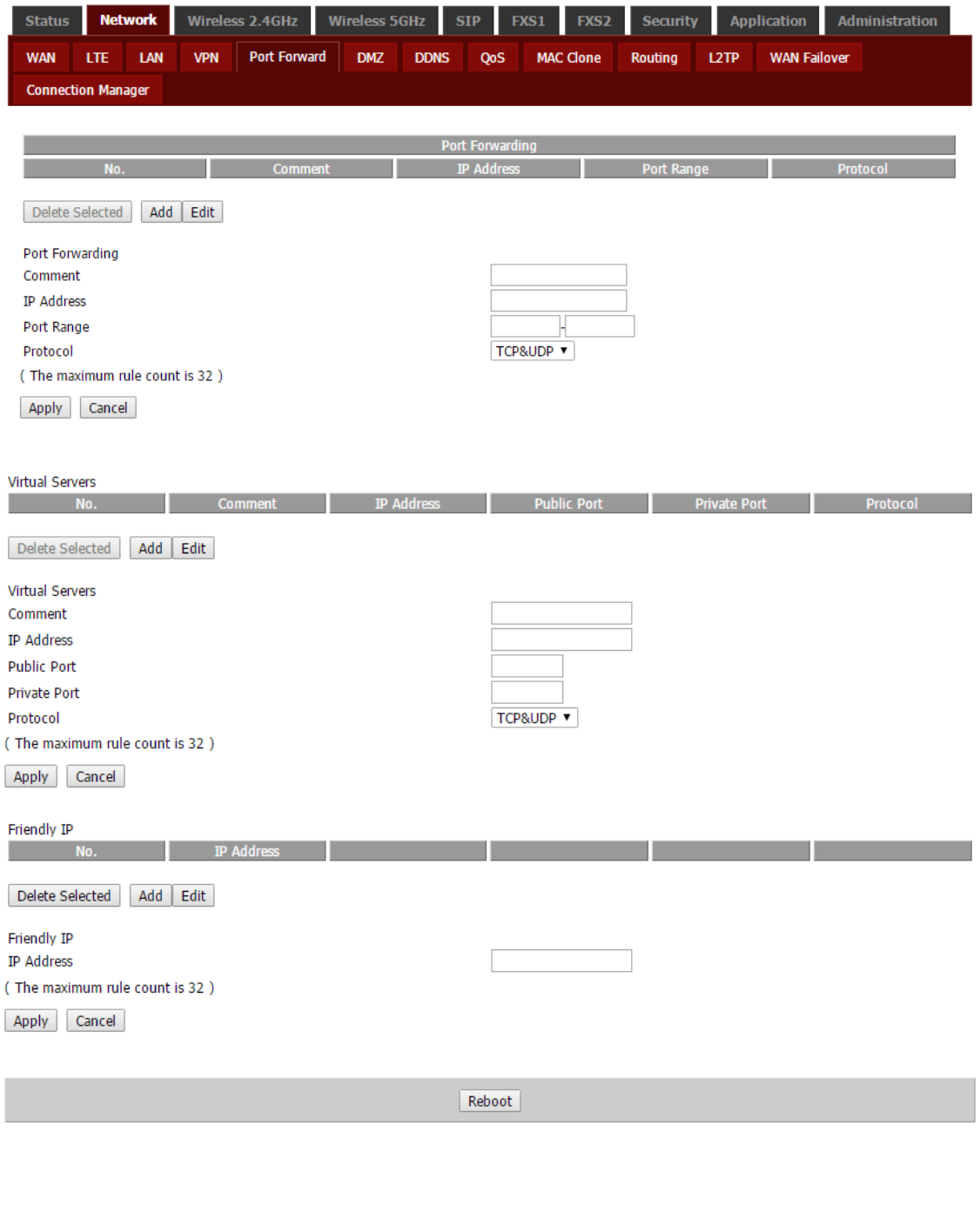
	Encryption Algorithm	Select Encryption Algorithm to be used in IPSec SA negotiation.
	Integrity Algorithm	Select Integrity Algorithm to be used in IPSec SA negotiation.
	SA Lifetime of Phase 2	Set the lifetime in IPSec SA negotiation
	PFS	Enable or disable PFS. (Perfect Forward Secrecy)PFS will ensure the same key will not be generated again

5.3.3 DMZ/Port Forward

DMZ

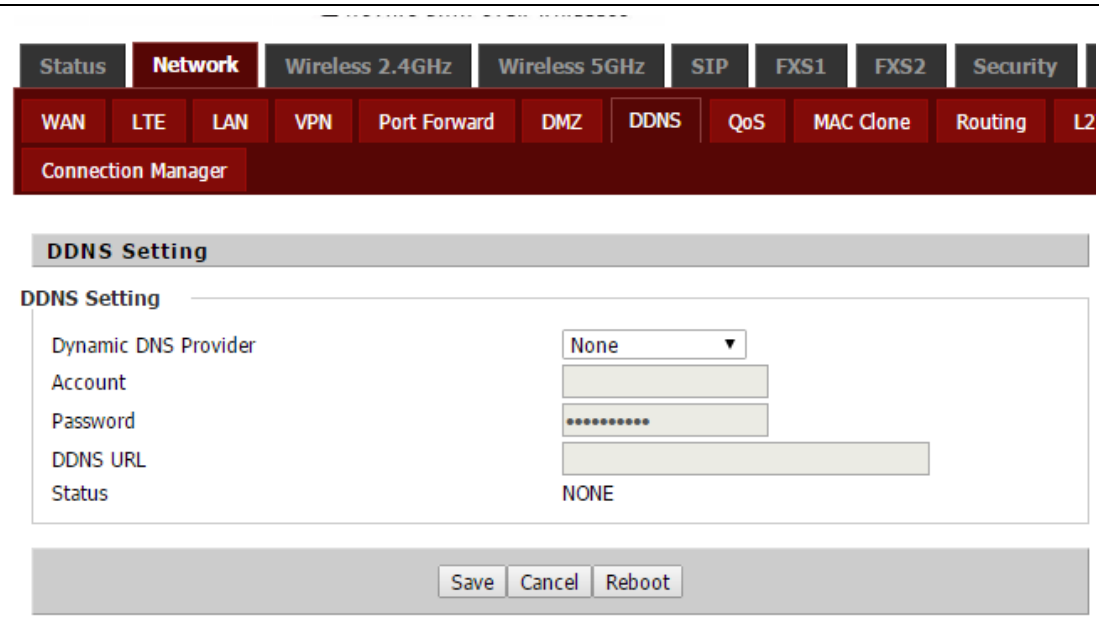
	**DMZ Enable**	If or not enable DMZ.
	DMZ Host IP Address	Enter the private IP address of the DMZ host

Port Forward



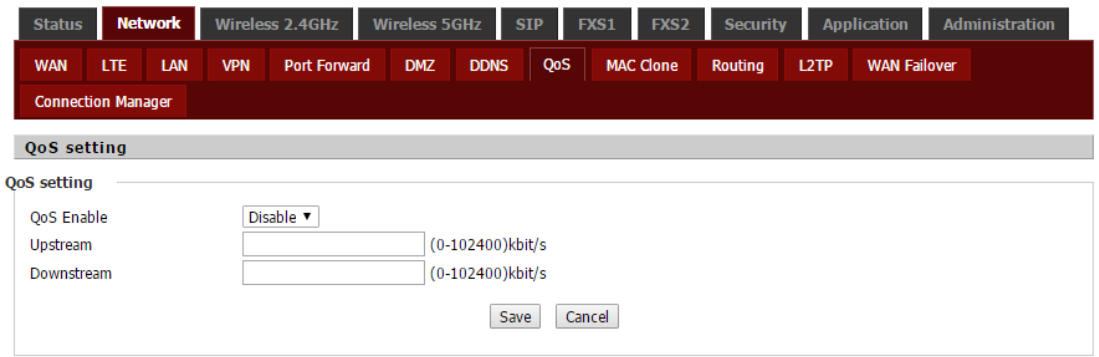
Port Forwarding	
Comment	Assign a meaningful name for port forwarding.
IP Address	The IP address in LAN side
Port Range	The port range for LAN host, from 1 to 65535
Protocol	Select from “TCP”, “UDP” or “TCP&UDP”
Virtual Servers	
Comment	Assign a meaningful name to the virtual server.
IP Address	The IP address of the system on your internal network that will provide the virtual service.
Public Port	The port that will be accessed from the Internet.
Private Port	The port that will be used on your internal network.
Protocol	Select from “TCP”, “UDP” or “TCP&UDP”
Friendly IP	The IP address allow to access from WAN side.
IP Address	The IP address of friendly IP

5.3.4 DDNS

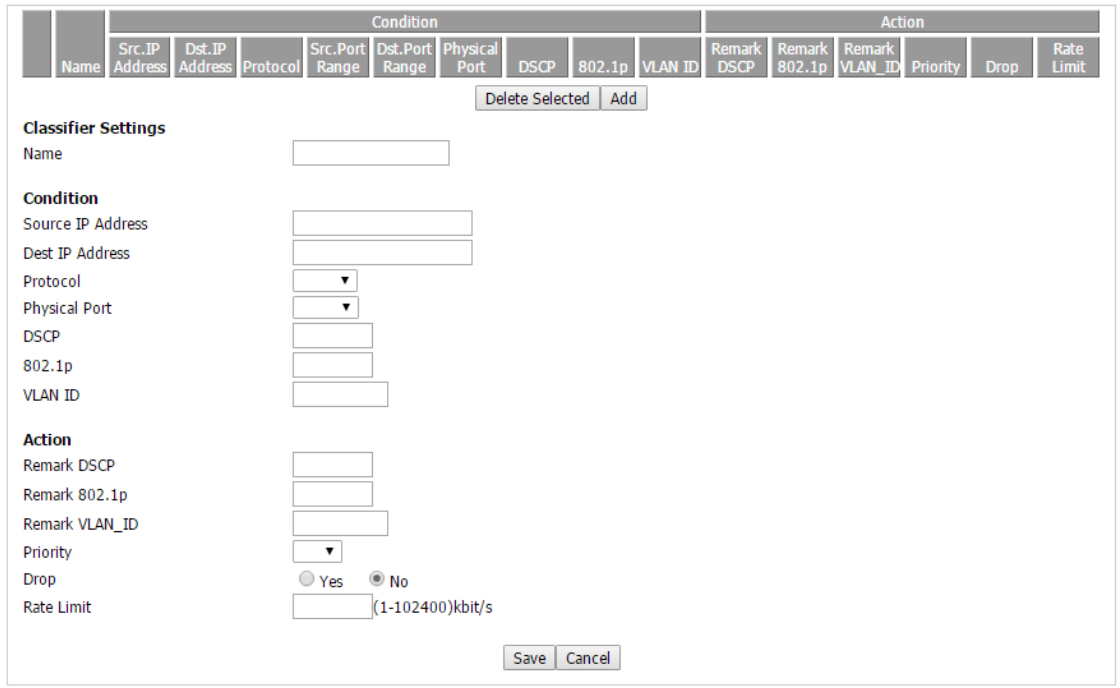


Dynamic DNS Provider	Select the DDNS service which you have established an account with.
Account	Enter account that DDNS server provided.
Password	Enter password that DDNS server provided.
DDNS URL	Enter the DDNS Domain name or IP address.
Status	Show current status of DDNS

5.3.5 QoS



QoS Enable	Select to enable QoS function
Upstream	Prescribe uplink speed of router.
Downstream	Prescribe downlink speed of router.
Name	Set server name of the service that you want to set it with QoS Control.
Source IP Address	Enter source IP address of the user (for example, PC) who you want to set it with QoS Control.
Dest IP Address	Enter destination IP address of the user (for example, PC) who you want to set

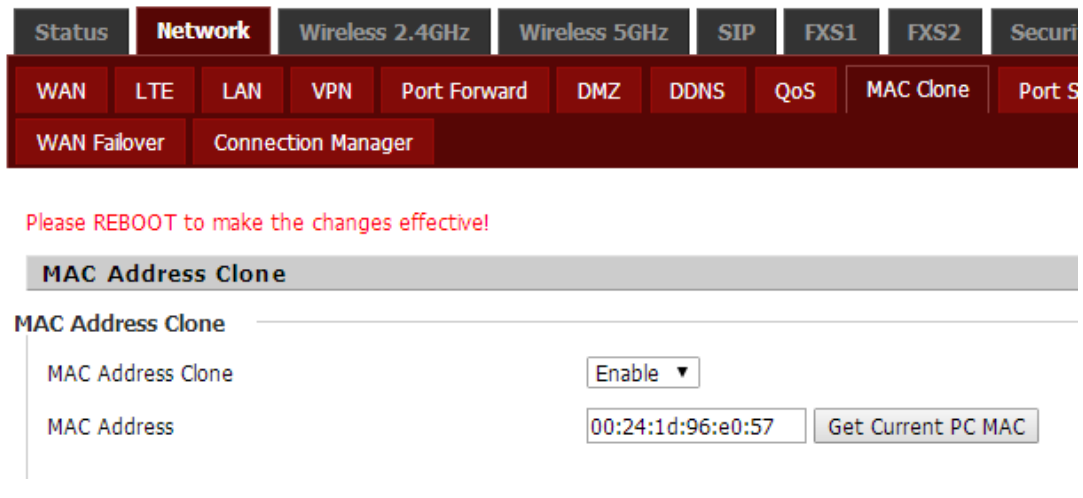


	it with QoS Control.
Protocol	Select from TCP /UDP /ICMP
Src.Port Range	Source port range of the service that you want to set it with QoS Control.
Dst.Port Range	Destination port number of the service that you want to set it with QoS Control.
Physical Port	Select from WAN/LAN
DSCP	set the Differentiated Services Code Point (DSCP) values in Quality of Service (QoS)
802.1p	802.1p is an IEEE standard that describes mechanisms to prioritize traffic and perform dynamic multicast filtering.
VLAN ID	When configuring a VLAN tag-based QoS policy map, the router applies the policy to one Ethernet port and only to the VLANs on that particular port.
Remark DSCP	Remark DSCP Tag
Remark 802.1p	Remark 802.1p Tag
Remark VLAN_ID	Remark VLAN_ID Tag
Priority	Select from voice (VO), video (VI), best effort (BE), and background (BK)
Drop	Select to Drop or not drop the packet

	Rate Limit	Limit the speed of this rule

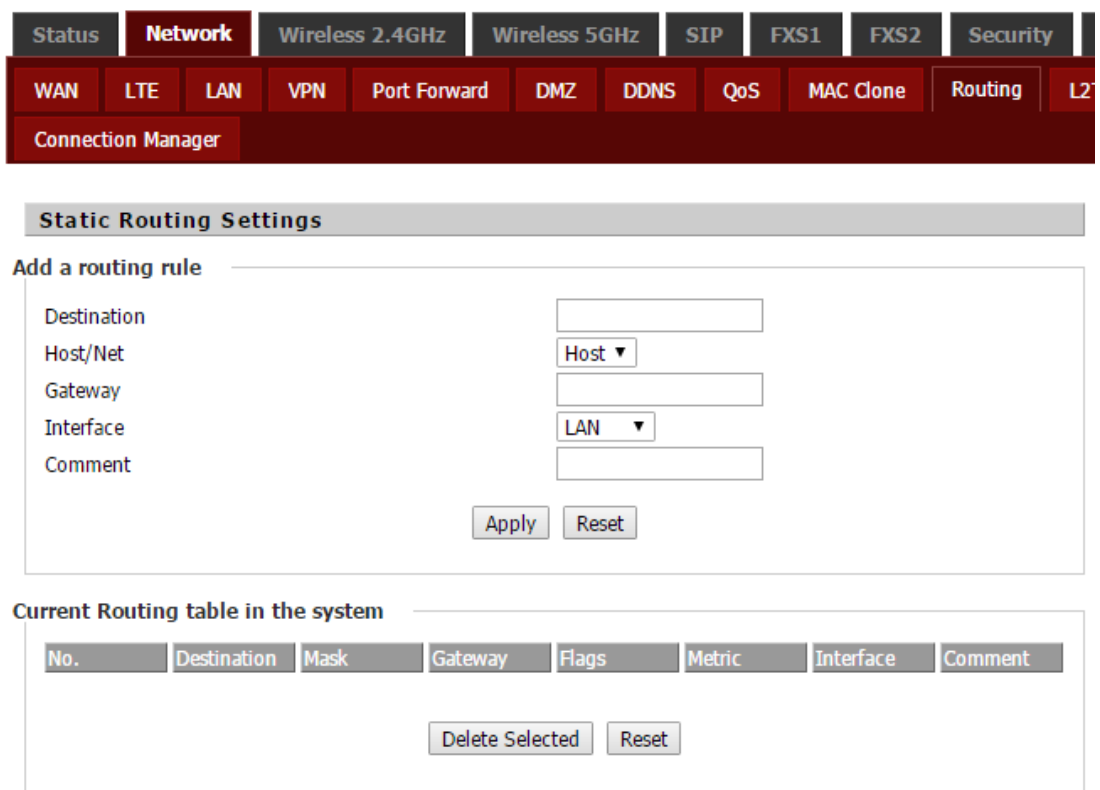
5.3.6 MAC Clone

Some ISPs will require you to register your MAC address. If you do not wish to re-register your MAC address, you can have the router clone the MAC address that is registered with your ISP. To use the Clone Address button, the computer viewing the Web-based utility screen will have the MAC address automatically entered in the Clone WAN MAC field.



MAC Address Clone	Select to enable or disable
MAC Address	The MAC address for clone
Get Current PC MAC	clone the currently PC MAC address to router's Internet port automatically

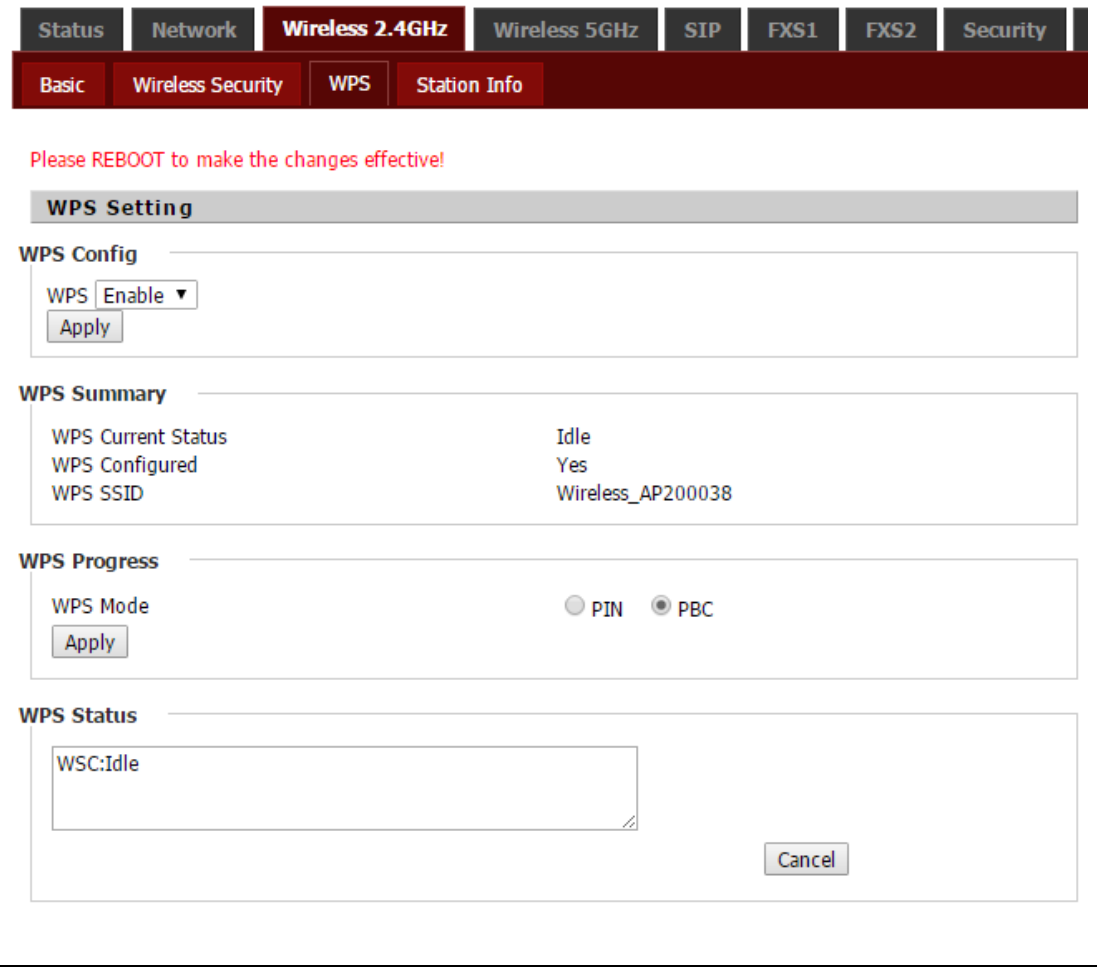
5.3.7 Routing



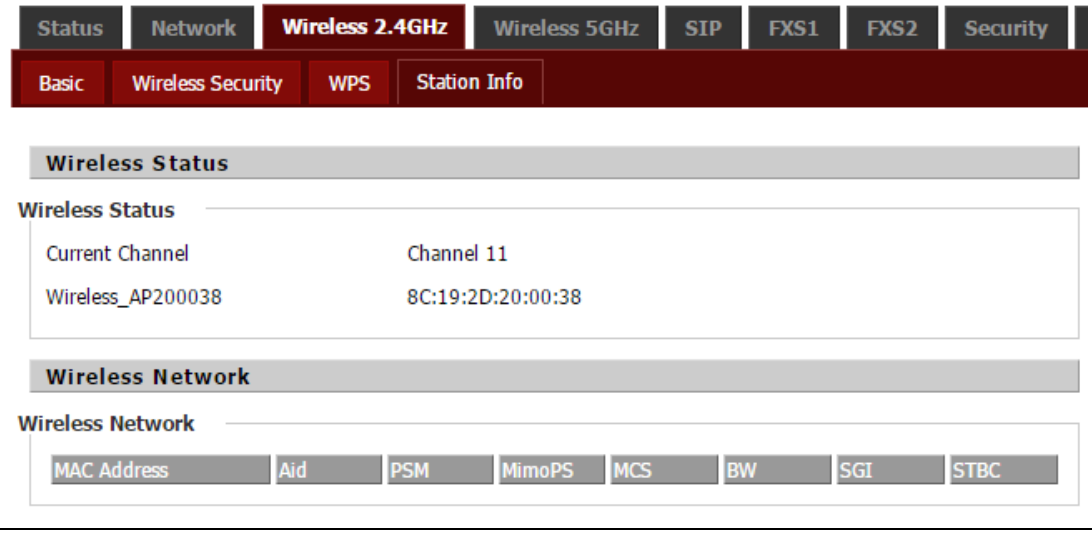
Destination	The IP address of packets that will take this route.
Host/Net	Select the Host or Networking
Gateway	Specifies the next hop to be taken if this route is used.
Interface	Specifies the interface LAN/ INTERNET/ VOICE/ TR069/ VPN
Comment	Set comment of this routing.

5.3.8 WPS

WPS (**Wi-Fi Protected Setup**) provides easy procedure to make network connection between wireless station and wireless access point (vigor router) with the encryption of WPA and WPA2.
It is the simplest way to build connection between wireless network clients and vigor router. Users do not need to select any encryption mode and type any long encryption passphrase to setup a wireless client every time. He/she only needs to press a button on wireless client, and WPS will connect for client and router automatically. Press button less than 5s for 2.4GHz, press button between 5 to 10s for 5.0GHz.

<table>
<tr>
<td rowspan="3"> 
</td>
<td>WPS Config</td>
<td>If or not enable WPS.</td>
</tr>
<tr>
<td>WPS Summary</td>
<td>The status for Current connection, SSID and so on</td>
</tr>
<tr>
<td>WPS Progress</td>
<td>PIN: In the following PIN options, fill in the PIN code of the client (wireless card, etc.) that needs to be accessed, and then click Apply.
PBC: PBC mode There are two ways to start, you can directly press the PBC button on the hardware, or select to PBC mode, and then click Apply.</td>
</tr>
<tr>
<td>WPS Status</td>
<td>There are three WPS states:
WSC: Idle state is idle
WSC: Start WSC Process Status is to start sending messages
WSC: Success: If a client accesses an AP, the WPS connection succeeds</td>
</tr>
</table>

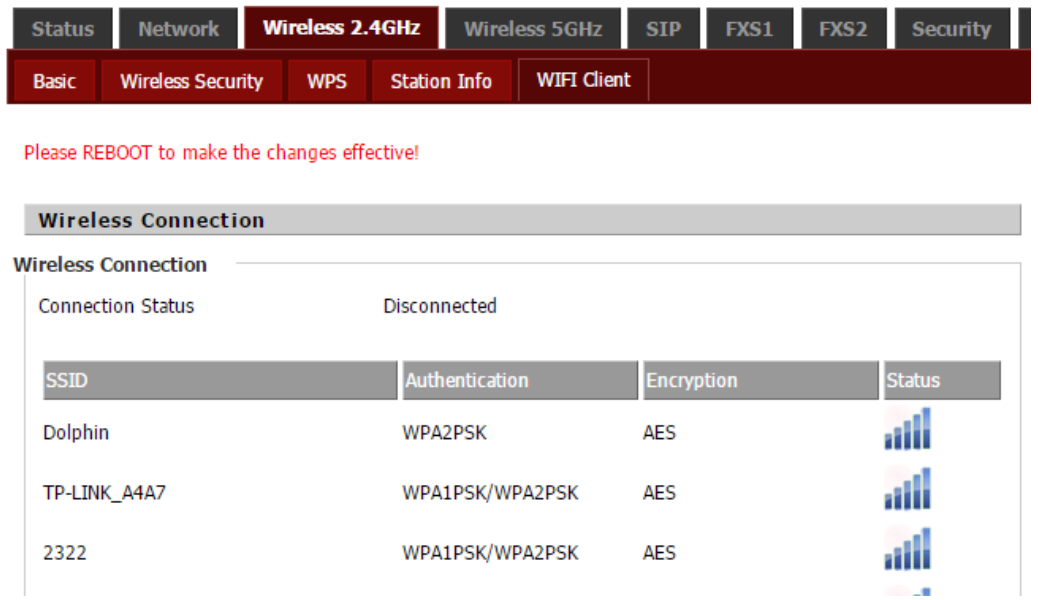
5.3.9 Station list



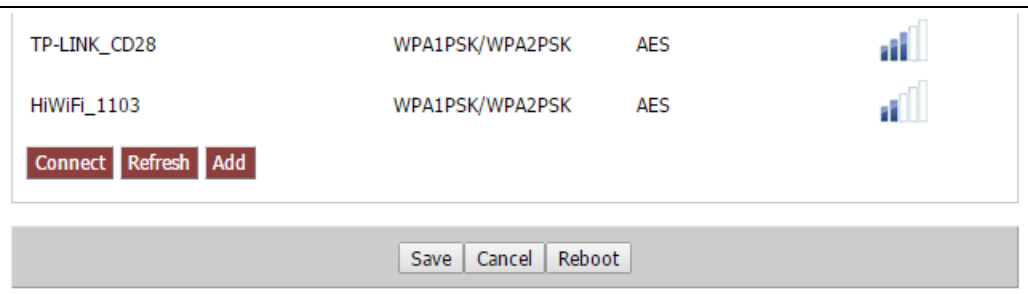
You could monitor stations which associated to this AP here.

5.3.10 Client

Enable WiFi Client would be one option for WAN Failover, select as the default route.

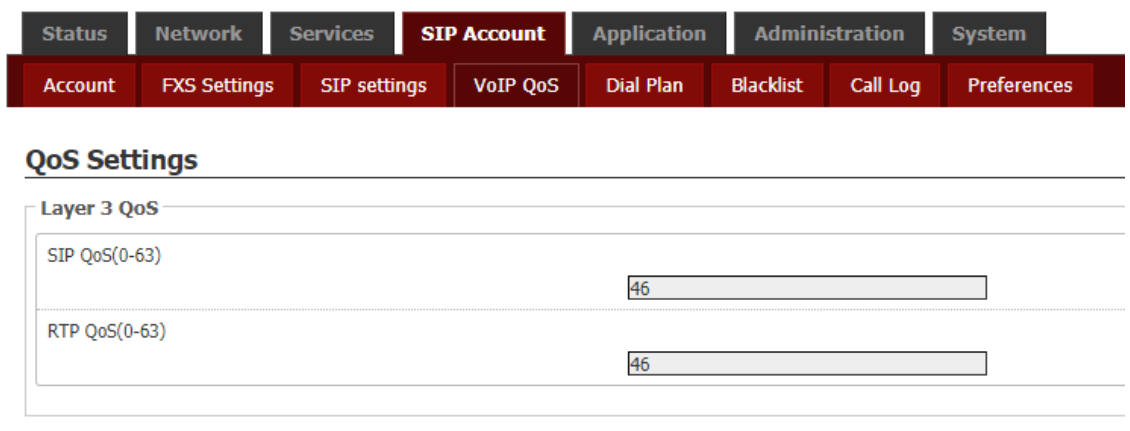


Connection Status	Current WiFi Client connect status
Connect	Select one SSID and press the button, enter the password for the SSID.
Refresh	Refresh the SSID scan result
Add	Add one new/hidden SSID manually

 TP-LINK_CD28 WPA1PSK/WPA2PSK AES HiWiFi_1103 WPA1PSK/WPA2PSK AES Connect Refresh Add Save Cancel Reboot		

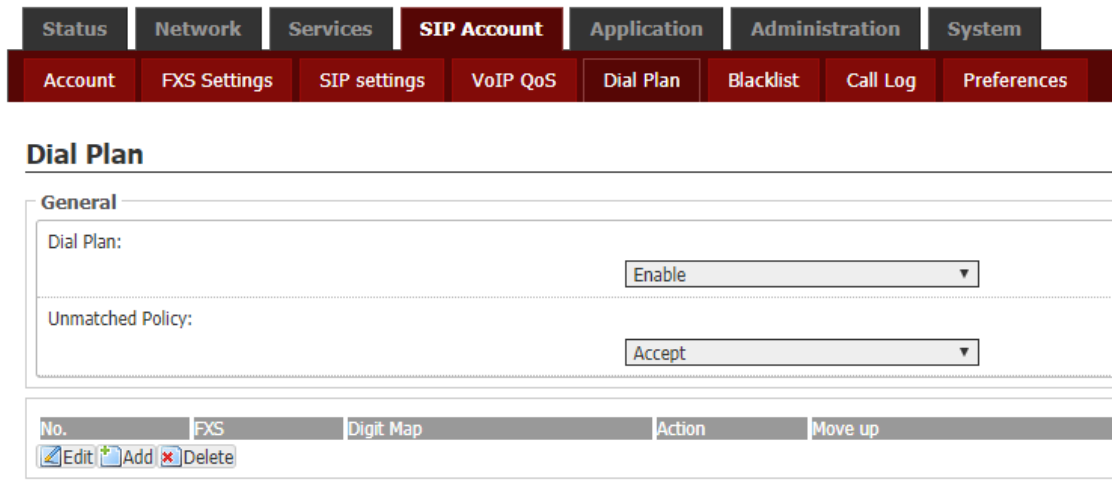
5.4 Phone

5.4.1 VoIP QoS



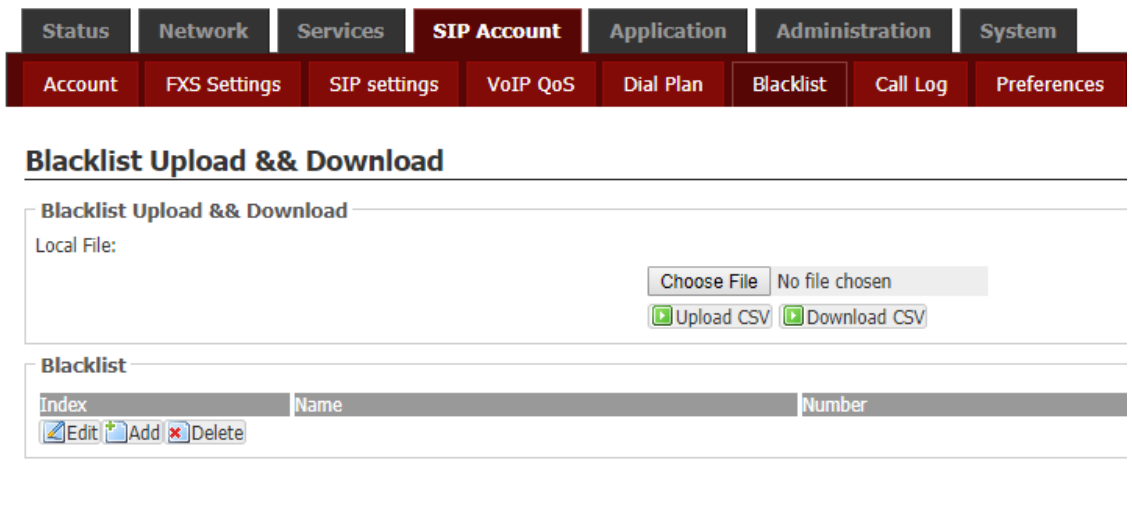
SIP QoS(0-63)	QoS services can improve the quality of voice applications. The default value is 46, and the range of values can be set from 0 to 63.
RTP QoS(0-63)	Once Multi-WAN port is enabled, select the corresponding voice PPPoE server VID, the devices under the same VLAN can transmit voice data.

5.4.2 Dial Plan

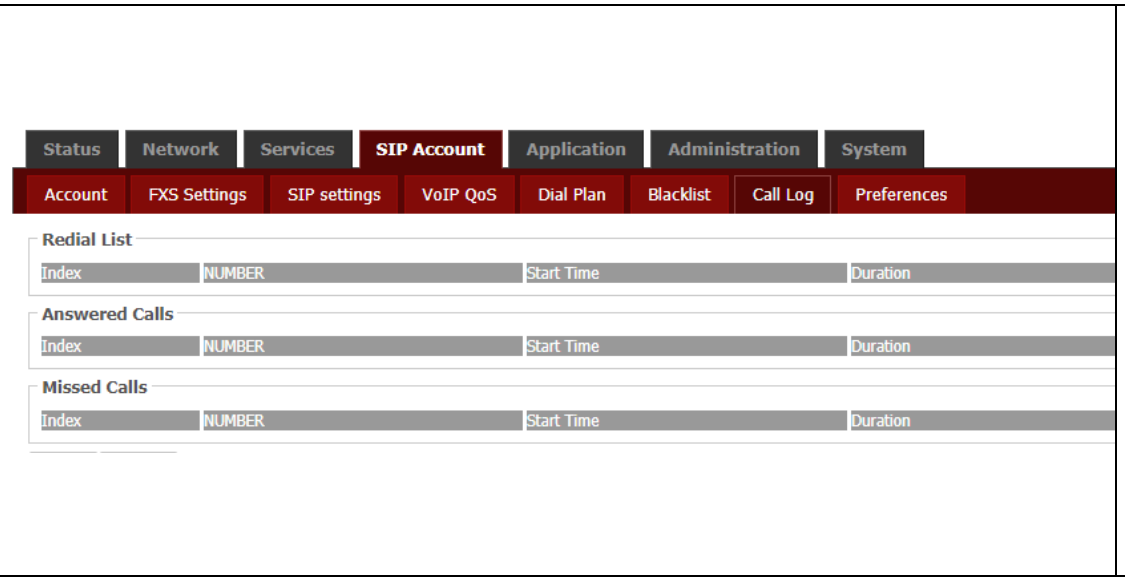


Dial Plan	Select to enable or disable
Unmatched Policy	Select from Accept or Reject
FXS	Select the FXS port
Digital Map	Fill in the expression of digital map, please refer to the digital map syntax.
Action	Select the match action of the digital map, Deny means the device will reject the matching number dialing, and Dial Out means the device can dial out the matching number

5.4.3 Blacklist

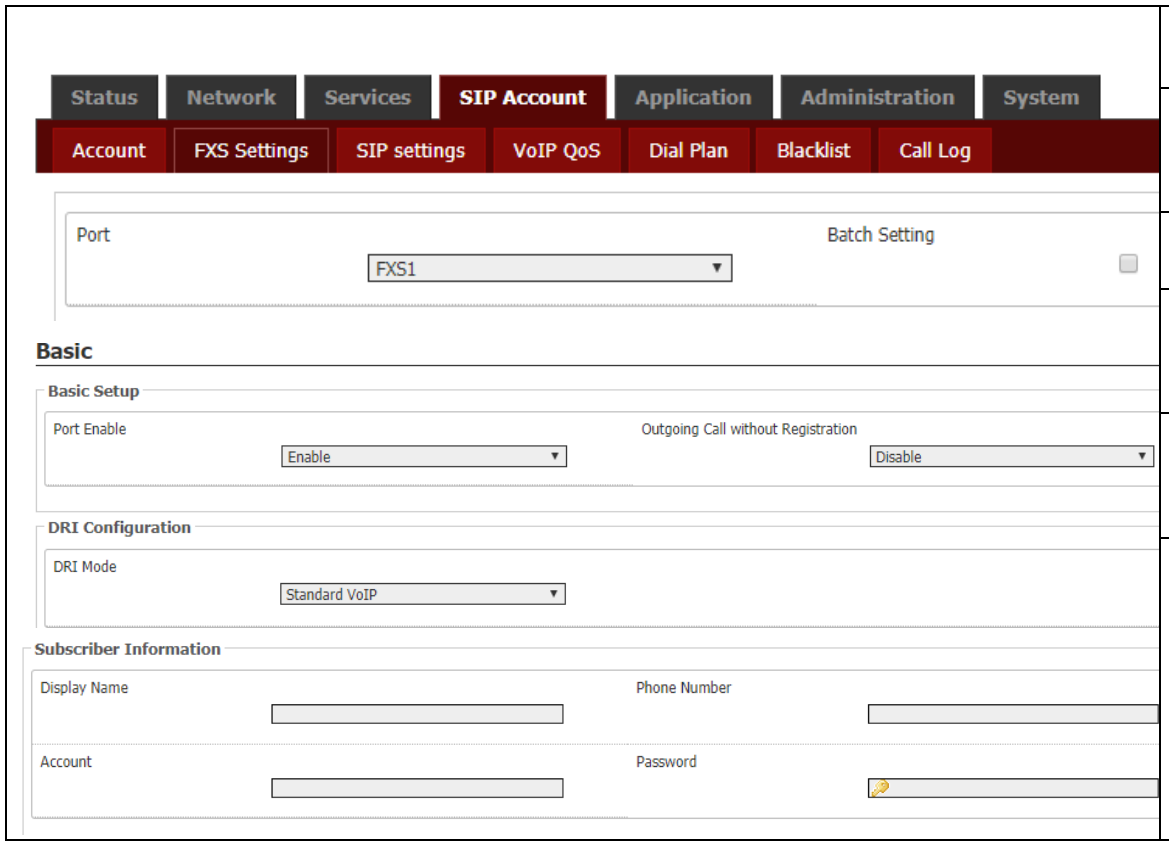
	You can upload or download the phone book, blacklist.

5.4.4 Call Log

	On this page, users can view replay lists (outgoing calls), received calls, and missed calls.

5.5 SIP Account

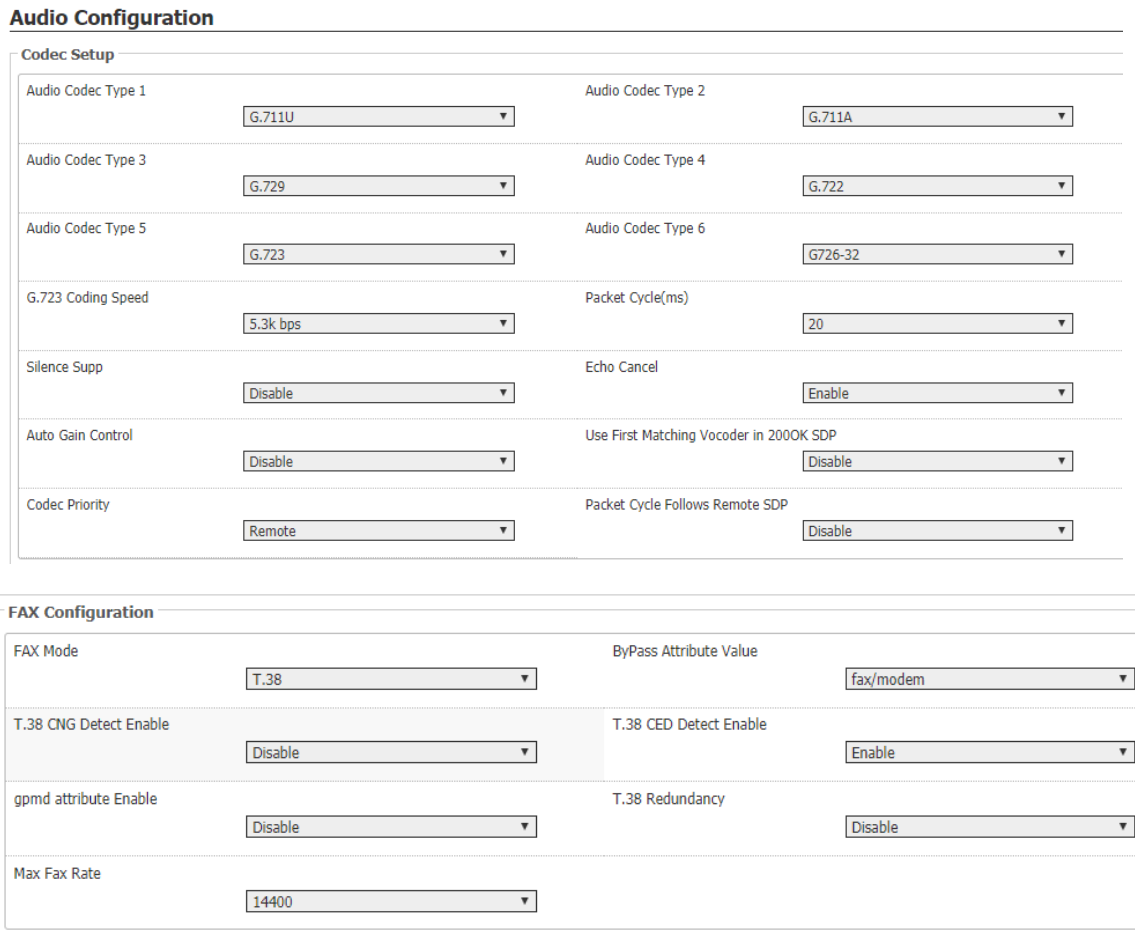
5.5.1 FXS1/2/3/4/5/6/7/8 SIP Account



Line Enable	Select to enable or disable Line
Outgoing Call without Registration	Select to enable or disable this function
Display Name	The display name of this SIP number
Phone Number	The phone number provided by SIP server
Account	The account provided by SIP server for authentication
Password	The password provided by SIP server for authentication

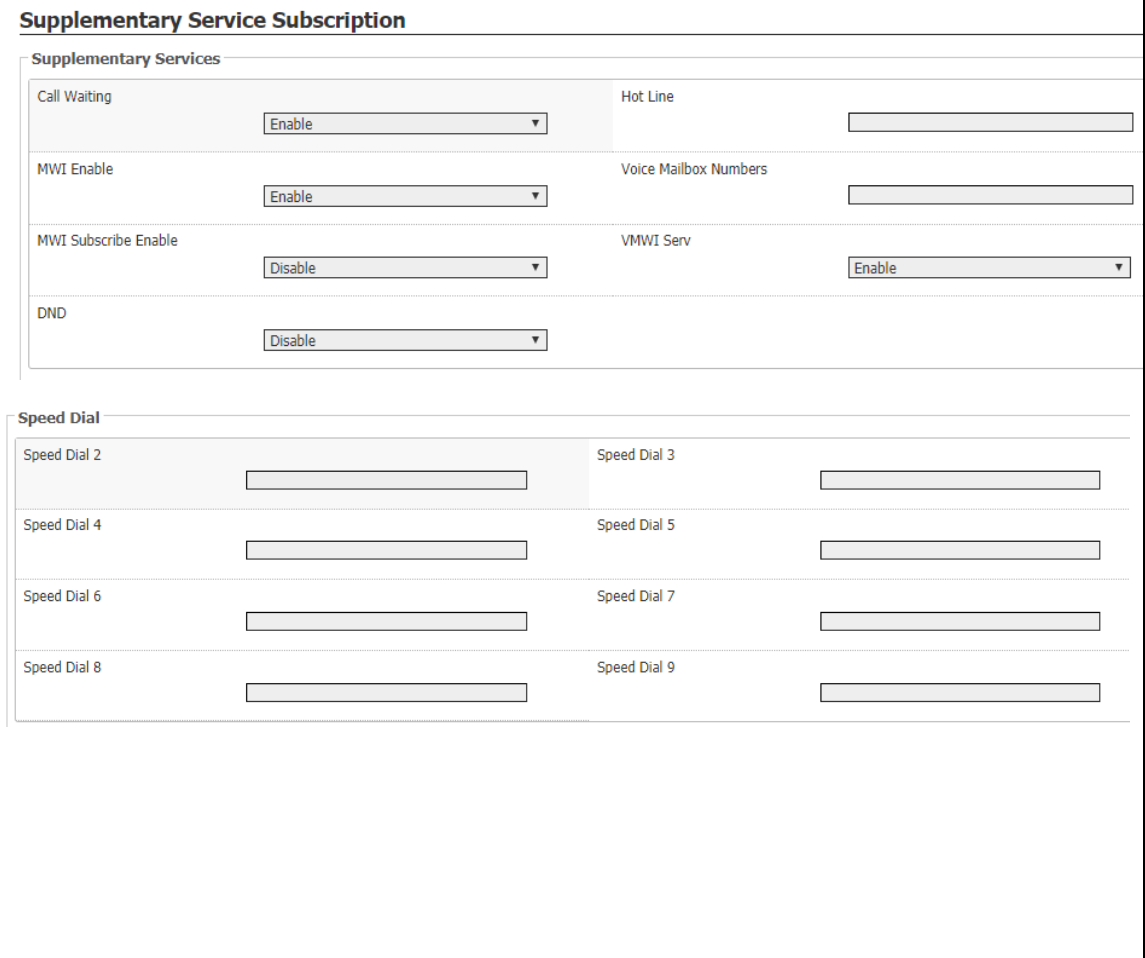
5.5.2 FXS1/2/3/4/5/6/7/8 Audio Configuration

Audio Codec Type	Select the appropriate encoding
G.723 Coding Speed	Select from 5.3kbps or 6.3kbps
Packet Cycle(ms)	Set the RTP packetization period. The default configuration is 20ms
Silence Supp	Mute enable



Echo Cancel	Echo Cancellation is enabled by default
Auto Gain Control	Used to automatically adjust the speech level of an audio signal to a predetermined value.
Use First Matching Vocoder in 200OK SDP	Select to enable or disable
Codec Priority	Select from local or remote
Packet Cycle Follows Remote SDP	Select to enable or disable
FAX Mode	Select from T.30/ T.38/ ByPass
ByPass Attribute Value	Select from fax/modem or X-fax/X-modem
gpmd attribute Enable	Select to enable or disable
T.38 Redundancy	Select to enable or disable
Max Fax Rate	Select from 14400/ 9600/ 4800

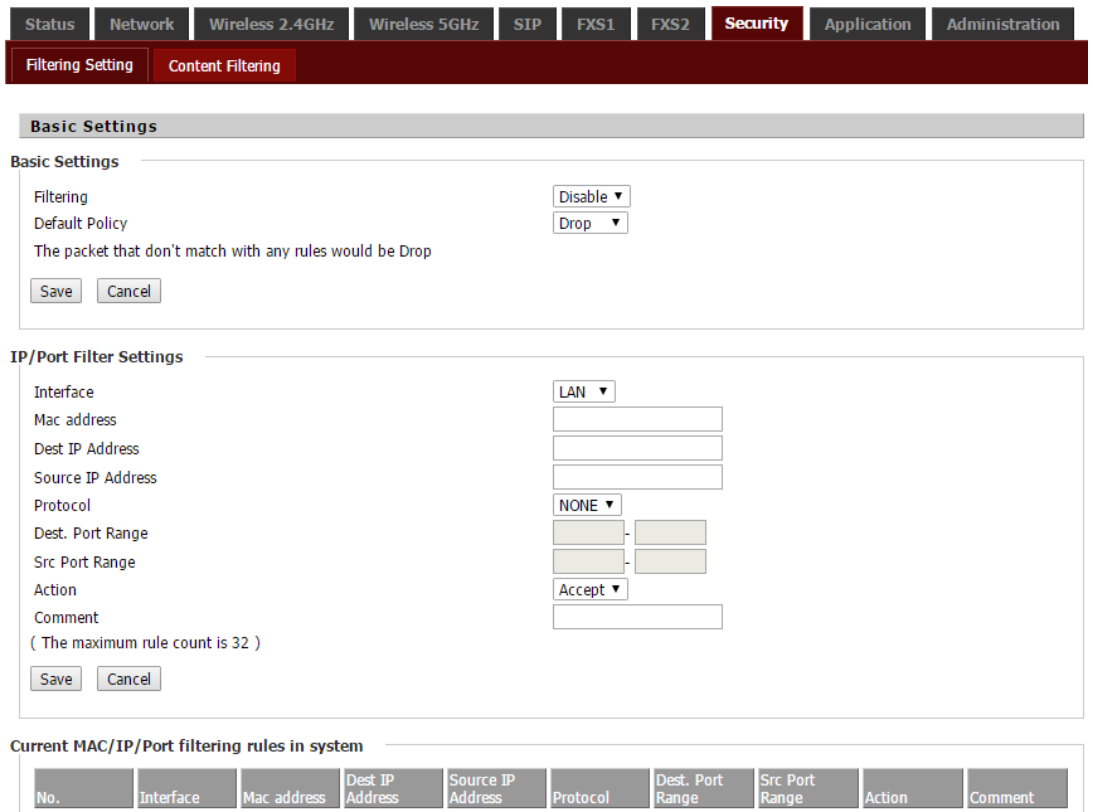
5.5.3 FXS1/2/3/4/5/6/7/8 Supplementary Service Subscription



Call Waiting	Select to enable or disable
Hot Line	Fill in the hotline number. After the subscriber is set up successfully, the hotline number will be automatically dialed immediately after off-hook
MWI Enable	Enable WMI (Message Waiting Indication), enable this function if you want to use voicemail
Voice Mailbox Numbers	Fill in the voicemail code provided by your ISP
MWI Subscribe Enable	Select to enable or disable
VMWI Serv	Select to enable or disable
DND	After enabling this option, any phone call can not be dialed in, default is disable.
Speed Dial	Pre-set the phone number for Fast call

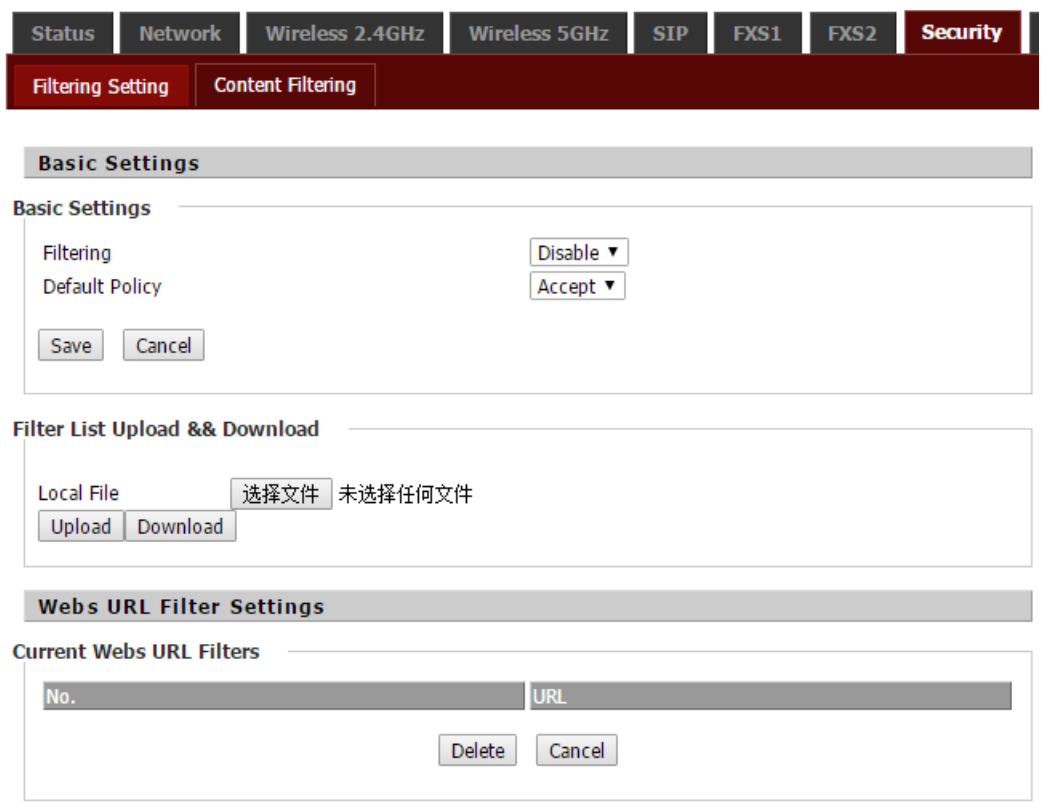
5.6 Security

5.6.1 Filtering Setting



Filtering	Select to enable or disable
Default Policy	Select from Drop or Accpet
Interface	Select from LAN or WAN
Mac address	Fill MAC address for Filtering control
Dest IP Address	Fill Destination IP address for Filtering control
Source IP Address	Fill source IP address for Filtering control
Protocol	Select from TCP/ UDP /ICMP
Dest. Port Range	Fill Destination port range for Filtering control
Src Port Range	Fill source port range for Filtering control
Action	Select from Accept or Drop
Comment	Fill the comment for this filtering rule

5.6.2 Content Filtering

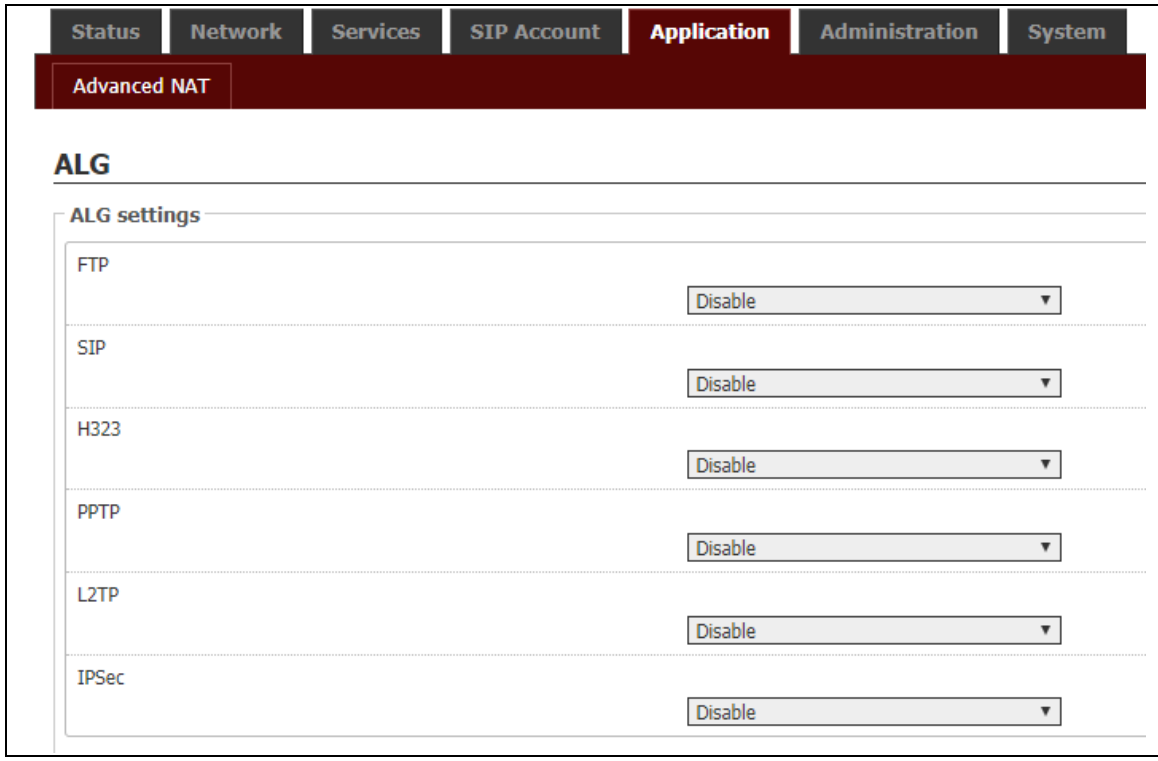


Filtering	Select to enable or disable
Default Policy	Select from Drop or Accpet
Local File	Select the local file for upload
Current Webs URL Filters	Existing URL filtering rules (blacklist)
Add a URL Filter	Add a URL filtering rule
URL	Fill the URL for webs filtering
Current Website Host Filters	Existing keywords (blacklist)
Add a Host(keyword) Filter	Add a keyword rule
Keyword	Fill the keyword for filtering

Add a URL Filter URL (The maximum rule count is 16) Add Cancel **Webs Host Filter Settings** **Current Website Host Filters** No. Keyword Delete Cancel **Add a Host(keyword) Filter** Keyword (The maximum rule count is 16) Add Cancel Reboot		

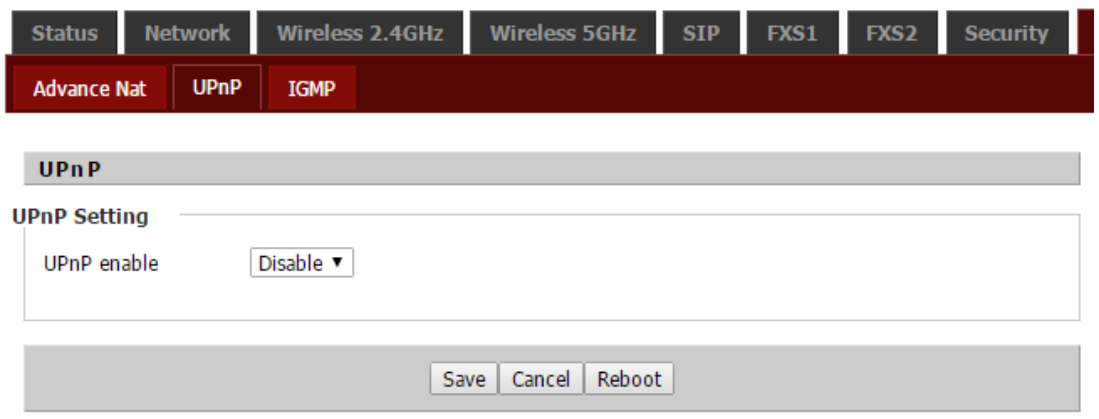
5.7 Application

5.7.1 Advance Nat



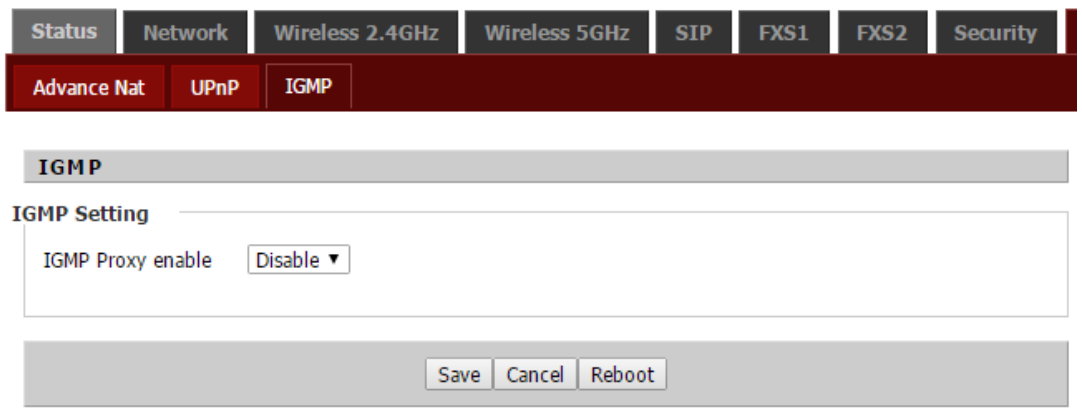
In this page, you can choose to enable / disable FTP, SIP, H323, PPTP, L2TP, IPSec services.

5.7.2 UPnP



UPnP (Universal Plug and Play) supports null-setting for networking, can automatically find a variety of networked devices. When UPnP is enabled, UPnP-enabled devices are allowed to dynamically access the network, obtain IP addresses, and transmit performance information. If you have DHCP and DNS servers on your network, you can automatically obtain DHCP and DNS services. UPnP-enabled devices can be automatically disconnected from the network without affecting the device or other devices on the network.

5.7.3 IGMP



Multicast has the function of sending the same data to multiple devices. An IP host uses the IGMP (Internet Group Management Protocol) to report multicast group memberships to send data to neighboring routers, and the multicast router uses IGMP to discover which hosts belong to the same multicast group.

5.8 Administration

Note – The number of FXS ports and available parameters may vary depending on the device model.

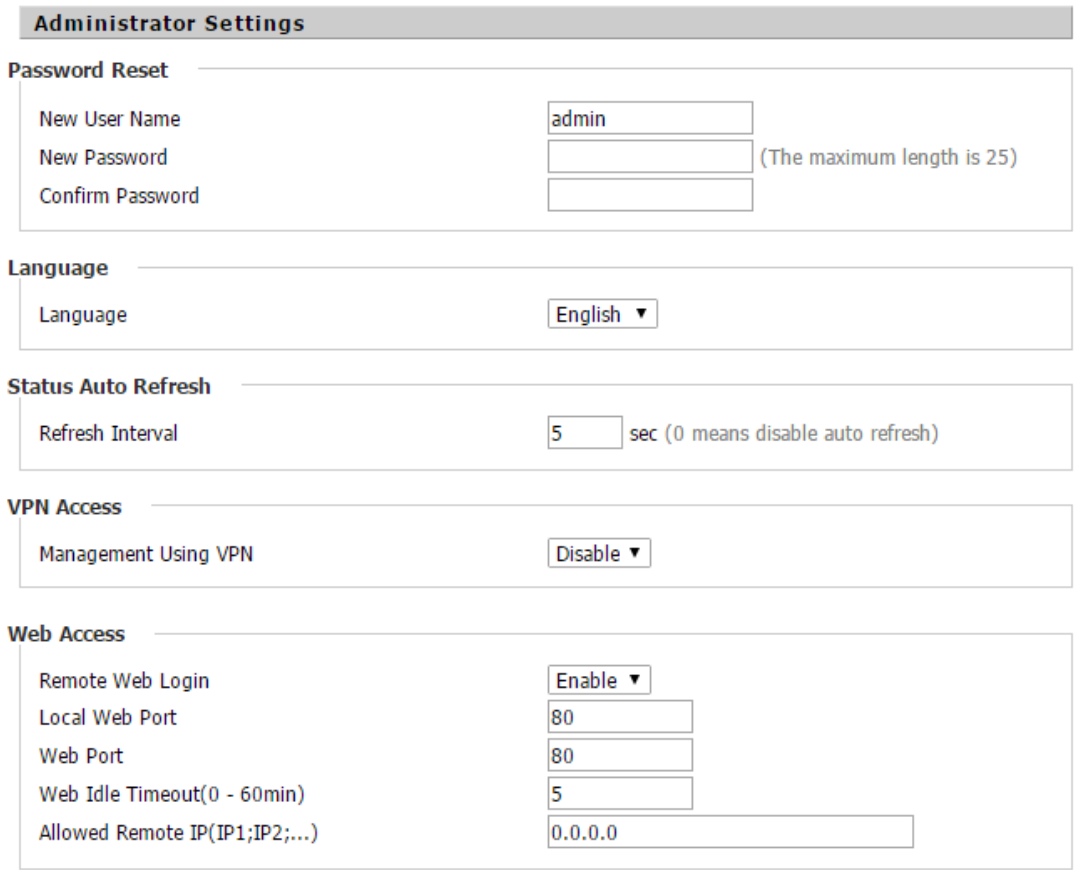
5.8.1 Management

Save Config File

Local File	Select the local file for configuration
Upload	Use this option to restore previously saved router configuration settings.
Download	This option allows you to export and then save the router's configuration to a file on your computer. Be sure to save the configuration before performing a

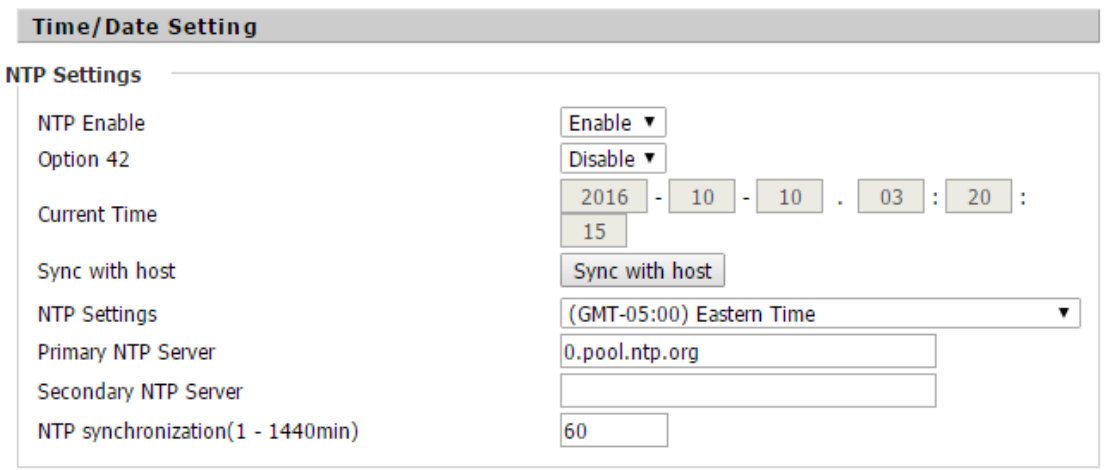
		firmware upgrade.

Administrator Settings



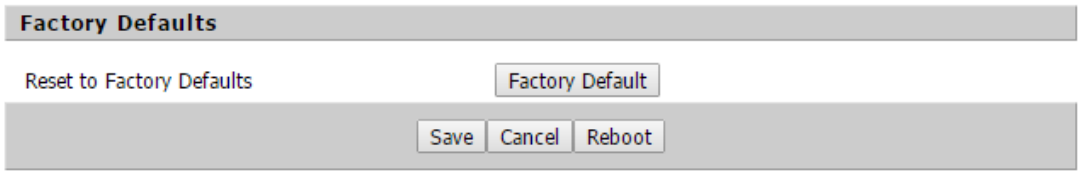
New User Name	New user name for management
New Password	Type the password for user
Confirm Password	Type the same password again
Language	Setup the language for operation, select from English or Spanish
Refresh Interval	The auto refresh interval for LTE status
Management using VPN	Select to enable or disable
Remote Web Login	Allow host remote access from Active WAN
Local Web Port	Enter the HTTP port number for accessing from local side
Web Port	Enter the HTTP port number for accessing from remote side
Web Idle Timeout(0 - 60min)	Timeout for web idle activity
Allowed Remote IP(IP1;IP2;...)	Allow the host with specified IP address to access from webpage.

Time/Date Settings



NTP Enable	Select this option if you want to synchronize the router's clock to a Network Time Server over the Internet.
Option 42	Obtain NTP Server via DHCP Server
Current Time	Displays the time currently maintained by the router.
Sync with host	Synchronize with your current host's system time
NTP Settings	Select your local time zone from pull down menu.
Primary NTP Server	Type the primary Network Time Server for synchronization.
Secondary NTP Server	Type the secondary Network Time Server for synchronization.
NTP synchronization(1 - 1440min)	Interval time for NTP synchronization.

Reset to Factory Default



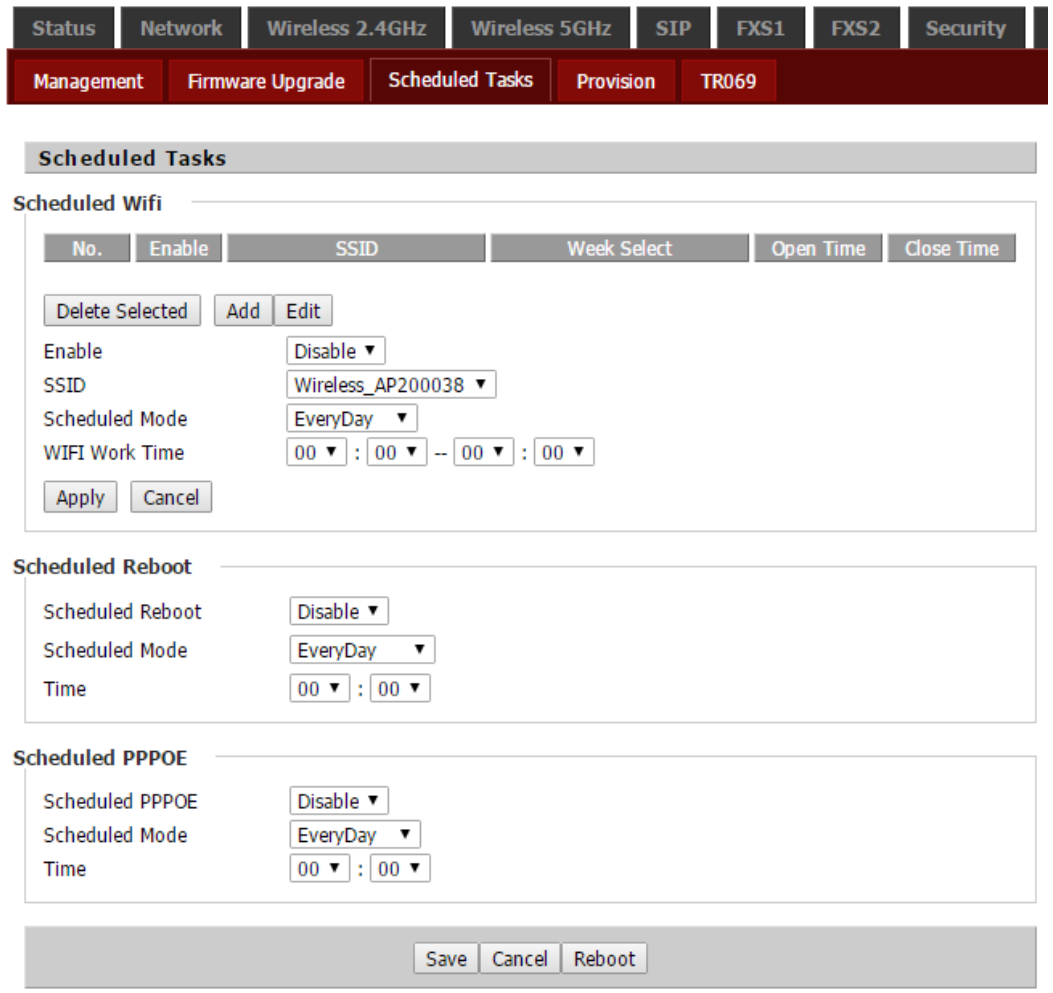
This option restores all configuration settings back to the settings that were in effect at the time the router was shipped from the factory. Any settings that have not been saved will be lost.

5.8.2 Firmware Upgrade

<table>
<tr>
<td> 
</td>
<td>Once you have a firmware update on your computer, use this option to browse for the file and then upload the information into the router.</td>
</tr>
</table>

5.8.3 Scheduled Tasks

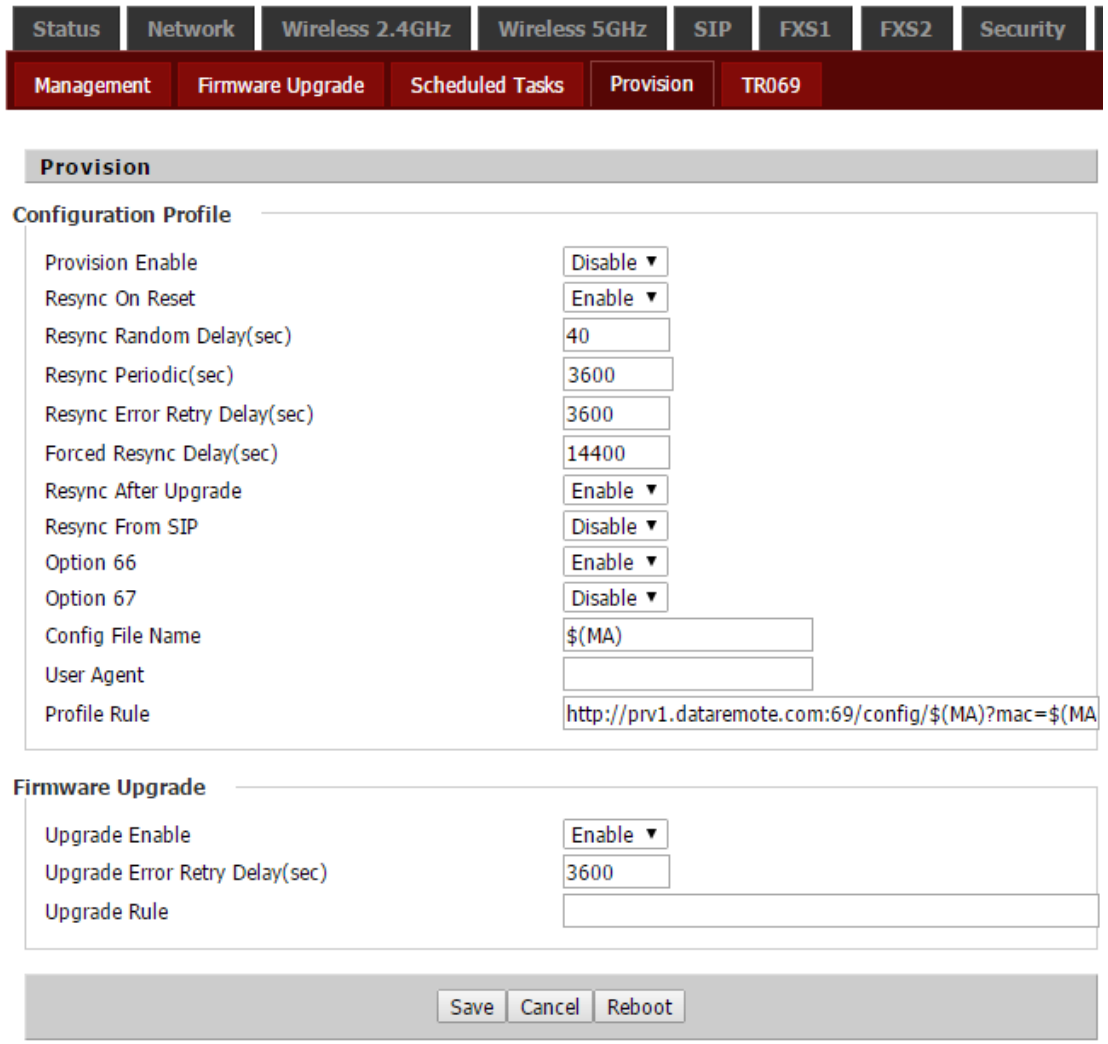
	Scheduled WiFi Enable	Select to enable or disable
	SSID	Choose the specified SSID for scheduled WiFi
	Scheduled Mode	Select the Schedule mode for cycle time
	WiFi Work Time	Setup the working time for WiFi broadcast
	Schedule dReboot	Select to enable or disable
	Scheduled Mode	Select the Schedule mode for cycle time
	Time	Setup the reboot timing
	Scheduled PPPOE	Select to enable or disable



Scheduled Mode	Select the Schedule mode for cycle time
Time	Setup the PPPoE connection timing

5.8.4 Provision

Please refer to the provision user manual to test provision.

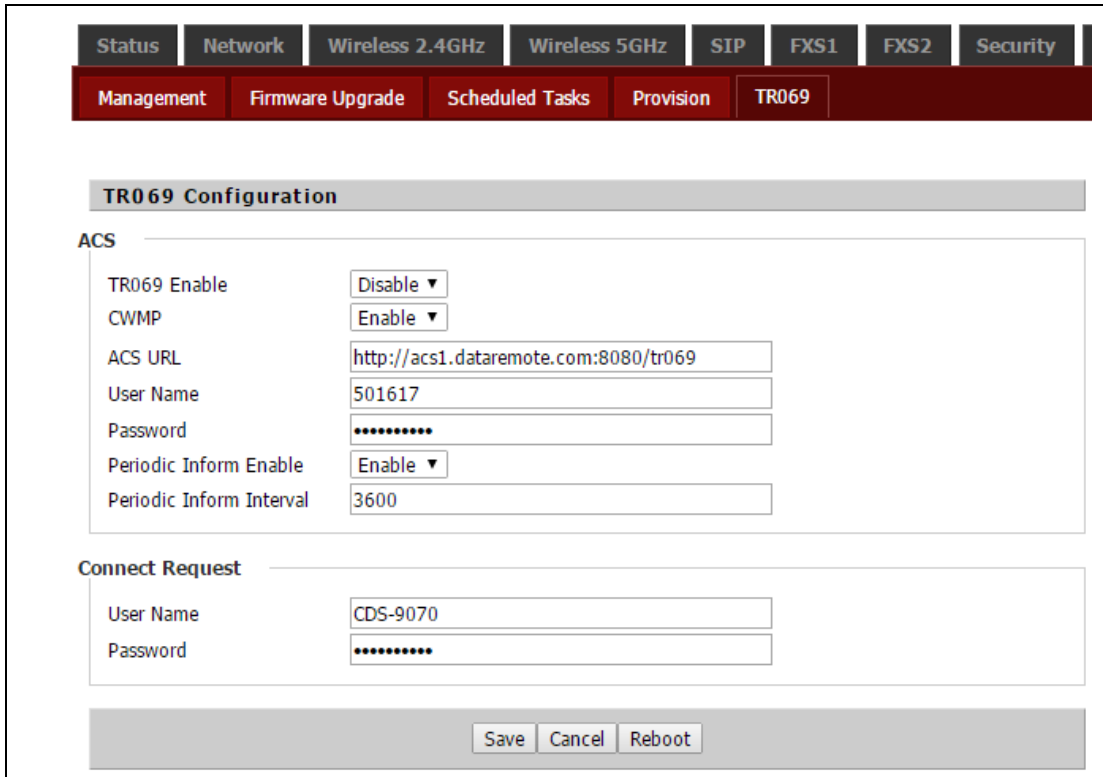


Provision Enable	Select to enable or disable
Resync On Reset	Enable or disable DIV378 Resync after rebooting
Resync Random Delay(sec)	Setup the maximum delay for request synchronization
Resync Periodic(sec)	If the last resynchronization is unsuccessful, after the "Rsync Retry Delay Error" time, after "time, the device will retry the resynchronization
Resync Error Retry Delay(sec)	Set the timed resynchronization
Forced Resync Delay(sec)	If it is time to re-sync, but the device is busy, in this case, the device will wait for some time, the longest is "forced resynchronization delay", the default is 14400s, time after the device will be forced to re-sync.
Resync After Upgrade	After the resynchronization, enable or disable the firmware update function
Resync From SIP	Select to enable or disable resync from SIP
Option 66	Specifies the TFTP (Simple File Transfer Protocol) server address

	Option 67	Specifies the startup file name
	Config File Name	Configure the file name
	User Agent	The name of user agent
	Profile Rule	The URL of the configuration file Note that the specified file path is relative to the root directory of the TFTP server
	Upgrade Enable	Select to enable or disable
	Upgrade Error Retry Delay(sec)	Interval time for retry upgrade firmware if error happen
	Upgrade Rule	The path of firmware located

5.8.5 TR069 – Device Management

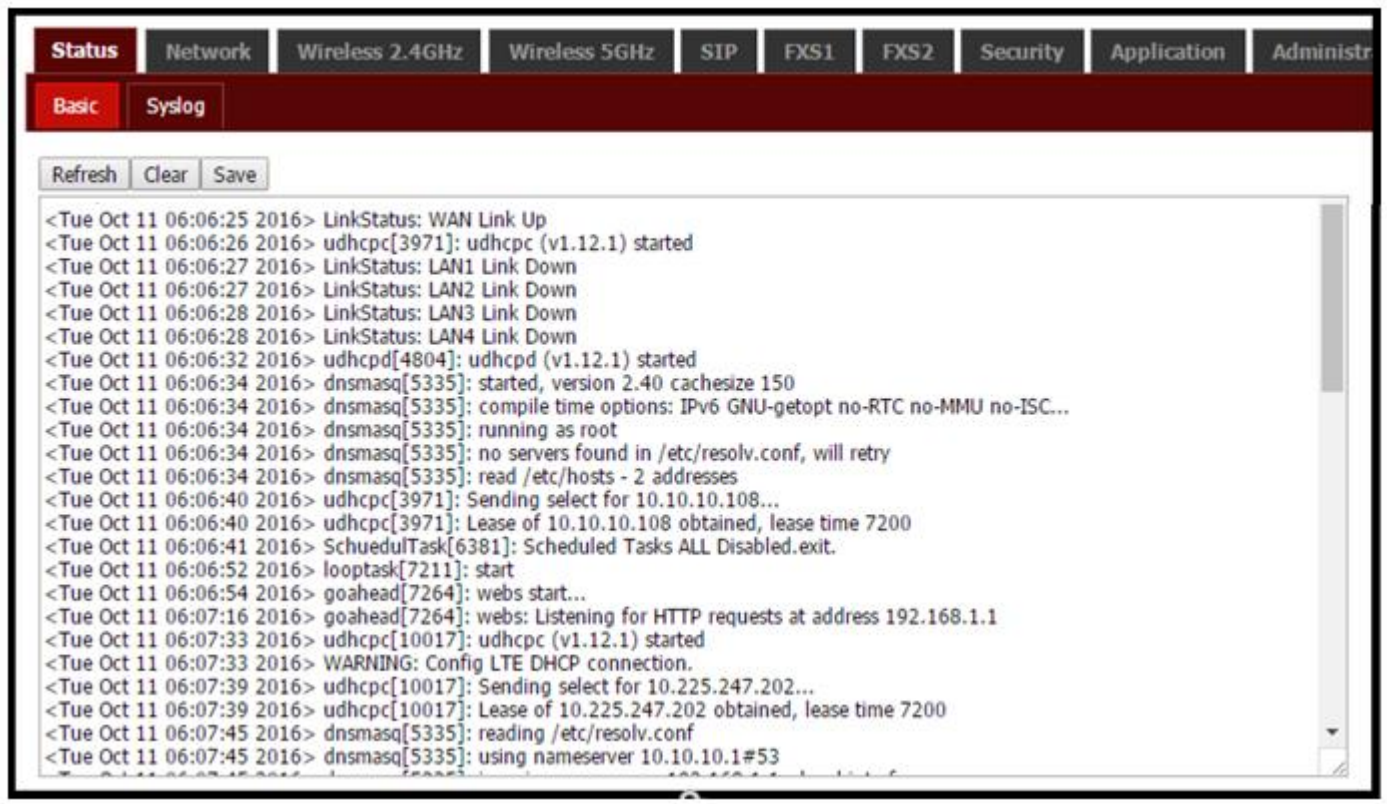
	TR069 Enable	Select to enable or disable
	CWMP	Select to enable or disable
	ACS URL	The URL of ACS agent
	User Name	The user name of ACS agent
	Password	The password of ACS agent
	Periodic Inform Enable	Select to enable or disable the periodic notification function is
	Periodic Inform Interval	Setup periodic Notification Interval



User Name	User name for TR069 server connected to DUT
Password	Password for TR069 server connected to DUT

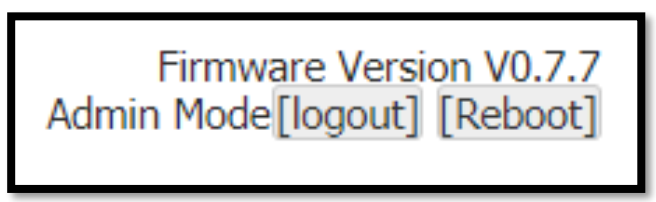
5.9 System Log

If you enable the system log in Status/syslog webpage, you can view the system log in this webpage.


Status
Network
Wireless 2.4GHz
Wireless 5GHz
SIP
FXS1
FXS2
Security
Application
Administr
Basic
Syslog
Refresh
Clear
Save
<Tue Oct 11 06:06:25 2016> LinkStatus: WAN Link Up
<Tue Oct 11 06:06:26 2016> udhcpc[3971]: udhcpc (v1.12.1) started
<Tue Oct 11 06:06:27 2016> LinkStatus: LAN1 Link Down
<Tue Oct 11 06:06:27 2016> LinkStatus: LAN2 Link Down
<Tue Oct 11 06:06:28 2016> LinkStatus: LAN3 Link Down
<Tue Oct 11 06:06:28 2016> LinkStatus: LAN4 Link Down
<Tue Oct 11 06:06:32 2016> udhcpd[4804]: udhcpd (v1.12.1) started
<Tue Oct 11 06:06:34 2016> dnsmasq[5335]: started, version 2.40 cachesize 150
<Tue Oct 11 06:06:34 2016> dnsmasq[5335]: compile time options: IPv6 GNU-getopt no-RTC no-MMU no-ISC...
<Tue Oct 11 06:06:34 2016> dnsmasq[5335]: running as root
<Tue Oct 11 06:06:34 2016> dnsmasq[5335]: no servers found in /etc/resolv.conf, will retry
<Tue Oct 11 06:06:34 2016> dnsmasq[5335]: read /etc/hosts - 2 addresses
<Tue Oct 11 06:06:40 2016> udhcpc[3971]: Sending select for 10.10.10.108...
<Tue Oct 11 06:06:40 2016> udhcpc[3971]: Lease of 10.10.10.108 obtained, lease time 7200
<Tue Oct 11 06:06:41 2016> SchuedulTask[6381]: Scheduled Tasks ALL Disabled.exit.
<Tue Oct 11 06:06:52 2016> looptask[7211]: start
<Tue Oct 11 06:06:54 2016> goahead[7264]: webs start...
<Tue Oct 11 06:07:16 2016> goahead[7264]: webs: Listening for HTTP requests at address 192.168.1.1
<Tue Oct 11 06:07:33 2016> udhcpc[10017]: udhcpc (v1.12.1) started
<Tue Oct 11 06:07:33 2016> WARNING: Config LTE DHCP connection.
<Tue Oct 11 06:07:39 2016> udhcpc[10017]: Sending select for 10.225.247.202...
<Tue Oct 11 06:07:39 2016> udhcpc[10017]: Lease of 10.225.247.202 obtained, lease time 7200
<Tue Oct 11 06:07:45 2016> dnsmasq[5335]: reading /etc/resolv.conf
<Tue Oct 11 06:07:45 2016> dnsmasq[5335]: using nameserver 10.10.10.1#53

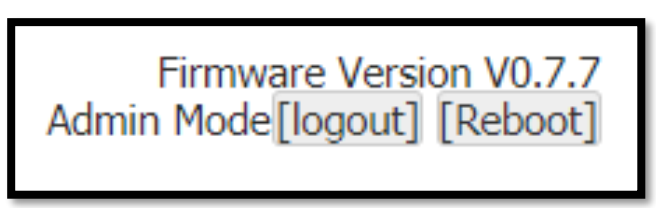
5.9.1 Logout

Press the logout button to logout, and then the login window will appear.



5.9.2 Reboot

Press the Reboot button to reboot CDS-9090.



6 Trouble shooting of the guide

6.1 Setting your PC gets IP automatically

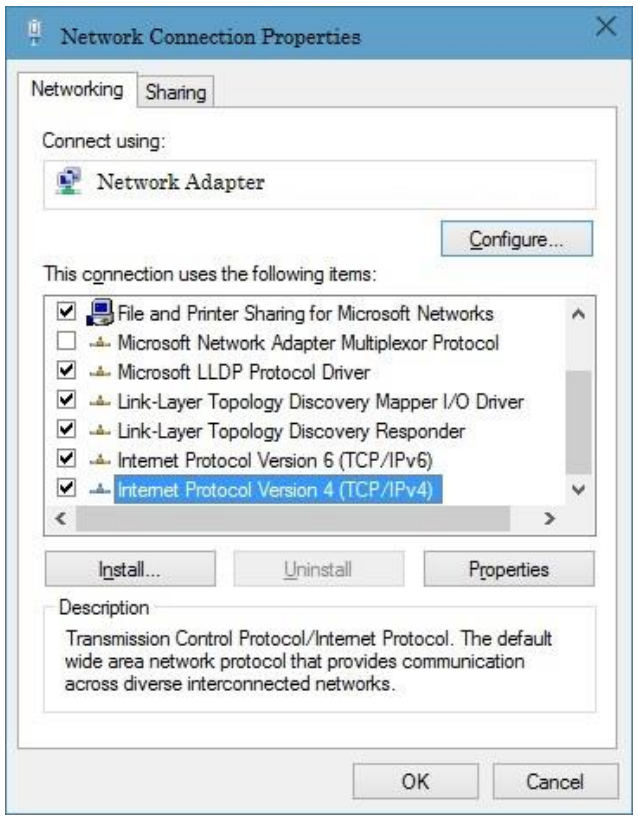
Following are the process of setting your PC gets IP automatically

Step 1.Click the “begin”

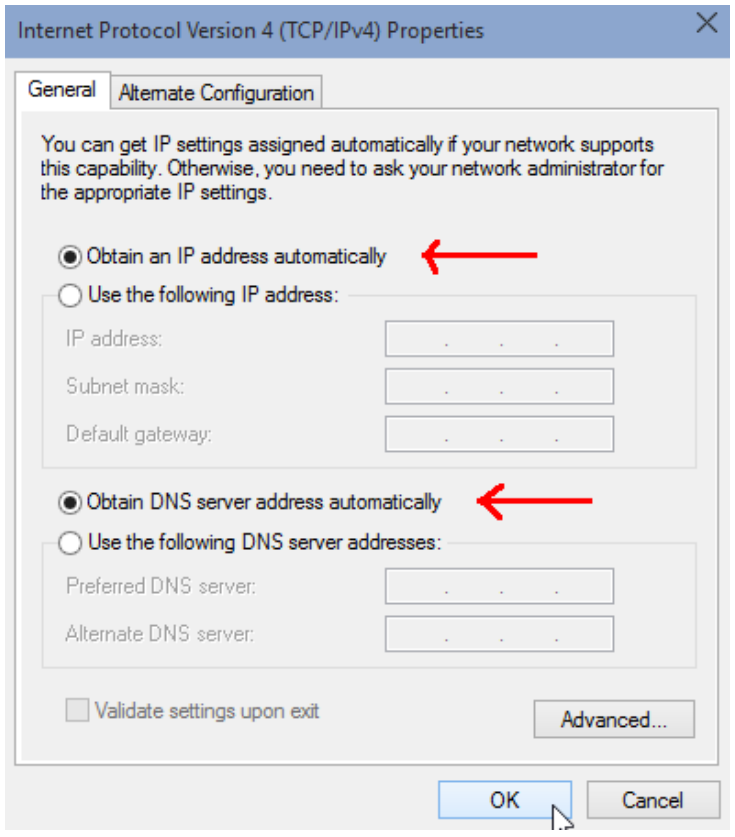
Step 2.Select “control panel”, then double click “network connections” in the “control panel”

Step 3. Right clicks the “network connection” that your PC uses, select “attribute” and you can see the interface as picture 1:

Step 4.Select “Internet Protocol (TCP/IP)”, click “attribute” button, and you can see the interface as following Picture 2 and you should click the “Get IP address automatically”.



Picture 1



Picture 2

6.2 Cannot connect to the configuration Website

Solution:

Check if the Ethernet cable is properly connected, then

Check if the URL is right wrote, the format of URL is: http:// the IP address: 8080, 8080 must be added, then

Check if the version of IE is IE8, or use other browser such as Firefox or Mozilla, then Contact your administrator, supplier, or ITSP for more information or assistance.

6.3 Password reset(Forgot Password)

If user changed the password and then forgot, you can not access to the configuration website.

Solution:

To factory default: press reset button 10s.

7 Statement

FCC Radiation Exposure Statement

DataRemote Incorporated. Declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, many cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

To assure continued compliance, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment. (Example- use only shielded interface cables when connecting to computer or peripheral devices)

FCC Radiation Exposure Statement

This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This transmitter must not be co-located or operating in conjunction with any other

antenna or transmitter.

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and

(2) This device must accept any interference received, including interference that may cause undesired operation.

This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

Operations in the 5.15-5.25GHz band are restricted to indoor usage only.