



YX Series MoIP User Manual V5.1.5

YX Technical department

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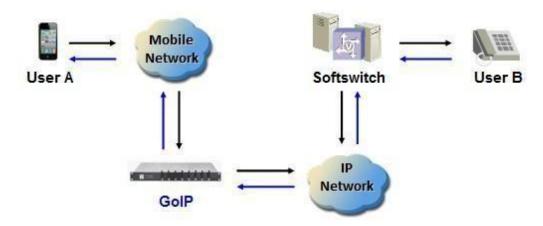
1 Introduction

1.1 Overview

A VoIP GSM Gateway (MoIP Gateway) is a device which reduces costs when Send SMSing from a fixed telephone line to mobile network. It enables direct routing between IP, digital, analog and mobile networks.

MoIP Gateway is now used more and more for telephone carriers to land their IP Send SMS to mobile network. In those areas where fixed line services are unavailable or much more expensive than the mobile cost, MoIP Gateway is an irreplaceable alternative.

The following figure shows a basic topology of MoIP Gateway usage.



1.2 Glossary

- VoIP: Voice over Internet Protocol.
- SIP: Session Initial Protocol.
- DTMF: Dual Tone Multiple Frequency.
- IMEI: International Mobile Equipment Identity (with15 digits).
- ASR: Answer Seizure Ratio.
- ACD: Average Send SMS Duration.
- PDD: Post Dial Delay.
- LCR: Least Cost Routing.
- USSD: Unstructured Supplementary Service Data. GSM: Global System Communications.
- CDMA: Code Division Multiple Access.
- WCDMA: Wideband Code Division Multiple Access.
- CDMA: Code Division Multiple Access
- LTE(FDD-LTE TDD-LTE): Long Term Evolution
- SMPP: Short Message Peer-to-Peer Protocol, It is one of the standard protocols for the external access interface of the short message service center system

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2 Equipment Information

2.1 Product Brief

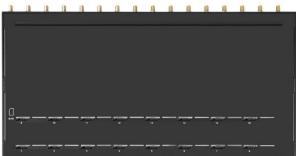
YX series MoIP Gateway is a multi-functional and high performance product, which is designed with advanced embedded technology. YX series is able to process traditional SMS service with internet communication service.

YX series MoIP Gateway please check the following table about the difference:

Model Number	Channel	Sim capacity in	Total sim capacity	Frequency(optional)
Wiodol Hallibol	Ondimo	each channel	Total olini capacity	
YX MoIP 4-4	4	1	4	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 8-8p	8	1	8	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 8-8s	8	1	8	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 8-32	8	4	32	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 16-16	16	1	16	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 16-64	16	4	64	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 16-128	16	8	128	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 16-256	16	16	256	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 16-512	16	32	512	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 32-32	32	1	32	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 32-64	32	2(1 Big+1 Small)	64	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 32-128	32	4	128	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 32-256	32	8	256	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 32-512	32	16	512	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 64-64	64	1	64	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 64-256	64	4	256	GSM / CDMA / WCDMA / 4G(LTE)
YX MoIP 64-512	64	8	512	GSM / CDMA / WCDMA / 4G(LTE)

2.2 Appearance





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- 4/8/16/32/64 Antennas
- 1 USB Serial Port (Baudrate 115200)
- 1 Network Interface (RJ45)
- 1 Power Interface (DC 12V 3A/5A/7.5A/8A)
- 1 Power light
- 1 Reset Button
- 4/8/16/32/64/128/256/512 SIM card slots
- 4/8/16/32/64/128/256/512 LED lights

2.3 Special Features

- BO(Bandwidth Optimization)
- Support SIM Bank
- VPN(pptp)
- SIM Card Rotating
 - ◆ SIM card check and switch rules:
 - Consecutive GSM Release Cause Checking
 - Accumulated SMS Count Checking
 - Accumulated Failed SMS Count Checking
 - ♦ Consecutive Failed SMS Count Checking
 - ♦ Accumulated Received SMS Count Checking
 - ♦ Reasons for SMS module error
 - ♦ Port Inter Call Checking
- Station intelligent switching(By switching rules)
- ERMS(Easement Remote Management System)
- Web Browser: Firefox/Chrome /IE/Opera

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2.4 Specification

	4 channels 4 SIM slots
	8 channels 8/32 SIM slots
Number of Channels	16 channels 16/64/128/256/512 SIM slots
	32 channels 32/128/256/512 SIM slots
	64 channels 64/256/512 SIM slots
	GSM, CDMA, WCDMA, LTE(When purchasing 3G or 4G equipment,
Frequency	please confirm the frequency band and module with the account
	manager!)
SMS Specification	SMPP3.4
Network Protocols	DHCP/PPPoE/VPN(pptp)
	Hot-line Send SMS ,Dial plan, Speed dial, Phone book, CDR, LCR,
Telephony Features	White/Black list
	Wille/DidCk list
	1 WAN 10/100Base-T Ethernet(RJ-45 connector)
Number of Ports	1 Console(USB)
	1 Contact (CC2)
LED	1 Power and 4/8/16/32/64groups of card online and running status
	indicator
Power Supply	100-240VAC, 50 - 60 Hz IN, 12VDC 3A/5A/7.5A/8A Out
Operating	Operating temperature: 0 - 50°C
Warranty	12 Months
Warranty	12 Months

2.5 Mobile Features

- SMS Send, Receive and Forward(GSM/SIP/HTTP)
- SMS Inbox
- AT Command , USSD
- SMS Format: PDU/TXT
- PIN Code Management
- Carrier Selection



2.6 Maintenance and Management

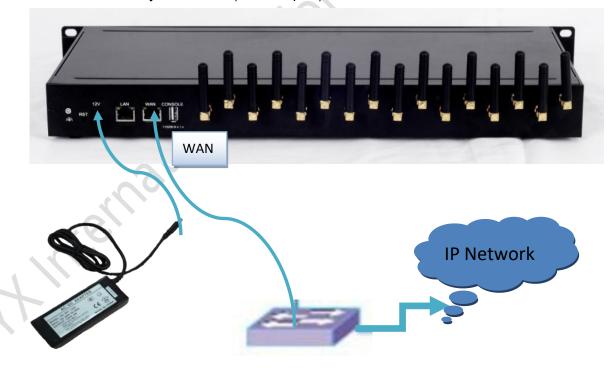
- Multi-language Interface
- USB Serial COM
- Configuration Backup and Restore
- Support HTTP/TFTP Upgrade
- WEB Remote Management System
- SMPP support
- HTTP Command

❖3 Equipment Installation

This chapter describes how to install a new MoIP Gateway to a physical network environment, how to initialize it and start it in a proper way.

3.1 Network Setup

Network is a prerequisite to install MoIP Gateway. The following figure shows the topology of Network with a VoIP Gateway connected.(No LAN port)



Switch/Router

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3.2 Equipment IP Address

The default IP of MoIP Gateway WAN port is 192.168.1.10, while the default LAN port IP is 10.10.10.1(The Version not up the LAN port).

3.3 Equipment Connection

Follow the steps below to install the MoIP Gateway to Network.

- 1) Fix the antenna to the MoIP Gateway. (Optional)
- 2) Insert SIM card(s) to slots.
- 3) Connect an Ethernet Cable to the WAN port of MoIP Gateway. The other end of the Ethernet Cable should be connected to Network port of route or switch.
- 4) Connect an Ethernet Cable to the Network port of MoIP Gateway. The other end of the Ethernet Cable should be connected to PC or other network device. (Optional)
- 5) Plug in the MoIP Gateway.

3.4 LED Indicators

There are a set of LED lights in the front of MoIP Gateway. Lights will be on or glittering when the MoIP Gateway is power on and running. The following table describes various meanings of status corresponding to LED lights in different display color.

Power	It indicates whether the system is running or not.
Lock card	That one Card slot light flashing(0.5s/times)
No balance/ Send SMS Duration Limit/ SMS Control (Meet these conditions when the lock card)	That one Card slot light flashing(2s/times)
The device did not start successfully	All slot lights keep bright

4 Web Settings

This chapter describes how to set up MoIP Gateway through Web Page. There is a built-in web server which can be accessed at URL: http://GATEWAY_IP/, while GATEWAY_IP is the WAN IP address of the MoIP Gateway, such as 192.168.1.10.

As an example, the following introduction will base on the MoIP Gateway with WAN IP 192.168.1.10.

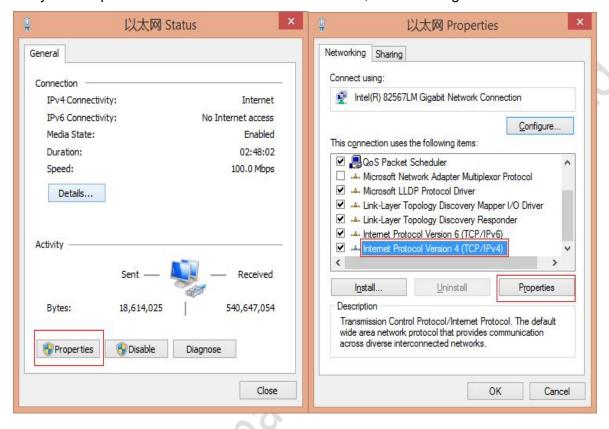
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4.1 Login

First, connect a computer to the same LAN with MoIP, add the MoIP IP segment in the computer.

If your computer's IP address is not 192.168.1. XXX, how to change:



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eneral	
. BOOK 10 BOOK 10 EMERGE 10 BOOK 10 B	automatically if your network supports ed to ask your network administrator
Obtain an IP address automa	atically
 Use the following IP address 	
IP address:	192 . 168 . 1 . 11
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	
 Obtain DNS server address a Use the following DNS server Preferred DNS server: 	r addresses:
Alternate DNS server:	K 2 2
Validate settings upon exit	Advanced

Save it

Open web browser and access URL http://192.168.1.10. The default login page will be displayed as following.



The default login account and password are:

Account	root
Password	root

It is recommended to use IE/FireFox/Chrome to access the web pages. After successfully logged in, the main page to set Gateway is as following:

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❖ 5 Guider

Guider will be described in this paragraph. The most frequently modified parameters and most of the individual parameters are listed in this page.



WAN port is to connect to switch or route then you can use PC that on the same LAN network to login. There's three types of wan connect.

Static IP: You can set WAN IP,IP Mask, Default Gateway and DNS Server of WAN port to connect the Internet.

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Dynamic IP: You can get IP address ,IP Mask ,Default Gateway and DNS Server dynamiSend SMSy from your DHCP server.

PPPoE: In this mode, you can use MoIP device to dail-up network. You can set User Name and Password which you get from your ISP. And you also can set MTU and Service Name.

6 Status Information

6.1 Port Status

6.1.1 Port Status

The screenshot below shows the port status.



LED A/B/C/D(.01-.16) displays in accordance with the lights on the front board of MoIP Gateway. Port 1 to 4/8/16/32/64 relate to the physical port of MoIP Gateway. The following table shows the relationship between LED color and port status.(When registering a card, the description of the card may not be displayed in real time. Please refer to the information displayed on the icon)



6.2 Device Status

The screenshot below shows the SIP and Module status.

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The status columns are specified as following:

- Port No: The physical port sequence from 1 to 4/8/16/32/64.
- Registration Status: Shows the port registration to SIP server infomation status.
- Module Status: Shows the port Module use status(Yes/No). If NO is displayed, please try
 restarting. If still, Please contact YX NOC
- IMEI: Specify the port current using of IMEI.

6.3 System Status

The screenshot below shows the system status. It includes WAN status, LAN(please ignore) and others. The reported information can help you get the system status detail in a fast, simple way.



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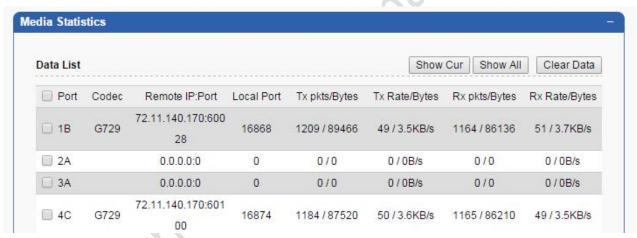
6.4 Traffic Statistics

This is used to count the internet traffic of the card in use



6.5 Media Statistics

Here statistics IP network media and traffic data situation



6.6 SMS Statistics

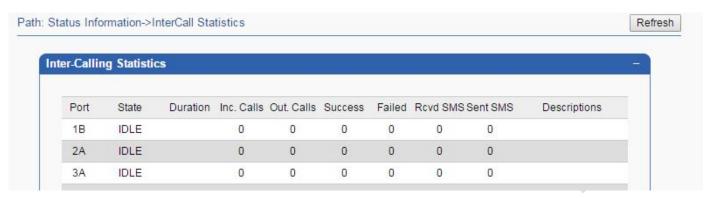
Here Statistics SMS send and receive, send failure and success of the situation



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6.7 Inter Call Statistics



The status columns are specified as following:

- Port No: The physical port sequence from 1 to 4/8/16/32/64.
- State: Specify the Send SMS status.
- Duration: Specify the Send SMS duration.
- Inc Send SMS: Specify the total incoming Send SMS since the last start up of Inter calling system.
- Out Send SMS: Specify the total outgoing Send SMS since the last start up of the Inter calling system.
- Success: The number of successes in Inter calling
- Failed: The number of failed in Inter calling
- Rcvd SMS: Specify the total received SMS since the last start up of the system.
- Sent SMS: Specify the total sent SMS since the last start up of the system.
- Descriptions: Specify the card status.

7 Gateway Settings

7.1 Network Settings

The screenshot below shows the operation mode to set VPN settings, and the protocol of vpn is PPTP & OoenVPN.



Fields are specified as following:

- VPN Support: Whether support VPN or not.
- Server Address: Specify the VPN server address.

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- Usename: Specify the username of VPN.
- Password: Specify the password of VPN.
- Local IP: The VPN client ip.
- Remote IP: The VPN remote ip



The default port of web server is 80. The field Web Port is used to set another different port for web server. For example, if field Web Port is set to 8080 and wan IP is 192.168.1.10, the web pages then should be accessed through URL: http://192.168.1.10:8080 from this computer.

The field Telnet Port is used to change the default port of telnet service.

7.2 SIP Setting



This function is used to handle the telephone function of incoming calls to MOIP devices

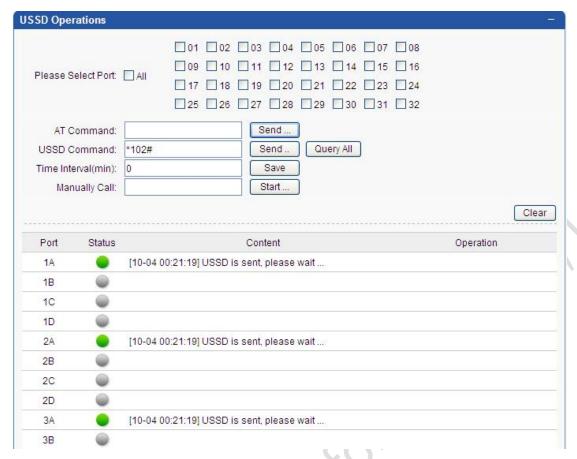
7.3 Port Setting

7.3.1 USSD Operations

The screenshot below shows the operation mode of USSD operation to MoIP Gateway.

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Fields are specified as following:

- Select port: Choose some or all port to execute AT or USSD command.
- At Command: You can enter AT command then execute to the port which you select.
- USSD Command: Enter USSD query command.
- Time Interval: Query balance regularly.
- Manually Send SMS: Manually input a number, let the sim card mark a Send SMS

7.3.2 Base Settings

The screenshot below shows the operation mode to set Basic Settings of Port settings



It's for choosing the frequency(Auto/2G/3G/4G) band and whether register type(Voice/Data), VoLTE enabled or not(Auto/Disabled/Forced). When the gateway can't detect the SIM and you sure the install SIM is right, we need to enable Unnormal SIM Support.

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7.3.3 Hardware properties

The screenshot below shows the operation mode to set Hardware properties.



The columns are specified as following:

- Port No: The MoIP Gateway mobile port. Each port contains one or four card slots. Port No starts from 1 to 64.
- Type: Values are GSM/CDMA/WCDMA. (According to your module.)
- Disable: Specify whether enable or disable this port.
- Bind SIM Card: The SIM card that not bind will be locked by gateway.
- Input Volume: Specify the input voice volume of this port.
- Output Volume: Specify the output voice volume of this port.
- Balance: Shows the current balance of sim card
- Operations:
 - Restart: Restart the module
 - More:
 - ♦ Hot-line: Specify a sip phone on the SMS platform to pick up the incoming Send SMS
 - ♦Unconditional Forward/ No Answer Forward Number/ Busy Forward: These parameters are designed to be used with a third party system.

7.4 Basic Station(3G/4G devices do not have this function)

7.4.1 Basic Settings

The screenshot below shows the operation mode to set globally for base settings.

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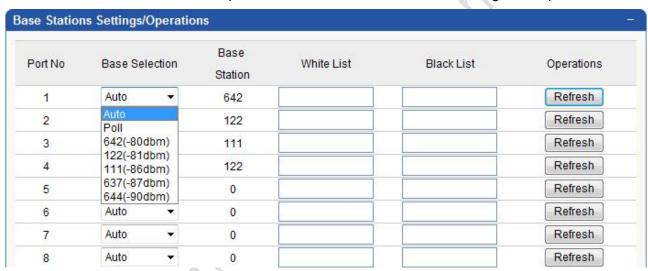


Fields are specified as following:

- Max Channels: Specify the max base stations
- Lowest Valid Signal: Specify the lowest valid signal
- Switch period: Specify the period of switching base station
- Base Balancing: Specify whether enable base balancing, we suggest disable it.

7.4.2 Base stations Settings/Operations

The screenshot below shows the operation mode to set base stations settings and operations



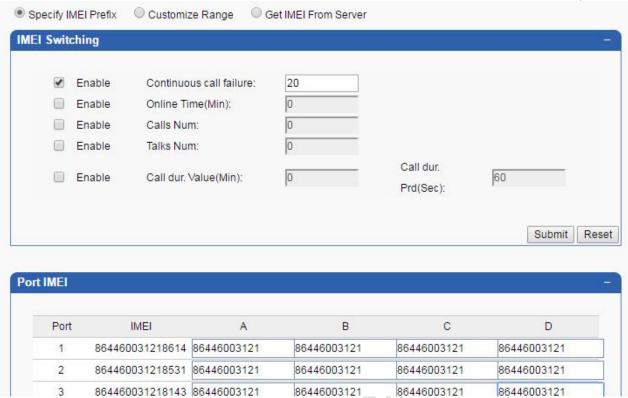
- Port No: The MoIP Gateway mobile port. Each port contains one or four card slots. Port No. starts from 1 to 4/8/16/32/64.
- Base Selection: the default base selection mode is auto which makes the devices to choose mobile base automation Send SMS, if you want to switch base station periodiSend SMSy, pleasure select Poll, and you can set the switch period.
- Base Station: The current using of base station.
- White List: Specify the white list of base station, can be multiple, use a comma.
- Black List: Specify the black list of the base station, can be multiple, use a comma.
- Operations: When click the refresh button will change a new base station.

7.5 IMEI Setting

Specify IMEI Prefix: The screenshot below shows the operation mode to set IMEI for each card inserted in MoIP Gateway SIM slot.

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IMEI Switching: IMEI switching conditions can be set here, you can automation Send SMS change the IMEI when needed

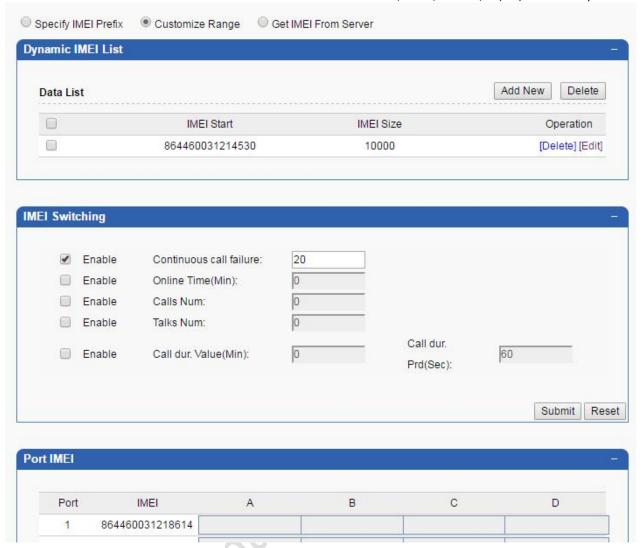
Port IMEI: You can fill IMEI in the corresponding SIM card slot. IMEI a total of 15 figures, including the custom 14 and one last check code, you can fill in the 14 numbers, the check code will automation Send SMS fill complete. You can also fill in less than 14, the device will automation Send SMS fill in other numbers, which is automation Send SMS change IMEI in accordance with the prefix IMEI.

The specified IMEI, instead of the default IMEI of the card, will be used for the corresponding card to communicate with mobile base.(Set IMEI here will take effect immediately)

Customize Range: The screenshot below shows the operation mode to set Dynamic IMEI for each card of the designated port. If a card on a port is assigned with a group of IMEIs, it will randomly use any of the IMEI in group to communicate with mobile base.

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Add New

Click button Add New to expand the data input area to add new data. Fields are specified as following:

- Data Status: Mark the status of current data record. Option values are Add/Edit. Value Add means the data is new while value Edit means the data is old.
- IMEI Start: Specify an initial IMEI value for the IMEI group, You need to enter the first 14 digits of the IMEI. The device will automation Send SMS complete the last check digit, and randomly generate IMEI from this IMEI begin.
- IMEI Size: Specify the number of IMEI backwards generated from the beginning Click button Submit on the right to save the new data record.

Edit

All the records are displayed in list. Two operations are provided on the right of each record. Click Edit to expand the current data record to Data Detail Area which is above the Data List. Click button Submit on the right to save the old data record.

Delete

Click Delete on the right of each record to delete the current record. A message box will be popped for delete confirmation.

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Get IMEI From Server: Get IMEI from server, needs to be used with SIM Server and set on SIM Server

7.6 SIM Settings

SIM Schedule

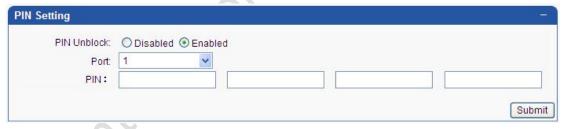


This function is used to set the SIM card usage policy, for example, As shown, it means that these SIM cards will be used between time: 00:00-8:30.

7.7 Mobile Setting

7.7.1 PIN Setting

The screenshot below shows the operation mode to set globally for PIN settings



Fields are specified as following:

- PIN Unblock: Specify whether enable the pin unblock.
- Port: starts from 1 to 64
- PIN: Specify the PIN for card A/B/C/D/(more) of the port

7.7.2 Billing Setting

The screenshot below shows the operation mode to set MoIP billing. A smart billing server for mobile port is embedded in MoIP Gateway.

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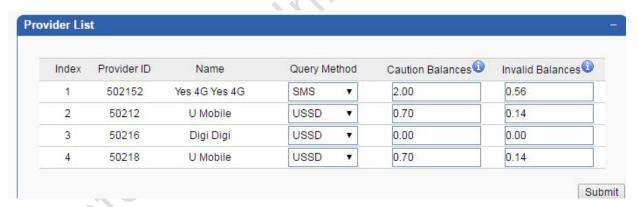


	Disbaled Enabled	
Hangup The Call 0:	Disbaled Enabled	* When the balance is not enough.
	Disbaled Enabled	
Auto Query Balance 1:	0	* Minutes, the period of sending USSD query command.
When balance wa	arning send SMS	
to		

Fields are specified as following:

- Billing: Not Support.
- Hangup The Send SMS: Specify whether enable hangup the Send SMS when balance is ont enough. When select enable, the Send SMS will be hang up immediately when run out of balance. But when you select disable the Send SMS will not be hangup.
- USSD Check: Specify whether enable to get balance through USSD check or not. This field takes effect only when MoIP Billing is set to Enabled.
- Auto Query Balance: Query USSD at fixed time intervals.

The screenshot below shows the operation mode to set Caution Balances, Invalid Balances and The provider ID is detected by MoIP Gateway automation Send SMS/USSD. For a new Gateway without any card inserted, there may be no records in the two lists.



Provider ID: Carrier code, different operators can be set separately

Query Method: USSD/SMS, If you set USSD, please set USSD Query Keyword List , If you set SMS, please set SMS Query Keyword List.

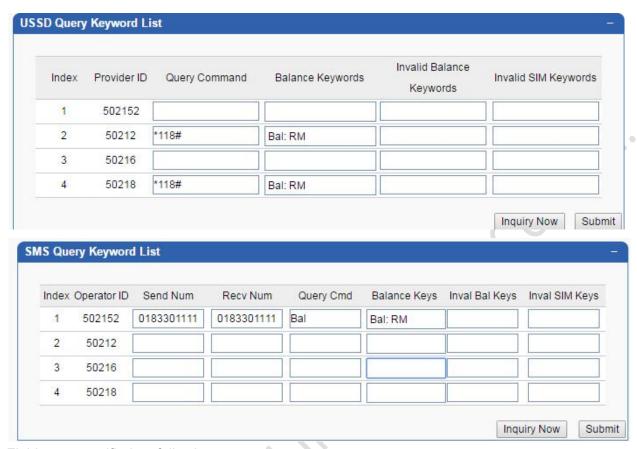
Caution Balances: The device calculates the balance automation Send SMS/USSD by billing, and when the forewarning balance is reached, the balance will be queried once to calibrate the balance(Usually set the balance of 1 minute)

Invalid Balances: Balance after calibration, the implementation of automatic calculation of the balance again, when less than the invalid value will lock, and prompts you(Usually set the balance of 1 minute)

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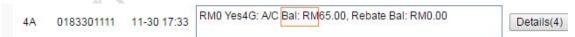


7.7.3 USSD/SMS Query Keyword List



Fields are specified as following:

- Provider ID: Carrier code, different operators can be set separately.
- Query Command: Specify the query command(If you do not know, please consult your operator)
- Balance Keywords: Please fill in the USSD or SMS sent query command, in the message returned by the operator, the front character of the balance value, As shown:



The balance read will be displayed in the Send SMS status, After setting, you need to save and reboot to take effect.

- Invalid Balance Keywords: If the device recognizes this keywords from USSD/SMS, it will lock the SIM card and prompt no balance.
- Invalid SIM keywords: If the device recognizes this keywords from USSD/SMS, it will lock the SIM card and prompt blocked by operator

7.8 USSD Setting

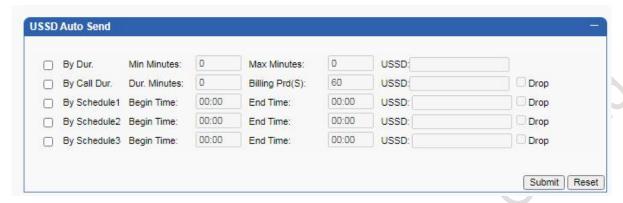
The screenshot below shows the operation mode to send USSD through the MoIP Gateway.

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7.8.1 USSD Auto Send

Here set USSD can be automation Send SMS sent as needed(For example, you can customize a preferential voice package by automatic USSD)



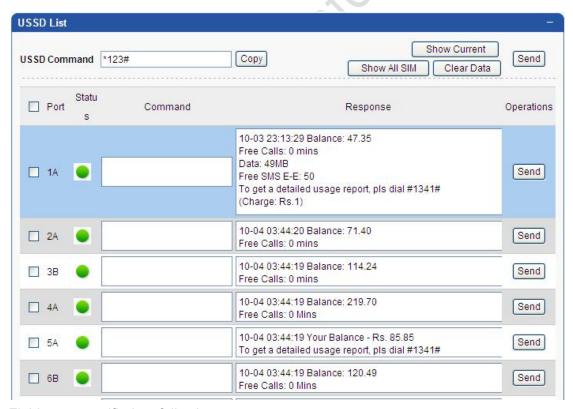
By Dur.: Automatic timed send.

By Send SMS Dur.: Automatic send according to the Send SMS time.

By Schedule1/2/3: Send USSD within the specified time.

Drop: When enabled, hang up Send SMSing automation Send SMS when conditions are met.

7.8.2 USSD List



Fields are specified as following:

USSD Command: The value of the USSD

Port: Select tick to need send USSD ports

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- Response: Show respond to the content of the carrier
- Send: Press this button, will start sending USSD

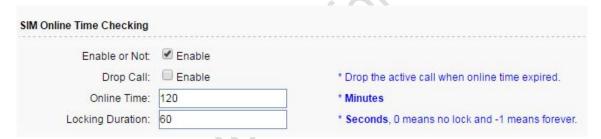
7.9 Automation

7.9.1 Scheduled Sending SMS



SMS Warning: A SMS warn the gateway manager to check the SIMs when they are locked(Not mobile operator blocking, it's the politic schedule to limit the SIM use time, use frequency to avoid blocking).

7.9.2 SIM Online Time Checking



Drop Send SMS: Enabled, the online time to meet the conditions, immediately hang up. Not enabled, it will wait for this Send SMS done.

Locking Duration: Here to set the card slot lock time, fill -1 means always locked that when you manually replace the SIM card will reset

7.9.14 Accumulated SMS Count Checking



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Accumulated SMS Count: The card that is in use takes effect when the number of issued SMS reaches this value

Other: Please refer to 7.11.4 for instructions

7.9.15 Accumulated Failed SMS Count Checking

Enable or Not: 🗹 Enable	
Reset When Switching: Enable	* Reset the condition when switching to next SIN card.
USSD Query: Enable Failed SMS Count: 20	* Send USSD query command before switching.
Locking Duration: 0	* Seconds, 0 means no lock while -1 means

Failed SMS Count: The card in use takes effect when the cumulative number of SMS failures has reached this value

Other: Please refer to 7.11.4 for instructions

7.9.16 Consecutive Failed SMS Count Checking



Consecutive Failed SMS: This is only valid if a consecutive Failed SMS

Other: Please refer to 7.11.4 for instructions

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7.9.17 Accumulated Received SMS Count Checking



This function locks the SIP card after receiving the text message with the specified content sent by the specified number, for example, lock the SIM card according to the prompt message of insufficient balance!

Accumulated Received SMS Count: Number of SMS received

SMS Content Keywords: The keyword of the SMS content, the SMS with this content will be considered to meet this condition!

SMS sending number:It must be the text message sent by this sender to identify the SMS content Other: Please refer to 7.11.4 for instructions

7.9.18 Reasons for SMS module error



Module error code: When the error code is returned for the specified number of times during the sending of the SMS, the SIM will be locked!

7.9.19 Port Inter call Checking



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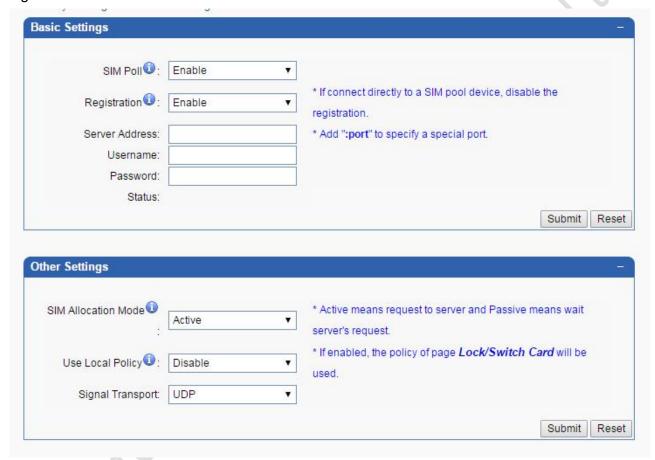


This function is used to detect the number of times the ports hit each other, lock or lock and switch SIM cards when the conditions are met!

7.10 SIM Pool Setting

The setting here is to allow the device to run on the SIM card that receives the SIM card (the SIM card is no longer required on the MoIP). SIM card installed on SIMBANK. SIMBANK through the Internet SIM card will be transferred to the use of MoIP. MoIP and SIMBANK can be used across countries and

regions.



Registration: This means registering with the SIM server Server Address: Please enter the SIM Server server IP Username: Please fill in the account from SIM Server Password: Please fill in the Password from SIM Server Status: If the registration is successful, it will prompt ok

SIM Allocation Mode: Active mean that MoIP voluntarily applied for a SIM card to SIMServer / SIMBANK

Use Local Policy: When enabled, the settings for MoIP Automation will take effect, and the

Automation settings will be obtained from SIMServer when disabled

Signal Transport: When UDP is unstable, you can try TCP

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7.11 Inter Call Setting

7.11.1 Port Inter calling

The screenshot below shows the operation mode to set globally for port inter- Send SMSing.



Fields are specified as following:

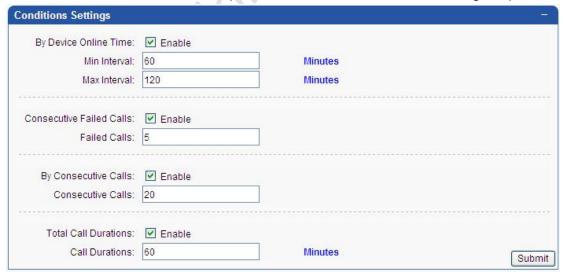
- Port Inter calling: Specify whether enable port Inter calling.
- Min Send SMS Duration: Specify the minimum Send SMS duration.
- Max Send SMS Duration: Specify the maximum Send SMS duration.

This panel allow SIMs in the gateway to Send SMS each other randomly. Consider that SIMs inside only Send SMS out all the time, so it's easy to be judged as an illegal use.

When enable "Port Inter calling", every SIM can receive income Send SMS in period which is custom option in "Conditions Settings".

7.11.2 Conditions Settings

The screenshot below shows the operation mode to set conditions settings of port Inter calling.



Fields are specified as following:

 By Device Online Time: Gateway will start port Inter calling by the device online time, and the time between min interval and max interval.

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- Consecutive Failed Send SMS: Gateway will start port Inter calling when reaches the consecutive failed Send SMS.
- By Consecutive: Gateway will start port Inter calling when reaches the consecutive Send SMS.
- Total Send SMS Duration: Gateway will start port Inter calling when reaches the Send SMS duration.

According to the actual situation, input the reasonable numerical.

7.12 SIM Num Settings

The screenshot below shows the operation mode to get Local Number by USSD



Fields are specified as following:

- Method: when enable it, gateway will get the SIM number by USSD command/SMS command /SIM storage
- Content: Specify the USSD command/SMS command for querying SIM number.
- Number Key: Here to fill in the SIM card number in front of a few characters (Please refer to the mobile settings inside the balance query keyword setting method)
- Prefix Translation: change the SIM number prefix(You can remove the country code, the device is displayed as local number).

The screenshot below shows the operation mode to set local number manually.(If the above methods are unable to obtain the number, you can also manually enter the number here)



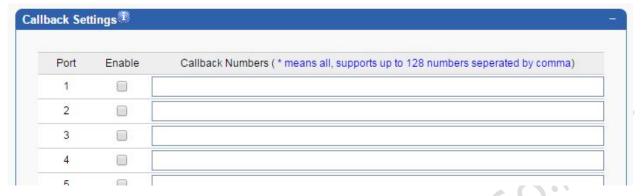
Fields are specified as following:

- Port No: The MoIP Gateway mobile port. Each port contains one or four card slots. Port No starts from 1 to 64.
- Number A: Specify the number for card A of the port
- Number B: Specify the number for card B of the port
- Number C: Specify the number for card C of the port
- Number D: Specify the number for card D of the port
- Number More..



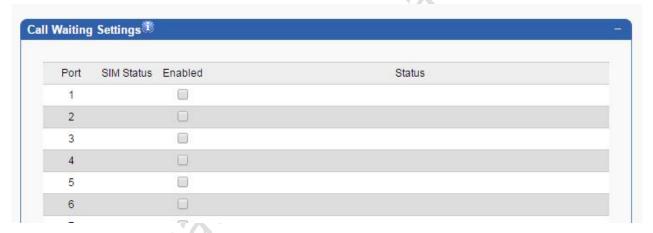
7.13 Call back Settings

Set here, when the device receives a Send SMS, you need to return the number of the Send SMS



7.14 Call Waiting Settings

Here, when the SIM in the device is Send SMSing, there is a GSM phone incoming, and the operator will prompt the Send SMSer to wait(This is the same as the Call Waiting in the phone)

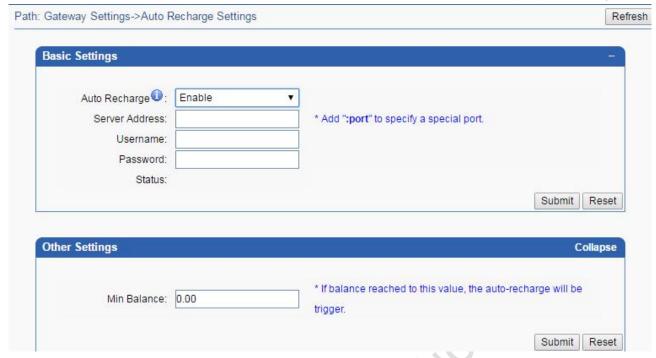


7.15 Auto Recharge

This item is used to configure automatic recharge settings, which need to be used with automatic recharge server(If you have server, please contact YX NOC install auto recharge software)

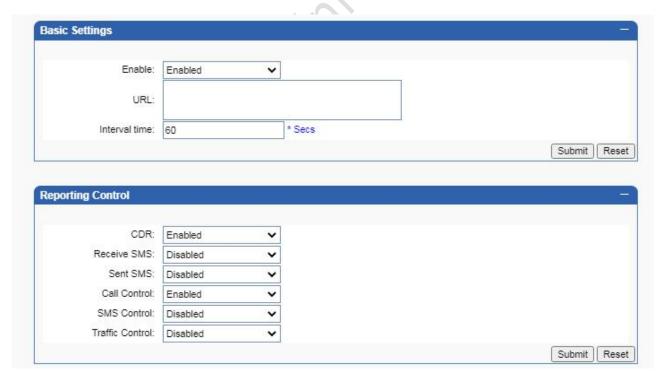
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7.16 Status Notification

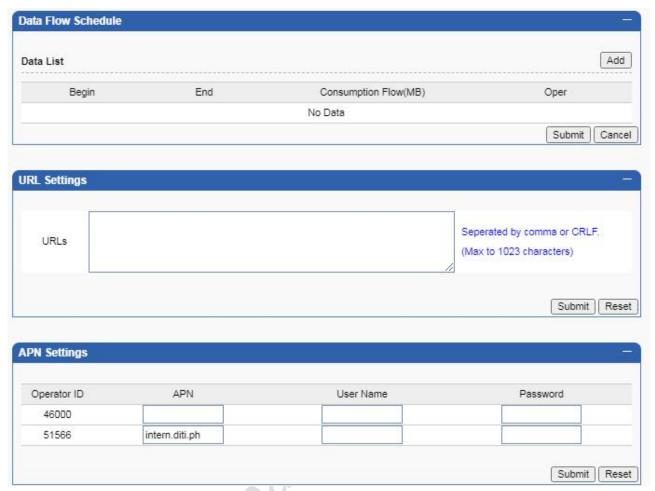
This setting is used to push the status information of the device to the specified server!



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7.17 Internet Setting



Internet Traffic Settings: This item is used to set the Internet access conditions. When the conditions are met, the Internet access operation will be performed automation Send SMS one times

URL Settings: This is used to fill in, you need to make the device visit the URLs APN Setting: Please enter the APN you want to define in different carrier codes

♦ 8 SMS Setting

8.1 Port Setting



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This setting can enable or disable the SMS function of the port, and set the SMS center number

8.2 SMS Setting

8.2.1 SMS Inbox

The screenshot below shows the operation mode to receive sms.



Fields are specified as following:

- Port No: The MoIP Gateway mobile port. Each port contains one or four card slots. Port No starts from 1 to 64.
- Sender: Specify the sms sender.
- Time: Specify the sms receive time.
- Content: Specify the sms content.
- Operations: Click the Detail button to get more detail about the specify port.

The screenshot below shows the operation mode to get sms details.



Fields are specified as following:

- Please Select Port: Specify the port.
- Please Select SIM: Specify the sim.
- Port: Specify the port.
- Sender: Specify the sms sender.
- Time: Specify the sms receive time.

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• Content: Specify the sms content.

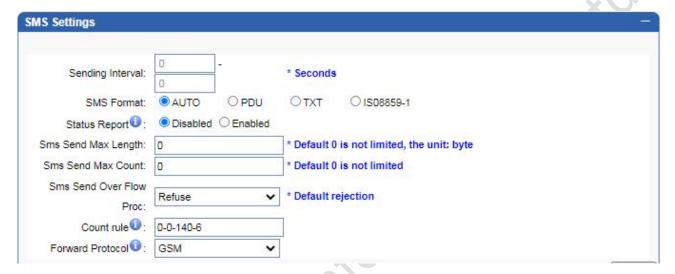
Back: Back to the SMS content web page.

• Refresh: Refresh the web page.

Clear: Clear the sms.Reply: Reply the sms

• Delete: Delete the corresponding sms.

8.2.2 SMS Settings



Sending Interval:Please set the sending interval you need. When the time is set to a certain period of time, it will be sent at a random time within this time range.

Status Report: When successfully sent or receiver have received, you will receive a successful notification SMS (This feature depends on carrier support)

Other settings: if you are not familiar with it, please keep the default!

8.2.3 Scheduled Sending

This function is set to send SMS automation Send SMS

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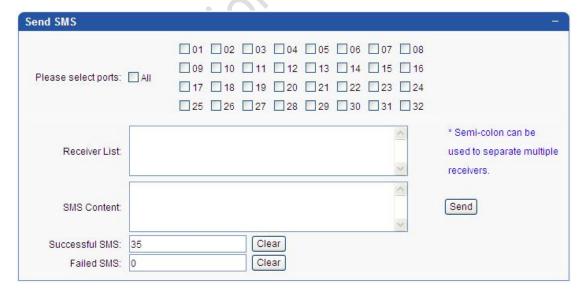




Fields are specified as following:

- Content: Specify the sms content.
- Recipients: Specify the recipients. Semi-colon can be used to separate multiple receivers.
- Send To Local SIM: Enable this feature and set the local SIM's number, the inter port will send sms.
- By Duration: Gateway will start sms sending by the device online time, and the time between minimum minutes and maximum minutes.
- By Consecutive Failed Send SMS:Gateway will start sms sending by consecutive failed Send SMS.
- By Consecutive Send SMS:Gateway will start sms sending by consecutive Send SMS.
- By Send SMS Duration:Gateway will start sms sending by Send SMS duration.

The screenshot below shows the operation mode to send SMS through the MoIP Gateway.



- Select port. The module here means MoIP mobile port and the SMS is sent out through the card which is in service on this port.
- Input the receivers separated by semi-colon.
- Input SMS content and click button send to send out the SMS.

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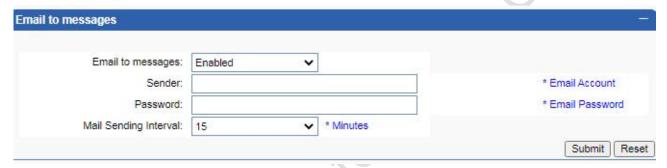


- Field Received SMS is used to display the last response of the SMS sent out, if the response is not empty.
- Field Successful SMS Number records down the total number of SMS which is successfully sent out. Field Failed SMS Number records down the total number of SMS which is sent failed.

8.3 SMS Forward

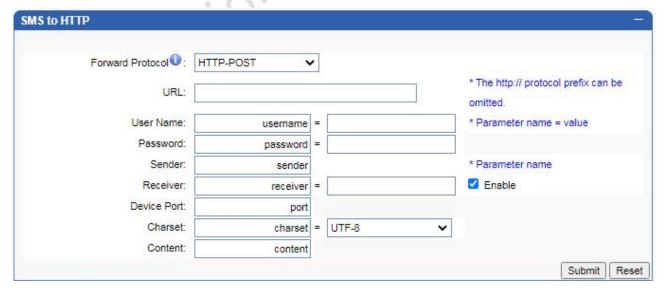
8.3.1 Email to messages

This function is used to set up to send a short message according to the content of the email when an email is received!



8.3.2 SMS to HTTP

The screenshot below shows the operation mode to set HTTP protocol of forwarding SMS.



Fields are specified as following:

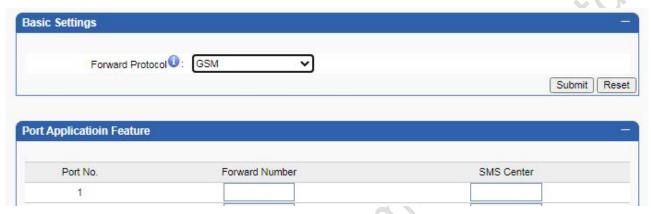
- Forward Protocol: Specify the forward protocol HTTP(POST/GET).
- URL: URL to receive this SMS push on your server!
- Username: If you need ,Specify the username.

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- Password: If you need ,Specify the password.
- Sender: the sender who receives the SMS.
- Receiver: If you need ,Specify the receiver.
- Device Port: The port number to receive this SMS in device.
- Charset: Specify the charset, UTF-8/BASE64/PDU.
- Content:SMS Content.

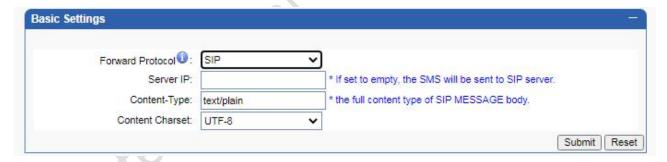
8.3.3 Basic Settings



Forward Protocol(GSM):

This feature forwards text messages to another mobile phone user

- Forward Number: Please enter the mobile number you want to forward to.
- SMS Center: SMS center number.

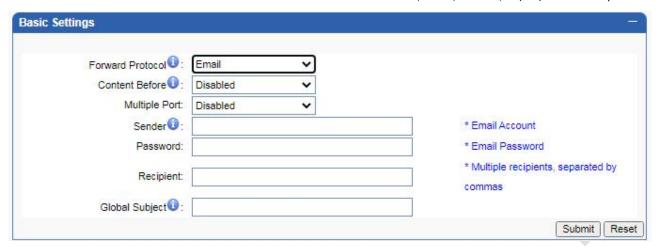


Forward Protocol(SIP):

- Forward Protocol: Specify forward protocol sip.
- Server IP: Specify the sms server ip.
- Content-Type: Specify the Content-Type.
- Content Charset: Specify the content charset.

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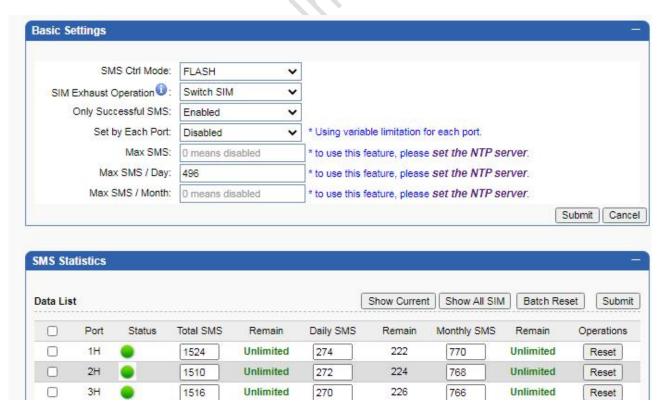




Forward Protocol(Email):

- Content Before:Format, Disable:content will in front; Enable:content at the end.
- Multiple Port:Set by every ports.
- Sender: Email account (The device will log in to this mailbox, and then send an email containing SMS content to the specified email address through this mailbox.).
- Password: Email password.
- Recipient: Receive SMS content email address
- Global Subject: Email Subject.

8.4 SMS Ctrl Setting



Switch SIM: When the sent SMS reached the maximum. It will switch to next SIM card

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Set by Each Port: Using variable limitation for each port. When this setting is enabled, set each port separately, If set is "0", this is not enabled

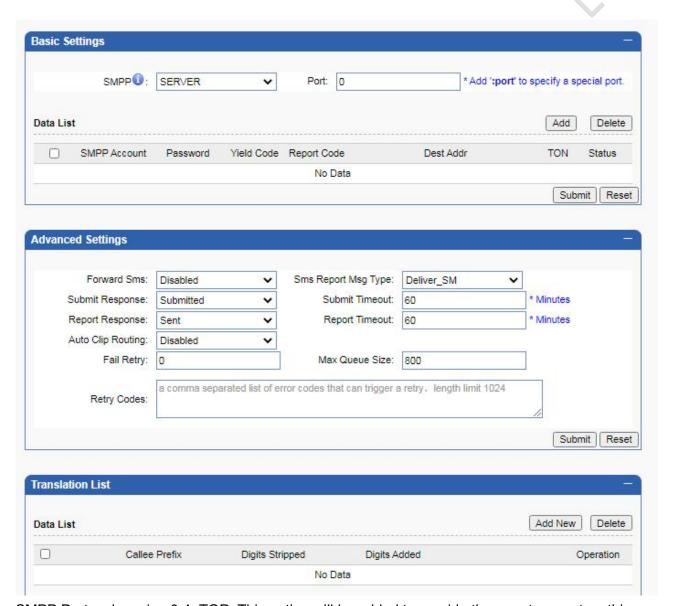
Max SMS: The maximum total number of sent (Need to set the time server, and read the local time correctly)

Max SMS / Day: One day the maximum total number of sent

Max SMS / Month: One Month the maximum total number of sent

SMS Statistics: Here will be Statistics all ports to send SMS data situation(Reset button to reset the sending status of this card) **This data will be stored in the sim card**

8.5 SMPP Setting



SMPP Protocol version 3.4, TOP: This option will be added to provide the user to report on this parameter

CLIENT:Please set the "account" "password" "IP" and "port number" from the SMPP server, Sms Report: If you need sms report, please enable this setting, generally please keep it enabled If the registration is successful, the status will prompt green "transceiver"

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SERVER(This mode depends on the public IP, This mode can be used to connect to the SMPP platform, and the device will send the SMS from the SMPP platform through the SIM card):

Please set the "account" "password" and "port number" and let the client settings same and registration to MoIP

Sms Report: If you need sms report, please enable this setting, generally please keep it enabled If the registration is successful, the status will prompt green "transceiver"

8.6 EIMS Setting(SMS Server Registration)

This setting can be used to running the network SMS business, which needs to be connected to the SMS Server IMFS or EIMS system. you can also contact your account manager and provide us with an SMS route. We will run the network SMS business together.

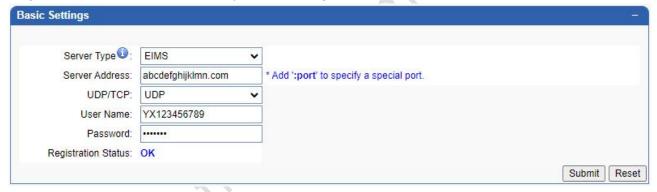
Please provide the device's MAC to the SMS partner company.

Server Type: Please select EIMS to run SMS Business.

Server Address: IMFS/EIMS SMS Server IP (Please get it from your SMS business partner company)

User Name: Register account (Please get it from your SMS business partner company)
Password: Register password (Please get it from your SMS business partner company)

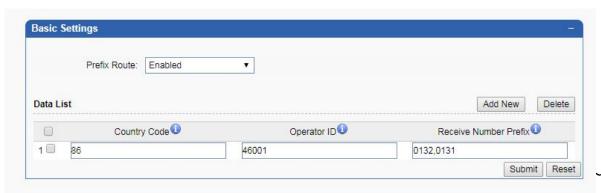
Registration Status: When it displays OK, it is register success



8.7 SMS Prefix Route

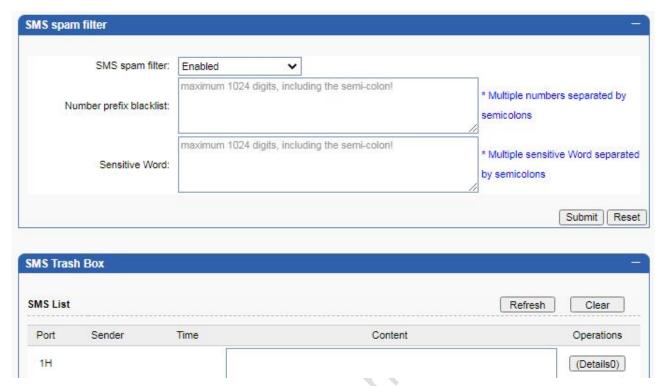
This setting is used to limit the prefix of the number when running the network SMS business to ensure that the number number conforms to the sending rule of the SIM card.

This setting only support SMPP connect, This setting is used to limit the prefix of the number when running the network SMS business to ensure that the number number conforms to the sending rule of the SIM card.





8.8 SMS Filter



This function is used to filter the received spam text messages, and the filtered text messages will not appear in the inbox

❖9 System Setting

9.1 Voice and Codec

The screenshot below shows the operation mode to set codec priority.



Three codec types are provided to adjust MoIP Gateway to different network environment. It support G729a/b/e,G723.1,G711A/U law,iLBC,AMR auto- selecting.

The screenshot below shows the operation mode to set voice settings.

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Voice Setings				-
Voice Volume:			******************	
Input Volume:	15	Output Volume:	15	
DTMF Volume:	15			
Dial Tone				
High Frequency:	0	Low Frequency:	450	
On Duration:	5000	Off Duration:	0	
Ringback Tone	************			
High Frequency:	0	Low Frequency:	450	
On Duration:	1000	Off Duration:	4000	
Busy Tone				
High Frequency:	0	Low Frequency:	450	
On Duration:	350	Off Duration:	350	
			NII-	Submit

Voice Volume is used to specify the input voice volume, output voice volume and DTMF tone volume. The acceptable value for volume is an integer no less than 10 and no greater than 40.

The Dial Tone is sent to a customer or operator to indicate that the receiving end is ready to receive dial pulses or DTMF signals. It is used in all types of dial offices when the customer's or operator's dials produce dial pulses.

A Ring Back tone (or ringing tone) is an audible indication that is heard on the telephone line by the Send SMSer while the phone they are Send SMSing is being rung. It is normally a repeated tone, designed to assure the Send SMSing party that the Send SMSed party's line is ringing.

The Busy Tone indicates that the Send SMSed customer's line has been reached but that it is busy, being wrong, or on permanent signal. When an operator applies a busy signal, it is sometimes Send SMSed a busy-back tone. Line Busy Tone is a Low Tone that is on and off every 0.5 second.

The settings of Dial Tone, Ring Back Tone and Busy Tone depend on area. The default settings for Asia are shown in the screenshot above for reference.

9.2 Network Debug

The screenshot below shows the auto ping settings

Start Ping on device	ир		3. 11
Auto Ping:	O Disabled		
IP:			
Package Size:	56		
Last Time	300	* Seconds, 0 means pinging all the time.	
Package Lost Rate:	3	* Device will restart if actual package lost rate is lower than this value.	
		Sul	omit

Fields are specified as following:

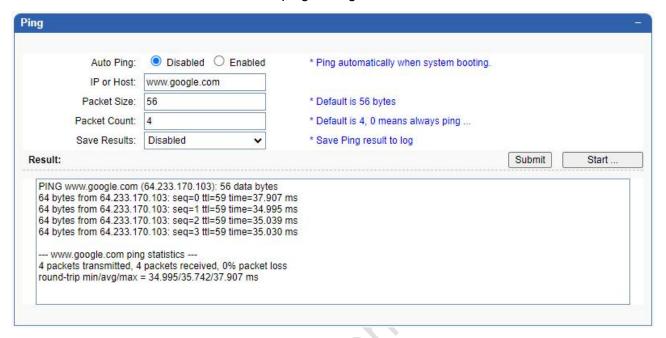
- Auto Ping: Specify whether enable auto ping, when the device power on to runing.
- IP Address: Specify the ip address.

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- Packet Size: Specify the packet size.
- Last Time: Specify the ping duration.
- Package Loss Rate: Specify the package loss rate.

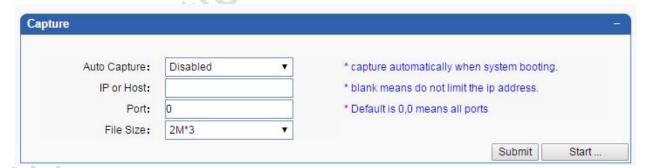
The screenshot below shows the manual ping settings



Fields are specified as following:

- IP Address: Specify the ip address or domain name.
- Packet Size: Specify the packet size.
- Packet Count: Specify the packet count.

The ping tool is easy to check the gateway network status. Especially when Send SMS can't connect but every SIP parameters are correct, this tool will be helpful to find out problems. The following is used to capture packets, non-professionals, please do not operate

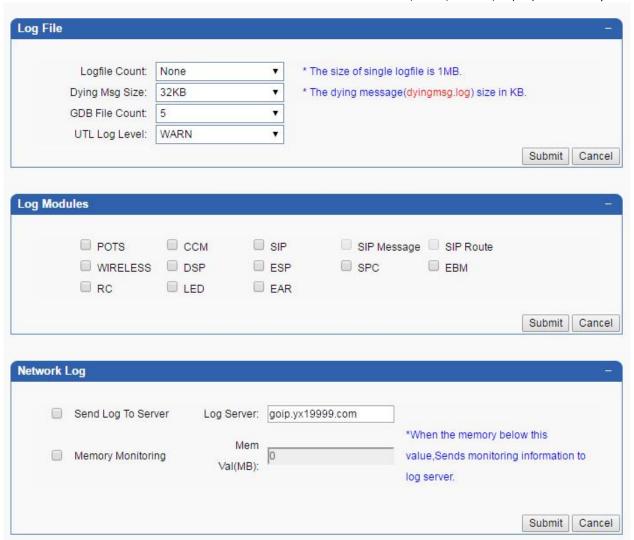


9.3 Log Settings

This item is used to set the device needs to record the log and save the relevant information can be used for engineering personnel to maintain and check the equipment status, please ignore in the normal use.

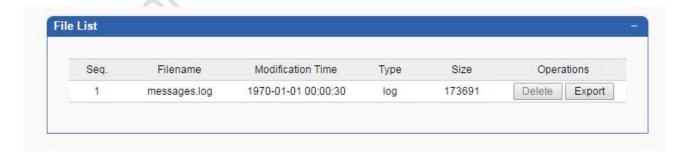
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9.4 File Management

This is used to export and view log files, please ignore in the normal use



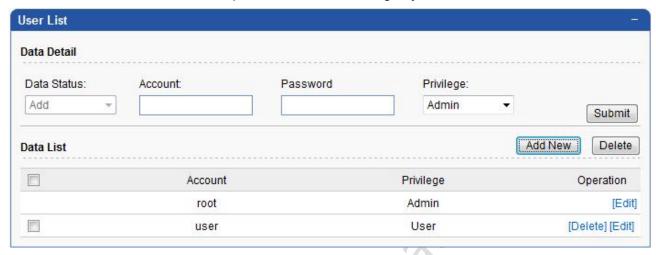
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9.5 User & Device

9.5.1 User

The screenshot below shows the operation mode to manage system user.



Default User

The default system user account is root. This account can't be deleted and only Password and Privilege can be modified for this account.

Add User

Click button Add New to expand the data input area to add new data. Fields are specified as following:

- Data status: Mark the status of current data record. Option values are Add/Edit. Value Add means the data is new while value Edit means the data is old.
- Account: The user account used to login web system. The account value can not be modified after save.
- Password: The password used to login web system.
- Privilege: The privilege of user. Option values are Admin/User.

Click button Submit on the right to save the new data record.

Edit User

All the user records are displayed in list. Two operations are provided on the right of each record. Click Edit to expand the current data record to Data Detail Area which is above the Data List. Click button Submit on the right to save the old data record.

Delete User

Click Delete on the right of each record to delete the current record. A message box will be popped for delete confirmation.

Another shortcut button is also provided on the top right of Data List to delete multiple selected records in batch. A message box will be popped for confirmation of batch delete.

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9.5.2 Device Settings

The screenshot below shows the operation mode to set Device settings.



Fields are specified as following:

- Device Alias: Specify the device alias.
- Auto Reboot: Specify the auto reboot time.
- Scheduled Reboot: Specify the scheduled reboot time.

9.5.3 Date And Time

The screenshot below shows the operation of date and time settings.



The default time zone is UTC+8, you can change the time zone as your country. For example, Bangladesh is UTC+6, and change as +6. If your device is not touch with the internet and want to get accurate time, the time server will help.

9.5.4 Remote Mangement

The screenshot below shows the operation mode for remote management.



Remote Management is used to manage the MoIP Gateways located in other physical locations. Network must be available for the gateway to communicate with ERMS or ETMS Server, When the

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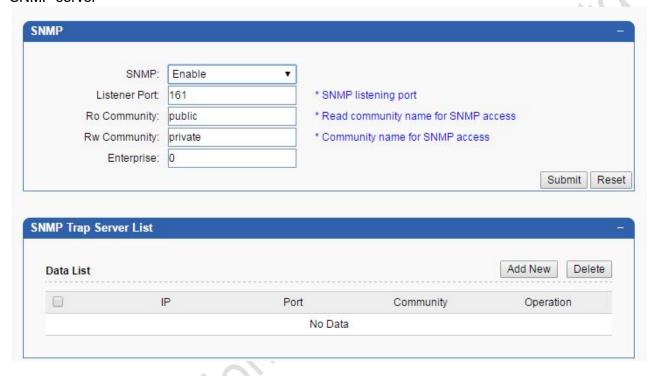


registration is complete, you can access your device from the ERMS/ETMS server at any time/address.

(If you need an ERMS/ETMS server for remote device management, you can contact us for free installation services)

9.5.5 SNMP

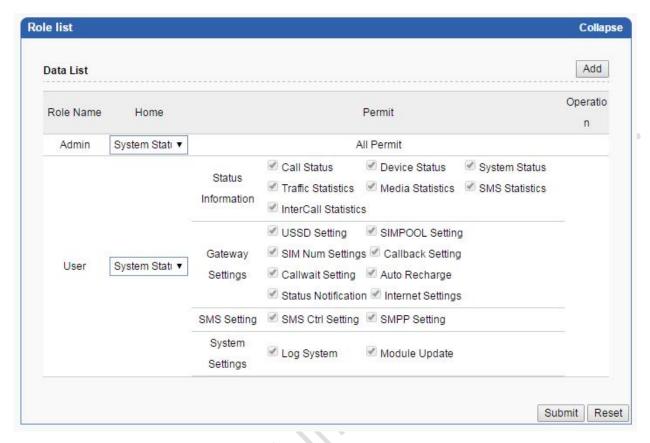
This is the connection configuration for the SNMP protocol, which you can configure if you have an SNMP server



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9.6 Role Management



Add: You can add and configure permissions, which can be assigned to the corresponding user when completed.

Role Name: The default is Admin and User, If you need to configure related permissions, you need to add a Role

Home: The default home page is displayed Permit: The list of permissions this role can use

9.7 Update/ backup & Restore

The screenshot below shows the operation mode for system update/restore.

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System Update

The content for system update includes:

- firmware
- configuration
- ramfs
- kernel
- uboot
- debug tools
- voice prompt
- voice cfg
- mac file
- lic file
- customized

The configuration fields are specified as following:

- File Type: Specify the content to update. Option values are listed above.
- File Name: Specify the content file name. Click button Browser and then select the target file from the popped file selection window.

Export Configuration

Click 'Export' button to export the configuration

Restore To Factory

System restore is used to restore the system to default settings. A message box will be popped for the confirmation of restore.

Firmware Version:

Please contact your account manager to get it!

9.8 Save & Reboot

Generally, any modification should require the reboot of MoIP Gateway to bring the modification into effect. However, single Save without Reboot is also frequently used to save the modifications which will be effective on next reboot of MoIP Gateway.

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The screenshot above shows the operation buttons. Button Save is used to save all the modifications while button reboot is used to save modifications first and then reboot device immediately.

❖ 10 Typical Used Scenario

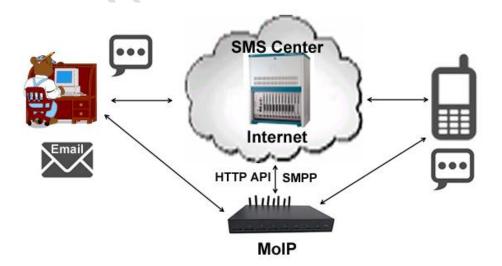
This chapter presents some typical used scenarios for reference.

10.1 Landing from IP to Mobile Network

MoIP Gateway is now used more and more for telephone carriers to land their IP Send SMS to mobile network. It plays the role of converting IP telephone signal to GSM telephone signal, relaying the media stream between IP network and Mobile network.

MoIP Gateway can be placed either in the LAN of SMS platform server or in public network environment which can be accessed by SMS platform server through public IP in different physical location.

10.2 Access from Mobile Network to IP



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MoIP Gateway can be used as the access from mobile network to IP, can send and receive SMS/MMS & Email. Any Send SMS made to the mobile card inserted into MoIP Gateway will be routed to IP network and connected to SMS platform server. The SMS platform server can redirect the Send SMS to final destination user.

♦11 HTTP API

11.1 Send SMS

11.1.1 GET HTTP

URL format is like this:

http://host:port/goip_send_sms.html?port= device port&username= device login username&password= device login password&charset=utf8&recipients= recipient number&sms= SMS content

host:port: Gateway IP address and Port(if do not fill in the default 80)

port: specify which port send the sms out, if don't have this option, it will random choose 1 idle port.

username: device login username **password:** device login password

charset: the SMS content code outf8, gb2312 available default is utf8 **recipients:** the SMS receiver separate with ";" if send multiple receiver

sms: the SMS contents.

for example:

 $http://1.1.1:8080/MoIP_send_sms.html?port=16 \& username=root \& password=root \& charset=utf8 \& recipients=10010 \& sms=cxye$

11.1.2 POST HTTP

URL format is like this:

http://host:port/goip_post_sms.html?username= device login username&password= device login password

username: device login username **password:** device login password

Parameter Content-Type in HTTP head should set to 'application/json;charset=utf-8'

POST data: {"type":"send-sms", "task num":n, "tasks":[{"tid":tid 1, "to":PhoneNumber,

"sms":content},..., {"tid":tid n, "to":Receiver Number, "sms":content},]}

n:Total number of tasks for this API;

tid_1/tid_n:Task sequence number: any number can be filled in;

PhoneNumber: Receiver Phone Number;

Content: SMS message content; Send Success Back: for example:



{"code":200,"reason":"OK","type":"task-status","status":[{"tid":98,"status":"0 OK"}]}

11.2 Receive SMS

HTTP URL format is like this :http://host:port/goip_get_sms.html?username= device login username&password=device login password &sms_id=xxx&sms_num=xxx host:port: Gateway IP address and Port(if do not fill in the default 80) sms_id: From which SMS began to receive (default 1, it mean Device receive the first SMS start) sms_num: receive SMS amount (default 0, it mean receive all SMS_)

Received All SMS:

http://host:port/goip_get_sms.html?username=device login username&password=device login password For received SMS:

To report: "code SCTS," code of 0 indicates success arrived, utf-8

Ordinary message: utf-8 BASE64 encoding

11.3 USSD

11.3.1 HTTP Send URL

http://host:port/goip_send_ussd.html?username=root&password=root&port=1&ussd=*123%23

(Click on the link above or fill in this url in the browser, or send through the java program

host:port: MoIP IP address, if have set port ,please add it(default 80)

username: device username password: device password

port: specify which port send the sms out, if don't have this option, it will random choose 1 port.

ussd: the ussd contents (if your ussd have #,please use %23 instead)

11.3.2 HTTP back:

Demo:

{code:0,reason:"OK",resp:"your balance is 100.00\$"}

code: back code

reason: ussd send status resp: ussd contents.

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