# EJOIN ACOM6xx Series SMS Gateway User Manual



# **Revision History**

Date	Version	Description	Autor
2013/4/18	V1.0	First draft	Ryan Yang
2014/5/26	V1.1	Features added	Chelson Chou
2015/7/17	V1.2	Document restructured	Chelson Chou
2013/7/17	, 1,2	Boomient restructor	Wendy Guo
2017/6/5	V1.3	Features added	Chelson Chou
2019/10/28	V1.4	Features added	Chelson Chou

## **Disclaimer**

The information contained in this publication is subject to change without notice. Ejoin Technology makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. Ejoin Technology shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this manual.

# Copyright

Copyright©Shenzhen Ejoin Technology of Co., Ltd. No part of this document may be reproduced, transmitted, or translated, in any form without prior written permission. Offenders are liable to the payment of damages. All rights are reserved in the event of grant of a patent or the registration of a utility model or design. All specification supplied herein are subject to change without notice at any time.

# Contents

Chapter	I Equipment Information4
1.1	Product Brief4
1.2	Product Application4
1.3	Product Appearance
1.4	Special Features6
1.5	Specification6
1.6	Mobile Features6
Chapter	II Equipment Installation7
2.1	SIM Card Placement7
2.2	Antenna Installation7
2.3	Network Connection
2.4	Power Connection
2.5	Serial Connection9
Chapter	III Web Settings10
3.1	Login
3.2	Basic Settings
3.3	Gateway Settings
	3.3.1 Port Settings
	3.3.2 Base Stations
	3.3.3 IMEI Settings
	3.3.4 PIN Settings
	3.3.5 SIM Settings
	<b>3.3.6</b> Number Settings
	3.3.7 Billing Settings

	3.3.8 AT Command21
	3.3.9 USSD Command
	3.3.10 Switch Card
	3.3.11 Inter-Calling
	3.4.12 Internet Settings27
3.4	SMS Settings
	3.4.1 Port Settings
	3.4.2 SMS Send
	3.4.3 SMS Receive30
	3.4.4 SMS Forward31
	3.4.5 SMS Inter-Sending
	3.4.6 SMS Control35
	3.4.7 SMPP Settings
	3.4.8 EIMS Settings
	3.4.9 Prefix route
	3.4.10 SMS Filter
	3.4.11 MMS Settings41
3.5	Application Settings
	3.5.1 Translate Settings
	3.5.2 SIM Pool Settings42
	3.5.3 Auto Recharge
	3.5.4 State Notification
3.6	Advanced Setting47
	3.6.1 Network settings
	3.6.2 Port Settings
	3.6.3 LED Settings
	3.6.4 Other Settings

3.7	System Settings50
	3.7.1 User Mgmt
	3.7.2 Role Mgmt
	3.7.3 Device Mgmt
	3.7.4 File Management53
	3.7.5 System Update
	3.7.6 Test Network
	3.7.7 Monitor System55
	3.7.8 System Warn
3.8	Running Status
	3.8.1 Port Status
	3.8.2 System Status
	3.8.3 Media Statistics
	3.8.4 SMS Statistics
	3.8.5 Traffic Statistics
	3.8.6 Inter-Call Status63
	3.8.7 SMS Query
3.9	Save and Reboot
Chapte	r IV FAQ64

# **Chapter I Equipment Information**

#### 1.1 Product Brief

Ejoin SMS gateway is a multi-functional and high performance product, which supports SMS sending, receiving and group sending. It's different from traditional modem, it's based on IP network, with the SMPP/HTTP API, customers can develop SMS server easily. It is widely used in mobile marketing, verify code, bulk SMS and corporate SMS.

# 1.2 Product Application

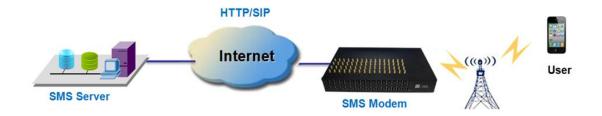


Figure 1.2-1 Product Application

# 1.3 Product Appearance

#### **Back Panel**

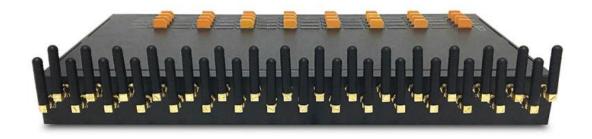


Figure 1.3-1 Back Panel

Description of the front panel(from left to right):

- 1 Ground connection
- 1 reset button (press RST button about 10s will restore to factory settings)
- 1 Power Interface (DC 12V 5A)
- 2 Network Interface (LAN and WAN, RJ45)
- 1 Console Interface (USB to Serial, Baudrate 115200)
- 32 Antenna Connector

#### Front Panel



Figure 1.3-2 Front Panel

Description of the front panel(from left to right):

- 32 SIM slots (Multi Sim Rotation Model Sim Slot will be more than Port numbers)
- 1 Power light (indicate the status of the power connection)
- 32 LED lights (indicate the status of SIM cards)
- 2 fans

# 1.4 Special Features

- Support SIM rotation (Optional Model)
- Support 2G/3G/4G Sim Cards
- Support ERMS( Ejoin Remote Management System)
- AT Command Directly
- Support hot-swap
- Support HTTP/SIP SMS API/USSD API
- Support IMEI modification
- Support SMPP server/client
- Support SNMP
- Email to SMS;SMS to Email
- Support Bulk SMS /MMS Campaign

# 1.5 Specification

Mode	ACOM604	ACOM608	ACOM616	ACOM632	ACOM664
Channels	4	8	16	32	64
SIM slots	4	8	16/64/128/256/512	32/64/128/256	64/256/512
				/512	
Frequency	GSM/CDMA/WCDMA/LTE (Optional)				
SMS protocol	SMPP, HTTP, SIP				
Network protocol	IPv4,TCP, UDP, PPPoE, DHCP, DNS, NAT, Telnet, HTTP, TFTP				
Firmware update	TFTP/HTTP				
ERMS	Ejoin Remote Management System				
Encryption	RC4, BASE64				

**Table 1.5-1** 

#### 1.6 Mobile Features

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

# **Chapter II Equipment Installation**

## 2.1 SIM Card Placement

Insert SIM cards like the figure 2.1-1. The SIM cards should be mini-SIM (2FF).



Figure 2.1-1 SIM Card Placement

## 2.2 Antenna Installation

The external antenna should be installed vertically always on a site with a good wireless signal.



Figure 2.2-1 Antenna Installation

## 2.3 Network Connection

Plug Ethernet line into gateway WAN port, and then connect the other end of the Ethernet line with switch or router. Note: Do not use LAN port, LAN port is useless.



Figure 2.3-1 Network Connection

#### 2.4 Power Connection

Connect the small end of the power cable to the power input on the back panel, and plug the other end of the cable into a 220V power outlet.



**Figure 2.4-1 Power Connection** 

# 2.5 Serial Connection

Connect one side of serial cable to the console port on the back panel, another side to computer USB port.(Don't need connect it normally)



Figure 2.5-1 Serial Connection

# **Chapter III Web Settings**

# 3.1 Login

Open the web browser and type the IP address. If it is the first time you login the gateway, please use the default settings below:

IP Address: 192.168.1.67

Account: root
Password: root



Figure 3.1-1 Login web

# 3.2 Basic Settings

### **WAN Settings**

There are three types of WAN port IP: Static, Dynamic and PPPoE. (Default static IP is 192.168.1.67). You can also change the wan settings when get a new device. If you want to access in this default IP, your local PC need a same network segment 192.168.1.xxx.



Figure 3.2-1 WAN Settings

Items	Description	
	Static IP: manually set up gateway IP.	
WANTuna	Dynamic IP: automatically get IP from local network.	
WAN Type	PPPoE: need ISP offer the account and password. Use this mode	
	when there is no router in the local network	
WAN IP	The WAN IP address of gateway	
IP Mask	The subnet mask of gateway	
Default Gateway	Default gateway IP address. Example: router IP.	
DNS Gateway	Domain name server IP address. Example: 8.8.8.8.	

**Table 3.2-1** 

# 3.3 Gateway Settings

#### 3.3.1 Port Settings

#### **Basic Settings**



Figure 3.3.1-1 Basic Settings

Items	Description
Frequency Band	Choose the module frequency.
Network Type	It's used for 3G or 4G device to change the network type
Register Type	voice or data network for registering
Unnormal SIM supp	It's used for special country, keep it disabled.

**Table 3.3.1-1 Basic Settings** 

#### **Hardware Properties**

Multi sim cards rotation model (ACOM616-64,ACOM632-128,ACOM632-256,ACOM632-512,ACOM664-256,ACOM664-512) are able to disable /enable different sim slots by below settings. Select the ports which you need to disable/enable and submit to take effect.

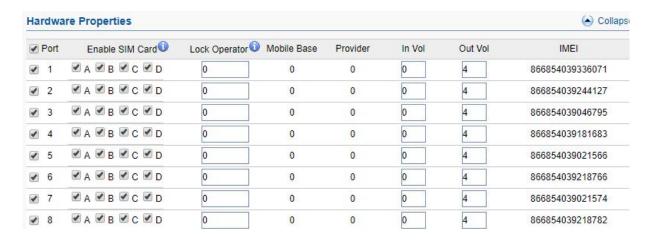


Figure 3.3.1-2 Hardware Properties

Items	Description		
Port NO.	Gateway channel		
Enable SIM Card	The SIM is enabled with $\sqrt{\ }$ , and disabled without $\sqrt{\ }$ . You can enable or		
Enable Shvi Card	disable SIM by this button.		
Lock Operator	Roaming sim card lock operator		
Mobile Base	The base station of SIM registered.		
Input Vol	Input volume of module, unmodifiable value.		
Output Vol	Output volume of module. unmodifiable value.		
	International Mobile Equipment Identity of this module. This		
IMEI	gateway support IMEI modification, you can do it on IMEI settings		
	page.		

**Table 3.3.1-2 Hardware Properties** 

# 3.3.2 Base Stations

# **Basic Settings**



Figure 3.3.2-1 Basic Settings

Items	Description		
Max Channels	The maximum number of base station		
	The lowest valid signal of base station, the default value is -90		
Lowest Valid Signal	dbm. SIM card will not register in the base station which signal is		
	lower than the value.		
Switch Period	Base station switch period, the default value is 60 minutes. Base		
	station will switch automatically by the period (when base		

	selection is "poll").
	Disable: every channel will select the base station with best signal.
Base Balancing	We suggest this mode.
	Enable: every channel will try to select different base station.

**Table 3.3.2-1 Basic Settings** 

# **Base Stations settings/operations**

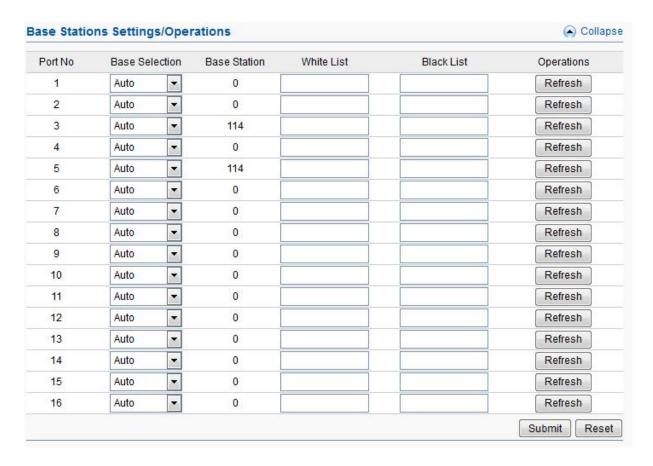


Figure 3.3.2-3 Base Stations Settings

Items	Description
Port NO.	Gateway channel, starts from 1 to 16.
Base Selection	Auto: every channel will select the base station automatically.  Poll: base station will switch during every switch period, if set a base

	station in white list, it will be locked in this channel.
Base station	It will show the base station
White List	The base station white list, if you just put one base here and select "poll", this channel will lock the base station.
Black List	The base station can't be used if put in black list.
Operations	Refresh the base station information.

**Table 3.3.2-2 Base Stations Settings** 

#### 3.3.3 IMEI Settings

IMEI means International Mobile equipment Identity, it is a 15-digit number. The gateway can do IMEI modification, it can protect SIM from blocking. With the function, you can do static IMEI or dynamic IMEI.

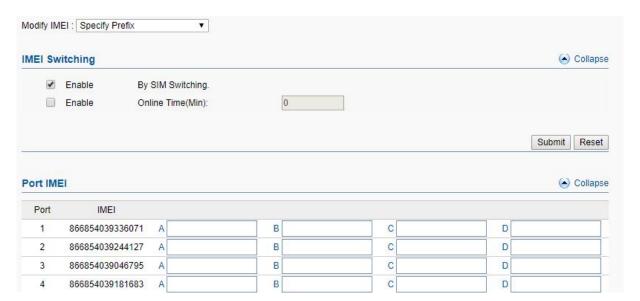


Figure 3.3.3-1 IMEI Settings

You can set any different IMEI for every port, just set 14-digit number, the last digit will generate itself. If you need set with special prefix, just click "copy", you can see the figure as above: set 865 in port 1A, after click "copy", every port will have a IMEI prefix 865, click "auto complete", the IMEI prefix will generate automatically. If you just put an IMEI prefix in the blank, the IMEI will changed when SIM switch(default), and also you can change the

conditions for changing above.



Figure 3.3.3-2 Dynamic IMEI Settings

You can click "Add New" button to add a new dynamic IMEI list, this list includes initial IMEI value of IMEI group and the size of IMEI group. click "Delete" will delete a exist IMEI list, if you want to change the settings of dynamic IMEI list, please click "Edit" button.

#### 3.3.4 PIN Settings

PIN means personal identification number, it just like a password of SIM card, it can help to prevent SIM card from being stolen and improve security. Most SIM cards don't have PIN code. If a SIM card is with PIN, you need input PIN code in corresponding slot and enable "PIN Unblock", then the SIM card will work.

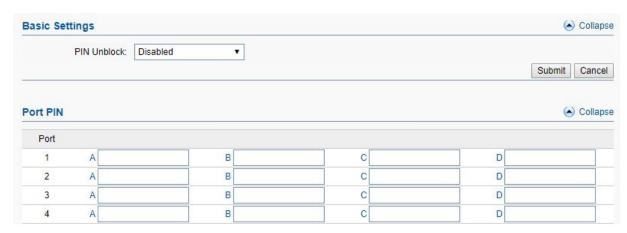


Figure 3.3.4-1 Basic Settings

#### 3.3.5 SIM Settings

#### **SIM Schedule**

SIM schedule is a function for multiple slots device, with this function, you can enable different sim cards in different time. As the screenshot below, A slot sim cards enable in time from 00:00 to 6:00, B slot sim cards enable in time from 6:00 to 12:00.



Figure 3.3.5-1 SIM Schedule

#### 3.3.6 Number Settings

You can get SIM Card number by USSD or SMS automatically.

Reminder: It is necessary to fill in the sim cards number when enable port-inter port calling or sending.



Figure 3.3.6-1 Auto Settings by USSD

Items	Description
Auto-Get LocNum	When choose USSD, the gateway will get the SIM number by USSD
USSD Command	The USSD command for querying SIM number.
Number Keywords	The prefix keywords of the SIM number in USSD response. For example: the USSD response is your SIM number 923345556978, then keyword is number, it is usually the word before SIM number.
Prefix Translation	If you get the number is 923345556978, but you don't need a country code, you can do prefix translation, delete 923 then add 0.

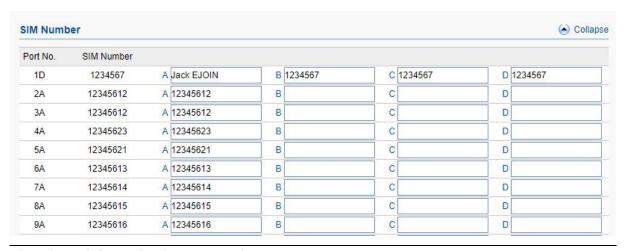
Table 3.3.6-1 Auto Settings by USSD

The page below shows the setting of getting number by SMS, it is same as USSD, you should send the SMS content of query sim cards number to the operator to get the SIM card number.



Figure 3.3.6-2 Auto Settings by SMS

You are also able to fill in sim cards number by manual. Submit the settings to take effect.



#### Figure 3.3.6-3 SIM Number

#### 3.3.7 Billing Settings

This is the billing system page, this billing system is widely used in querying balance automatically which can remind customers to recharge or replace the no balance SIM cards. The theory of this billing system: every SIM card will get an accurate balance from USSD or SMS response, then the system will deduct money in every billing period by tariff which you set, so it may take some deviation.

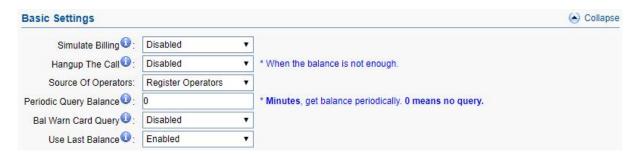


Figure 3.3.7-1 Basic Settings

Items	Description
Billing	Enable it, the billing system will be up.
Hangup The Call	If it is enabled, the call will be hang up when the balance is lower
	than invalid balance value.
Source of operators	When operator ID and IMSI are different, can use this settings
Periodic query balance	Get balance periodically, it may be more accurate.
Bal Warn Card Query	If it is enabled, it will query the balance when lower than caution
	balance value.
Use Last Balance	Enable: query balance failed, use last balance
	Disable: query balance failed, balance show N/A, the sim can't
	be used if it is lower than invalid balance value and it show
	yellow sim LED

**Table 3.3.7-1** 

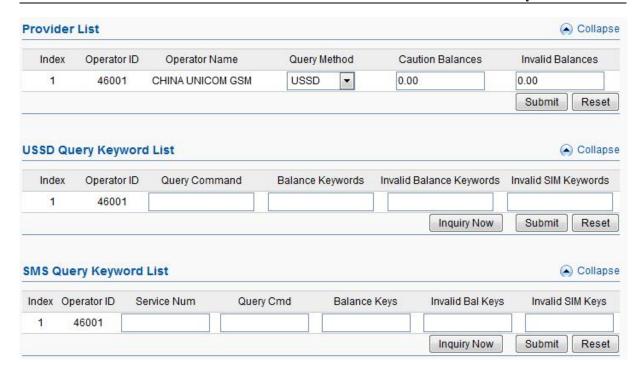


Figure 3.3.7-2 Related Settings

Items	Description
Query Method	USSD or SMS for querying balance
Caution Balances	When the balance is lower than caution balance value, the billing system will send a USSD or SMS to recalibrate balance.
Invalid Balances	The SIM can't be used if it is lower than invalid balance value and it will show No Balance
Query Command	The HTTP or SMS command for querying balance
Balance Keywords	The balance keywords in USSD or SMS response. For example: your credit balance is AED 45.82. then AED can be the keywords
Invalid Balance Keywords	Can't get balance from invalid balance keywords.
Invalid SIM Keywords	If the SIM is blocked by operator, it may get another response like: sorry, your SIM is blocked now. then you can set blocked as a invalid SIM keywords. The card will show
Service Num	The operator number, it will send SMS back to you.
Query Cmd	SMS command for querying balance
Balance Keys	Same as Balance keywords.

Invalid Bal Keys	Same as USSD.
Invalid SIM Keys	Same as USSD.

**Table 3.3.7-2 Related Settings** 

Click"Add New" button, you can set a tariff list with different destination prefix. "x" means for all prefix. You can also do the operations of delete and edit here.

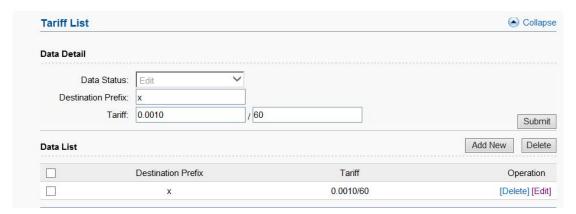


Figure 3.3.7-3 Tariff List

#### 3.3.8 AT Command

#### **Module Operations**

You can select different module and do the operations of restart, stop and start.



Figure 3.3.8-1 Module Operations

#### **Command Operation**

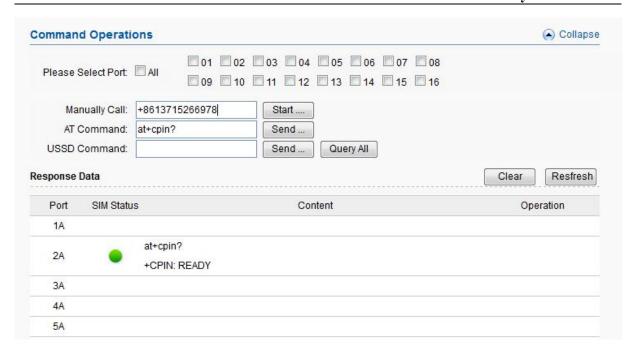


Figure 3.3.8-2 Command Operations

Items	Description	
Select port	Select port to do command operations.	
Manually call	Check the SIM can send a call or not.	
AT Command	AT command to check SIM status.	
USSD command	It's for querying balance, number and recharge etc.	
SIM status	Display the SIM status.	
Content	The response after sending USSD/AT command.	

**Table 3.3.8-1 Command Operations** 

#### 3.3.9 USSD Command

#### **USSD** Auto Send

USSD command send automatically by the conditions below, Drop means drop the current call after call duration time reached.



Figure 3.3.9-1 USSD Auto Send

On this page, you can send USSD command manually and get USSD response more convenient.



Figure 3.3.9-2 USSD List

Items	Description	
Сору	Copy the USSD command to other channel.	
Show Current	Display the active SIM cards.	
Show ALL SIM	Display all SIM cards.	
Clear Data	Clear the USSD response.	
Send	Execute the USSD command.	

Table 3.3.9-1 USSD list

#### 3.3.10 Switch Card

#### **Basic Settings**



Figure 3.3.10-1 Basic Settings

Items	Description
SMS warning	When sim card locked, device will send a sms to destination mobile for warning
SMS Receiver for Warning	The destination mobile which sms send
Restart save current card	Whether to save the current card of each port when restart, so that I can continue to be used after restarting. eg: 1B sim card is active, after restart, the active card will be 1A, but if enable this button, the active card will still be 1B.

Table 3.4.10-1 Basic Settings

#### **Conditions for Locking Card**

When the SIM reaches any conditions below, gateway will lock/switch it.



Figure 3.3.10-2 Locking Card Conditions

We take "Accumulated SMS count" for example to explain the lock/switch function.

Items	Description
Enable or Not	If it is enabled, the consecutive failed calls will be used as a condition for system to check.
Reset When Switching	This condition will be recalculated next time when it is switched by other conditions. For example:
USSD Query	After switch to next SIM, the next SIM will send USSD query command first.
Accumulated SMS Count	The maximum number of SMS count on this SIM card. If the number of SMS sent count reaches this value, the card will be locked if this condition is enabled.
Locking duration	The duration of locking. 0 means no lock while -1 means permanent lock.

**Table 3.3.10-2 Locking Card Conditions** 

If the SIM card is locked by gateway, it will show  $\Theta$ , it means locked by device. And you will also see the Description on running status >> call status page.

Lock/switch card conditions	Description on call status page
SIM Online Time Checking	Switch timer fired
Accumulated Call Duration Checking	Talk dur expired
Accumulated Connected Calls Checking	Talk num expired
Accumulated Calls Checking	Call num expired
Consecutive Failed Calls Checking	Failed call num expired
Consecutive No-Alert Calls Checking	Noalert num expired
Consecutive No-Answer Calls Checking	Noanswer num expired
Consecutive No Carrier Calls Checking	Nocarrier num expired
Consecutive Short-Duration Calls Checking	Shortdur num expired
Accumulated SMS Count checking	SMS num expired
Accumulated Failed SMS Count Checking	Failed SMS num expired
Consecutive Failed SMS Count Checking	Con-failed SMS num expired

Table 3.3.10-3 Description in call status

Click the top right-hand corner "add port cfg", can define different ports with different

lock/switch cards conditions

## 3.3.11 Inter-Calling

Port inter-calling is a good solution for protecting SIM from blocking. It's a human behavior feature.



Figure 3.3.11-1 Basic Settings

Items	Description
Port Inter-Calling	The function will work if it is enabled. (need to set SIM number for
	every port first).
Send SMS	If it is enabled, the callee will send a SMS to caller before inter-
	calling
Min Call Duration	The minimum call duration when do port inter calling
Max Call Duration	The maximum call duration when do port inter calling. the call
	duration will between minimum and maximum duration.

**Table 3.3.11-1 Basic Settings** 

When enable this function, after excessing the condition below, the idle port will call each other random (need to set the SIM number for every port first).



Figure 3.3.11-2 Conditions Settings

If you enable "Send SMS", you will see the page below.



Figure 3.3.11-3 SMS List

The callee will select a SMS content first, then send to caller before inter calling, you can click "Add New" button to add new SMS content and delete or edit the SMS content.

#### 3.4.12 Internet Settings

SIM cards use data, this settings can protect sim card from blocking.

The screenshot below shows time from 20:00 to 23:00, consume 100MB data.

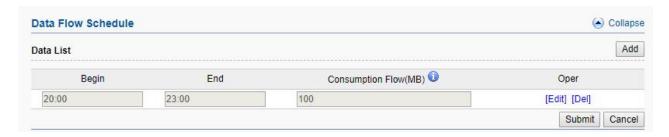


Figure 3.3.12-1 data flow schedule

The screenshot below shows which URL the device will surf for consuming data.



Figure 3.3.12-2 URL Settings

The apn settings for sim card. Note: if APN settings leave blank, can't consume data.



Figure 3.3.12-3 APN Settings

# 3.4 SMS Settings

# 3.4.1 Port Settings

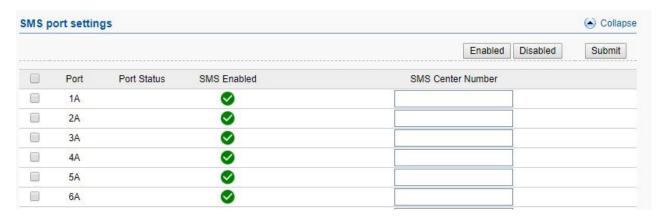


Figure 3.4.1-1 Port Settings

Items	Description
Port	Device channel
Port status	Display the sim status.
SMS Enabled	Enable or disable the sms feature.
SMS center	SMS center number, it is strongly recommended don't change the SMSC number

**Table 3.4.1-1 Port Settings** 

#### **3.4.2 SMS Send**

#### **Basic Settings**

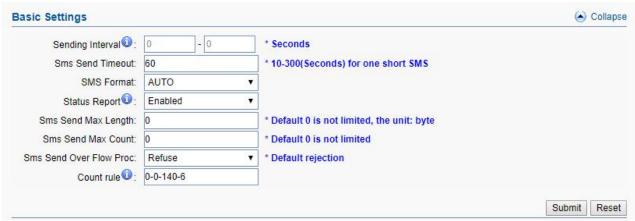


Figure 3.4.2-1 Basic Settings

Items	DesrIPtion
Sending Interval	The sms sending interval for every two sms, if don't set any value, after send a sms, the sim card will send the second sms immediately, if set a value, the sim card will send the second sms after interval time.
Sms Send Timeout	The timeout for sending a sms
SMS Format	PDU and TXT.
Status Report	SMS status report. If it is enabled, after sending SMS successfully, it will get a status report from operator such as sending successfully.
Sms Send Max Lenth	Maximum lenth of long sms
Sms Send Max Count	Maximum counts of sms
Sms Send Over Flow Proc	Refuse: refuse to send the sms.  Truncated: truncate the long sms if it is over flow
Count rule	Frist place: count type, 0 is Byte, 1 is character.  Second place: encoding algorithm, 0 means support 7bit, 1 means doesn't support 7 bit.  Third place: single limit,maximum number of bytes or maximum number.  Fourth place: multiple header lenth,udhi Charging rules: 0-0-140-6 representation: support 7bit, the maximum single 140 bytes, when sending long sms, the udhi header is 6 bytes.

Table 3.4.2-1 Basic Settings

#### **Send SMS**

You can select one or more ports to send SMS to different receiver. Successful and failed SMS records will be show below.

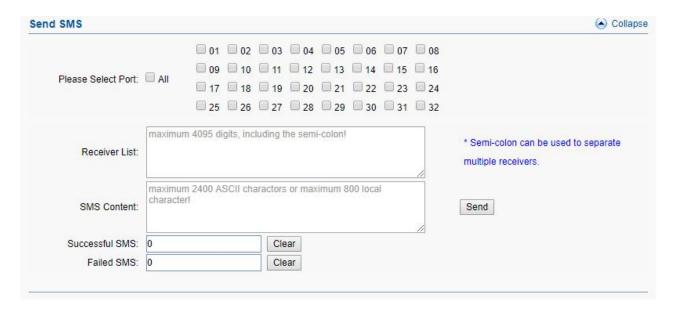


Figure 3.4.2-2 Send SMS

#### 3.4.3 SMS Receive

You can check the latest SMS content and clean up all the SMS content on this page.

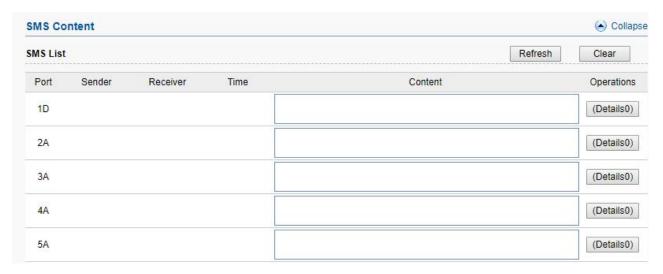


Figure 3.4.3-1 SMS Content

If you want to check more SIM content of this SIM, please click "Details" button.

Then you will see the page below. You can know the SMS details in different port and SIM, reply and delete SMS here.

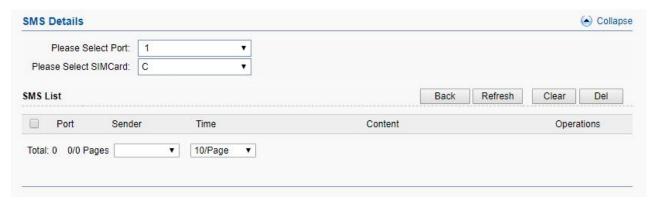


Figure 3.4.3-2 SMS Details

#### 3.4.4 SMS Forward

#### Emai to message

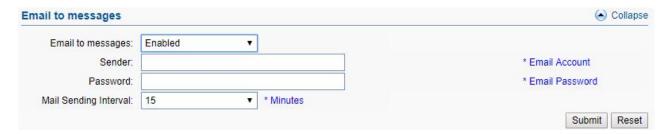


Figure 3.4.4-1 Email to message

Items	Description
Email to messages	Enabled, use email send to the email address which configured, the content will send by device sim card to destination mobile
Sender	Email address which device receive email
Password	Email password
Mail sending Interval	The device read email period.

Table 3.4.4-1 Email to message

#### Forward protocol: GSM

When sim card receive sms, will forward the sms to the destination mobile which is set in

"forward number"

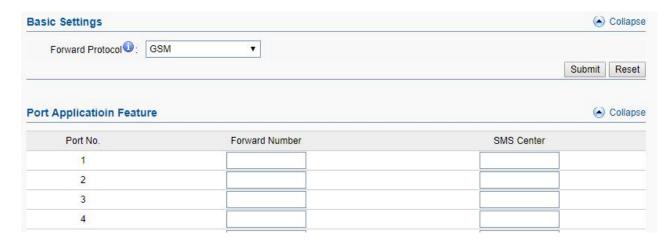


Figure 3.4.4-2 forward by GSM

Forward protocol: SIP



Figure 3.4.4-3 forward by SIP

Items	Description
Server ip	Sip server ip, If leave blank, sms will sent to sip server which set in sip settings.
Content-type	sip header, default is text/plain
Content Charset	utf-8 or Base64

Table 3.4.4-2 forward by SIP

Forward protocol: HTTP POST and GET

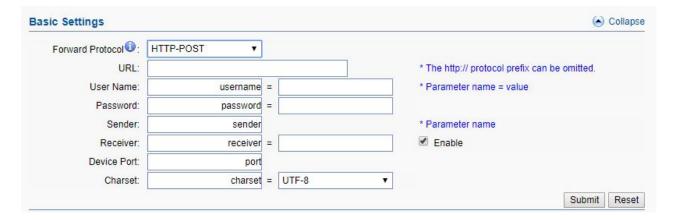


Figure 3.4.4-4 forward by HTTP

Items	Description
Forward protocol	GET: the sms content will be in request line
	POST: the sms content will be in request body
URL	The URL which the sms forward to.
User name	If destination url need username, can set here.
Password	If destination url need password, can set here.
Sender	The mobile number which send sms to sim card in gateway.
Receiver	If set value, the receiver will be this value, if leave blank and number
	settings has number, receiver will be sim card number, if leave blank and
	number settings no number, will don't have parameter recevier
Device Port	The device port
Charset	UTF-8 or BASE64

Table 3.4.4-3 forward by HTTP

Forward protocol: email

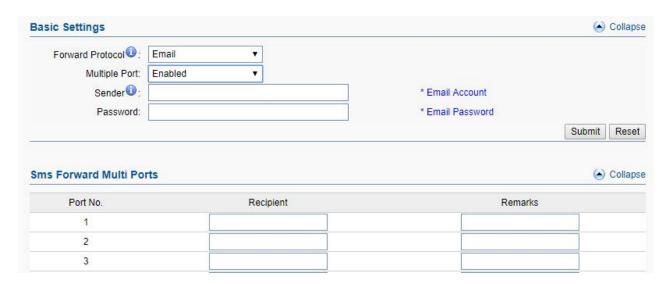


Figure 3.4.4-5 forward by Email

Items	Description
Forward protocol	Email: when sim card receive sms, device will use sender email address send email to recipient.
Multiple Port	Disable: all sms send to one email address.  Enabled: different port send to different email address.
Sender	Device use this email address to forward sms message to your email addresses.
Password	Email password
Recipient	The destination email addresses

Table 3.4.4-4 forward by Email

# 3.4.5 SMS Inter-Sending

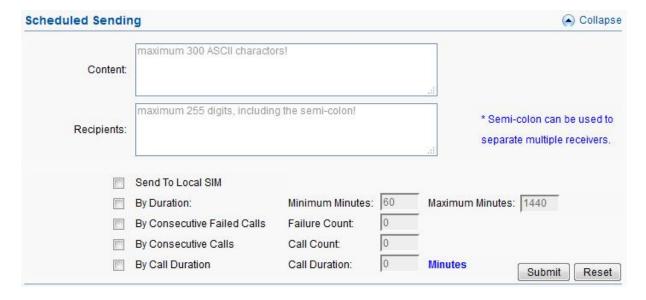


Figure 3.4.5-1 Scheduled Sending

Items	Description
Content	SMS content. The length is limited to 300 ASCII characters.
Recipients	The phone number of receiver. Semi-colon can be used to separate multiple receivers.
Send To Local SIM	Enable this button. Gateway will do inter-port SMS sending (need set SIM number in every channel first), it's random and by the condition below. For example: channel 1 sends SMS to port 3.
By Duration	SMS sending by device online time, and the time between minimum minutes and maximum minutes.
By Consecutive Failed Calls	SMS sending by consecutive failed calls.
By Consecutive Calls	SMS sending by consecutive calls.
By Call Duration	SMS sending by SIM call duration.

Table 3.4.5-1 Scheduled Sending

### 3.4.6 SMS Control

SMS control is for users to control the SIM card SMS counts. And the data will not flush even you restart the device or pull off the SIM.

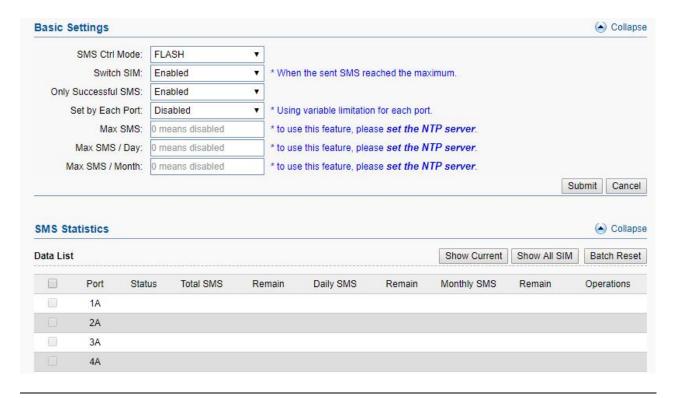


Figure 3.4.6-1 Basic Settings

Items	Description
SMS ctrl Mode	Enable by flash
Switch SIM	Switch sim card or not when one sim card reaches the value which set
Only Successfully	Enabled: the failed sms will not count
SMS	Disabled: count failed sms
Set by Each Port	Enable: different port use different sms limit value.
Set by Lacii I oft	Disable: all ports use same sms limit value.
Max SMS	The maximum sms which sim card can send.
Max SMS/Day	The maximum sms which sim card can send every day.
Max SMS/Month	The maximum sms which simcard can send every month.
Show current	Show active sim cards, default
Show ALL SIM	Show all sim cards(including unactive sim cards)
Batch Reset	Reset the sms count manually.

**Table 3.4.6-1 Basic Settings** 

## 3.4.7 SMPP Settings

The Short Message Peer-to-Peer (SMPP) is a protocol used by the telecommunications industry for exchanging SMS messages between Short Message Service Centers (SMSC) and/or External Short Messaging Entities (ESME). The protocol is a level-7 TCP/IP protocol, which allows fast delivery of SMS messages.

EJOIN device support SMPP V3.4, it can works as SMPP client and server, but we usually used it as a SMPP server

#### **BASIC** settings

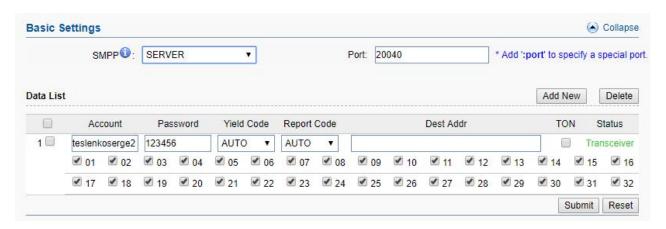


Figure 3.4.7-1 Basic Settings

Items	Description
	client: device work as smpp client
SMPP	server: device work as smpp server, if device is in NAT, need to forward
	the device smpp port first.
Port	Device smpp port
Account	Smpp account for smpp client register.
Password	Smpp account password
Yield Code	Device receive sms, will encoding by the code.
Report code	The code of delivery report.
Dest Addr	Destination address, when device receive sms, will send the sms to smpp
	client and the recipient address will be the dest addr.
TON	NPI and TON set to 0X01 if enabled.
Status	Smpp client registered in device, will show transceiver
Select ports	Select all ports means all ports with one smpp account.

Figure 3.4.7-1 Basic Settings

## **Advanced settings**



Figure 3.4.7-2 Advanced Settings

Items	Description
Forward sms	Enabled: forward sms to smpp client.  Disabled: don't forward sms to smpp client.
Sms Report Msg Type	Sms report message type, default is Deliver_SM.
Submit response	Submitted: when device receive request, send back submit ok.  Sent: when device send sms to smsc successfully, send back submit

	ok.
	Delivered: when destination mobile receive sms, send back submit ok
Submit timeout	Submit ok timeout value, after 60mins, will timeout.
	Sent: when device send sms to smsc successfully, send back delivery
	report.
Report response	Delivered: when destination mobile receive sms, send back delivery
	report.
	No respond: don't send delivery report
Report Timeout	Report timeout value, default is 60mins.
	Send: the sms send from one port, next time, the same recipient
	number will also use that port
Auto Clip routing	Receive: smpp send a sms from device port, next time, this port
	receive the sms will forward to the destination address use the
	original address at the first time
Cache time	The auto clip routing cache time

**Table 3.4.7-2 Advanced Settings** 

#### **Translation list**

This settings is used for remove country code, some country, sending sms with country will be failed

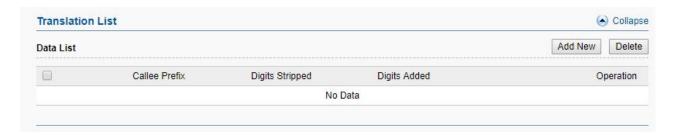


Figure 3.4.7-3 Translation List

## 3.4.8 EIMS Settings

EIMS is a SMS server which connect with Ejoin device by private protocol. It also support HTTP, SMPP to connect the third-party SMS system to send and receive SMS.

#### **Basic Settings**



Figure 3.4.8-1 Basic Settings

Items	Description
Server Type	EIMS: connect with EIMS server
	EMDA: this is for virtual COM port to send sms.
Server address	EIMS server ip, default port 20002
UDP/TCP	Connect protocol, we suggest TCP
User Name	The device account in EIMS
Password	Account's password
Registeration status	OK means register successfully

Table 3.4.8-1 Basic Settings

#### 3.4.9 Prefix route

The SMS will be routed to the ports which match the prefix specified here. It's used for saving communication expense. There are two modes for prefix settings. One is operator prefix, the other one is port prefix.

The screenshot below shows operator prefix, one device insert different operator sim cards, just configure the operator prefix, when sms traffic send to this device, device will use same operator to send the sms.



Figure 3.4.9-1 operator prefix

The screenshot below shows port prefix, when sms traffic send to this device, device will route the sms by port prefix.

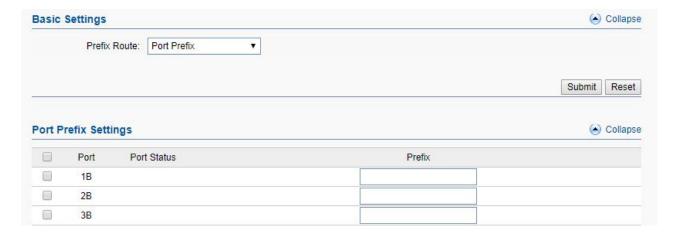


Figure 3.4.9-2 port prefix

#### **3.4.10 SMS Filter**

SMS filter is used for filtering the spam message, configure the sender number or sensitive word. When the receive sms match with sender or sensitive word, the receive sms will not show in page "SMS receive", it will shows in SMS Trash Box, and also these sms will not forward to third-party system.(It is case sensitive).

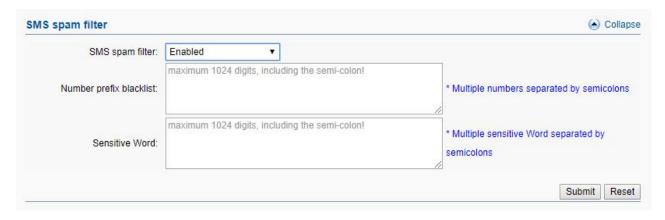


Figure 3.4.10-1 SMS spam filter



Figure 3.4.10-2 SMS trash box

## 3.4.11 MMS Settings

The settings for sending MMS, need to setup MMSC, MMS proxy and port first.

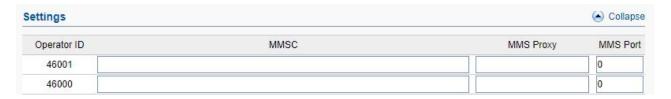


Figure 3.4.11-1 proxy settings

You can select one or more ports to send MMS to different receiver. Successful and failed SMS records will be show below.

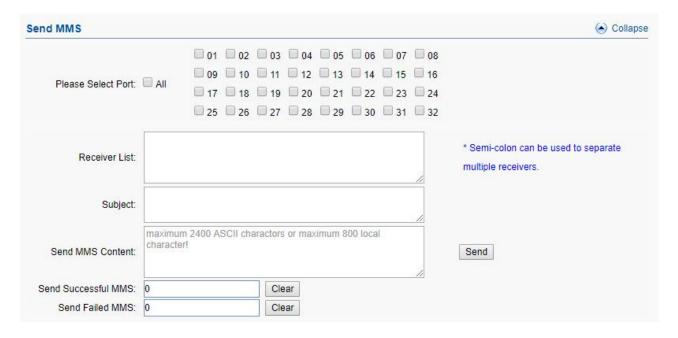


Figure 3.4.11-2 Send MMS

# 3.5 Application Settings

## 3.5.1 Translate Settings

This settings is used for remove country code, some country, sending sms with country will be failed



Figure 3.5.1-1 Translate Settings

#### Caller ID Hidden

If you want to hide caller ID, just enabled caller id hidden. Some operators sim card also can hide caller id by add dial prefix.( Note: Need operators support with this function.)



Figure 3.5.1-2 CallerId Hidden

# 3.5.2 SIM Pool Settings

When you want to manage SIM cards remotely or intensively, you can use this function.

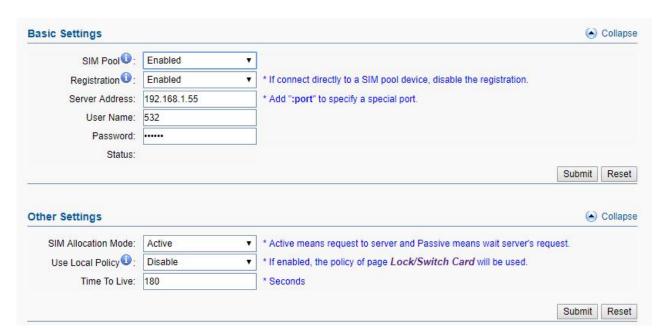


Figure 3.5.2-1 SIM Pool Settings

Items	Description
SIM Pool	When you enable it, cards on gateway will be disabled, it can just use these cards on SIM Pool.
Registration	Registered in sim center.
Server Address	SIM center address.
Username	The gateway account in SIM center
Password	The password of gateway account in SIM center.
Status	Show the gateway registration status.
SIM allocation mode	Active means request to server, passive means wait server reply.
Use Local Policy	If it is enabled, the policy of page lock/switch card can be used in SIM Pool.
Time To Live	Keep alive time

**Table 3.5.2-1 SIM Pool Settings** 

# 3.5.3 Auto Recharge

Auto recharge is based on billing system, if you want to do auto recharge, please configure

billing system first. Recharge template #0 is connect with Ejoin auto recharge system, #1-#4 are third-party recharge system of Bangladesh.

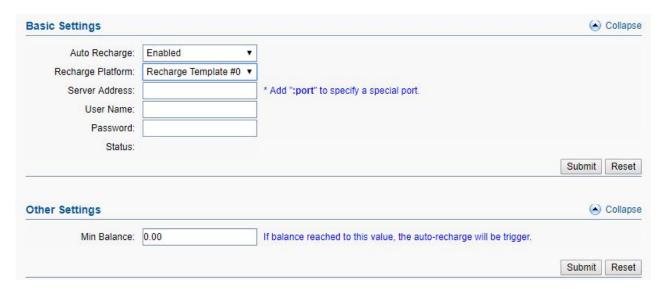


Figure 3.5.3-1 template #0

Items	Description
Server Address	The auto recharge server address. (the server with EJOIN ear system)
Username	It is created in EJOIN ear system.
password	It is created in EJOIN ear system.
status	Show the registration status.
Min balance	If the balance is lower than the value, the ear system will do auto recharge.

**Table 3.5.3-1 template #0** 

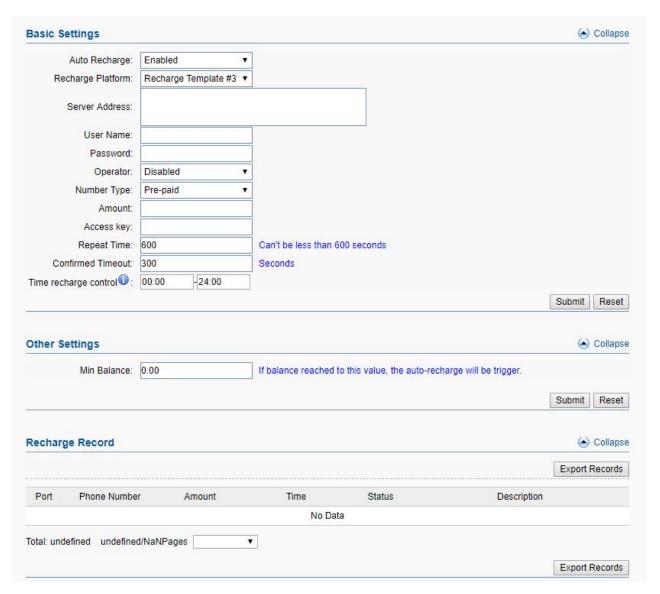


Figure 3.5.3-2 template #1-4

Items	Description
Server Address	The third-party recharge system address
Username	It is created in recharge system
password	It is created in recharge system.
Operator	The operator ID
Number Type	Prepaid or Postpaid sim card
Amount	Amount to be refilled
Access key	It is created in recharge system
Repeat time	If the sim card is recharged, can't recharge again in repeat time
Confirmed timeout	Query balance time
Time recharge control	Recharge is enabled during the time.

Recharge record	It shows the recharge record in this page
Recharge record	it snows the recharge record in this page

Table 3.5.3-2 template #1-4

#### 3.5.4 State Notification

Device send report to the URL which configured, the report include CDR, SMS, call duration data, SMS counts, traffic counts. It's based on HTTP, please check the API document for reference.

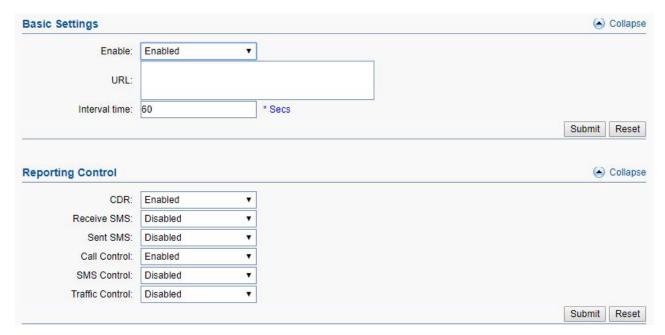


Figure 3.6.8-1 Basic Settings

Items	Description
URL	The http report send to this url
Interval time	The period of sending report
CDR	The call detail records
Receive SMS	The receive sms of device
Sent SMS	The sms which send from device by http, smpp and web
Call control	Call duration data, sim cards' call duration time and remain time
SMS control	SMS counts, sim cards' sms count and remain sms count
Traffic control	The sim card data usage

**Table 3.6.8-1 Basic Settings** 

# 3.6 Advanced Setting

#### 3.6.1 Network settings

#### VPN settings

A virtual private network (VPN) extends a private network across a public network, such as the Internet. It enables a computer or network-enabled device to send and receive data across shared or public networks as if it were directly connected to the private network, while benefiting from the functionality, security and management policies of the private network. This device works as VPN(PPTP and openvpn) client mode only, if you want to use VPN function, please input the VPN parameter on the VPN settings page.



Figure 3.6.1-1 VPN Settings

#### **Network Settings**

There are three ways to access the device: web, telnet and serial. web default port is 80, telnet is 23 and serial is the comport you insert. Web configuration is widely used in this device.



Figure 3.6.1-2 Network Management Settings

Items	Description
Web Port	Device web management port
Telnet Port	Device telnet port, 0 means disabled
System telnet port	Device system shell by telnet, 0 means disabled

HTTP API port	http api port, default same with web port
---------------	---

**Table 3.6.1-1 Network Management Settings** 

# 3.6.2 Port Settings

You can disable or enable channel in this page.



Figure 3.6.2-1 Port Settings

## 3.6.3 LED Settings

Every sim slot has a led to show the sim card status, if the sim card has issue, led will flash.



Figure 3.6.3-1 LED Settings

Items	Description
Carrier lock Card	The sim card blocked by carrier, ⊗
Profile lock Card	The sim card locked by device, $\Theta$
No Balance	Balance lower than invalid balance,

Registered failed	Sim card registered failed,
Port Light Indication	If disabled, the led will not flash even sim card locked or calling

Table 3.6.3-1 LED Settings

## 3.6.4 Other Settings

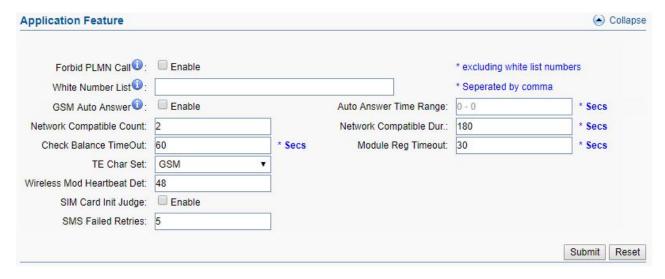


Figure 3.6.4-1 Application Feature

Items	Description
Forbid PLMN call	Calls will be rejected when calling the SIM in gateway.
White Number List	The numbers in white list will not be rejected if forbid GSM call is enabled.
GSM Auto Answer	Applying to calls from GSM network. The gateway will answer the incoming calls automatically when reaches the value.
Network Compatible Count	Sim card registered two times, after failed, shows registered failed
Network Compatible  Dur	Sim card registered time period, every time 180s
Check Balance Timeout	The time of query balance
TE Char Set	Set character for USSD response.
Wireless mod Heartbeat Det	The module heartbeat detect time
SIM Card Init Judge	If enabled, the sim card need to read phone before registered

SMS failed Retries	Sms send failed, will retry 5 times

**Table 3.6.4-1 Application Feature** 

## 3.7 System Settings

## 3.7.1 User Mgmt

The default username/password of gateway are root/root. You are allowed to change the password and add new users on this page. Every account has a role, different roles have different right of permissions. Role "admin" has the highest right of permission, role can be added in page "role mgmt".



Figure 3.7.1-1 User List

Follow the screenshot below, you can set the "allowed IP" or "not allowed IP" for web and telnet access.



Figure 3.7.1-2 Allowed IP settings

## **3.7.2 Role Mgmt**

Add new role here, and choose the page the role need to control.

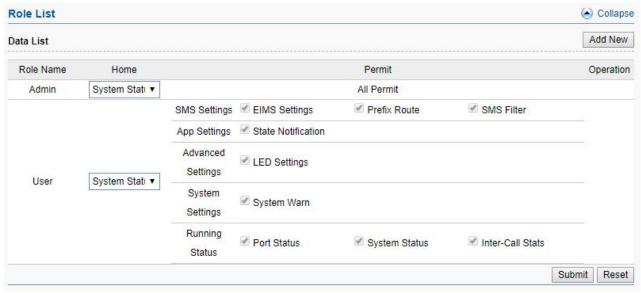


Figure 3.7.2-1 Role List

## 3.7.3 Device Mgmt

#### **Basic Settings**

You are allowed to set an alias for device. You can also manage your gateway to reboot automatically as you like. There are two types for you to choose, one is after gateway running specified time, and the other one is scheduled reboot.



Figure 3.7.3-1 Basic Settings

#### **Date and Time**

You can choose your time zone or change the NTP server address here. There are three method to get time, manual means set the time manually, NTP means get the time from time

server, base station means get the time by wireless module.



Figure 3.7.3-2 Date And Time

#### **Temperature Settings**

When the temperature lower than the value, Fan stop working. This function need the device has temperature sensor.



Figure 3.7.3-3 Temperature Settings

#### **Network Management System**

We can't access in device web interface with other network if the device is behind NAT, ERM and ETMS are the remote system which can help us access in the device with other network.

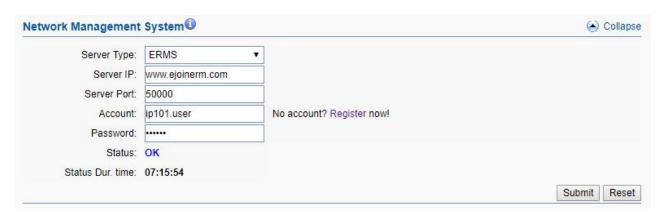


Figure 3.7.3-4 network management system

Server type	ERMS and ETMS, default ERM web <a href="http://www.ejoinerm.com:8080/erm">http://www.ejoinerm.com:8080/erm</a>
ERM Server IP	ERM or ETMS server ip
ERM Server Port	The port of ERM or ETMS service. Default is 50000
Account	ERM account. You can also click "Register" to create a new account.
Password	Password of ERM account.
status	The Registration status of gateway with ERM or ETMS server.
Status dur. time	The time elapsed since registered.

Table 3.7.3-4 network management system

#### **SNMP**

Simple Network Management Protocol (SNMP) is an application—layer protocol defined by the Internet Architecture Board (IAB) in RFC1157 for exchanging management information between network devices. It is a part of Transmission Control Protocol/Internet Protocol (TCP/IP) protocol suite.

Ejoin SNMP management include SIM card ICCID, IMSI, IMEI, Register status, CDR and SMS.



Figure 3.7.3-5 SNMP Settings

#### 3.7.4 File Management

File management is used for debugging the device. It has gdb, dying message and call statistics files. You can export or delete the logs from this page.

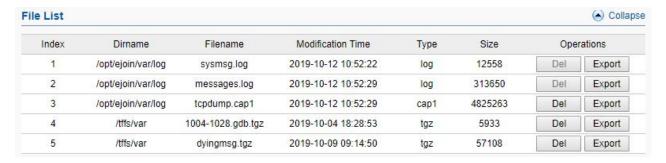


Figure 3.7.4-1 File List

## 3.7.5 System Update

#### **Import File**

On this page, you can update the firmware for device, you can also update other files like kernel, ramfs etc.



Figure 3.7.5-1 Import File

#### **Export Configuration**

Click "Export" button to export the configuration files.



Figure 3.7.5-2 Export Configuration

#### **Service Data**

Click "Export data" button to export the call duration and sms counts data



Figure 3.7.5-3 Service Data

#### **Restore To Factory**

Sometimes there is something wrong with your gateway that you don't know how to solve it, mostly you will reset it. Just click "restore" button, your gateway will be reset to the factory settings.(IP will not change).



Figure 3.7.5-4 Restore To Factory

#### 3.7.6 Test Network

#### **Maual Ping**

It's used to test the reachability of the destination server

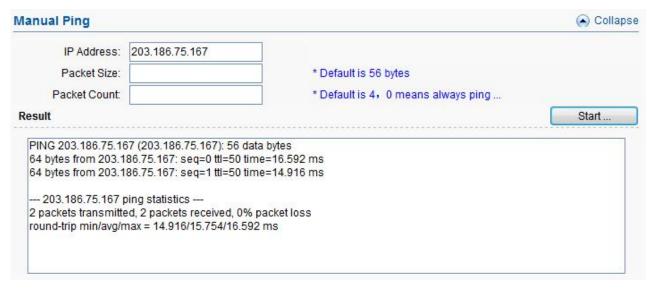


Figure 3.7.6-1 Manual Ping

#### Capture

Capture the topdump log of device, the log will show in "file management"

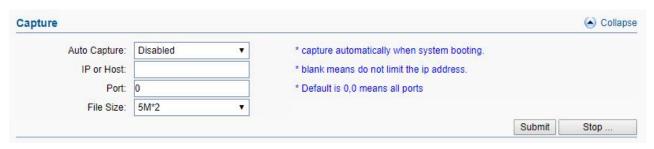


Figure 3.7.6-2 Manual Ping

## 3.7.7 Monitor System

#### **Log Settings**

You can enable the specific progress module running logs to monitor the device working status, and set the log file counts. Device will save 5 logs as default

You can back to File management page to download these log files.



Figure 3.7.7-1 Log System

#### **CPU&Memory**

This page is used to show all the running processes of the device, CPU&Memory useage.

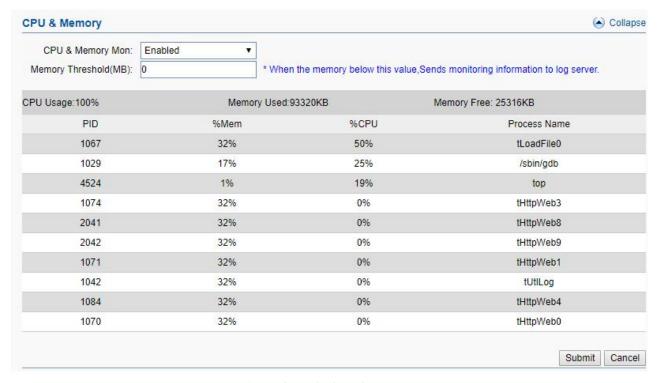


Figure 3.7.7-2 CPU&Memory

## 3.7.8 System Warn

It's used to show the system security tips.

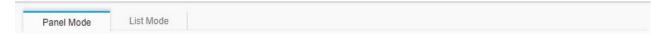


Figure 3.7.8-1 System Warn

# 3.8 Running Status

#### 3.8.1 Port Status

There are two panels to show port status, panel mode and list mode, click the menu to select the mode.



#### Panel mode

Port LED display every SIM card status on device. if the sim card is locked, can reset in this page



Figure 3.8.1-1 Port LED

Items	Description
	SIM card is detected, but it is not active.
0	SIM card inserted, but the module not read the card.
0	SIM card inserted, and module already read the card.
•	SIM card is registered.
	SIM card is calling.
9	SIM card inter-calling
<b>(=)</b>	SIM card is preparing inter-calling
•	SIM card is using data
0	Low balance(lower than the invalid balance when enable billing system)

•	SIM card register failed
Θ	SIM card is lock by device.
8	SIM card is locked by operator.
Θ	SIM card is locked by user

**Table 3.8.1-1** 

#### **Port Status**

Port status display every wireless module detect status, and register operator information, signal value for channels.

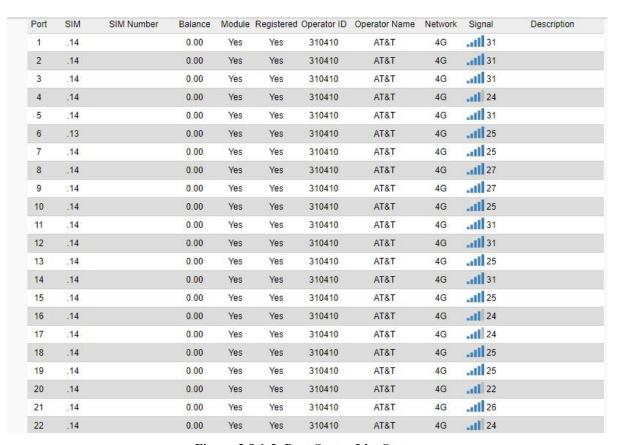


Figure 3.8.1-2 Port Status List Status

Items	Description
Port	Number of GSM/CDMA/WCDMA/LTE ports.
SIM	The SIM Slot number
SIM Status	Indicates whether SIM is registered or not
SIM Number	SIM card number ( need to fill in "Number settings")

Balance	SIM card balance, need to enable billing settings first.
Module	Indicates whether module is detected or not.
Operator	Displays the sim card operator ID
Network	Displays the network 2G/3G/4G
Signal	Displays the signal strength of current SIM card
Description	Display the SIM card status and caller, callee ID.

**Table 3.8.1-2** 

#### 3.8.2 System Status

Device information shows the hardware, software version and wireless module type etc.

WAN status shows the wan port network parameters and MAC address.

License information shows voice, sms and IMEI modify enable or not and so on.

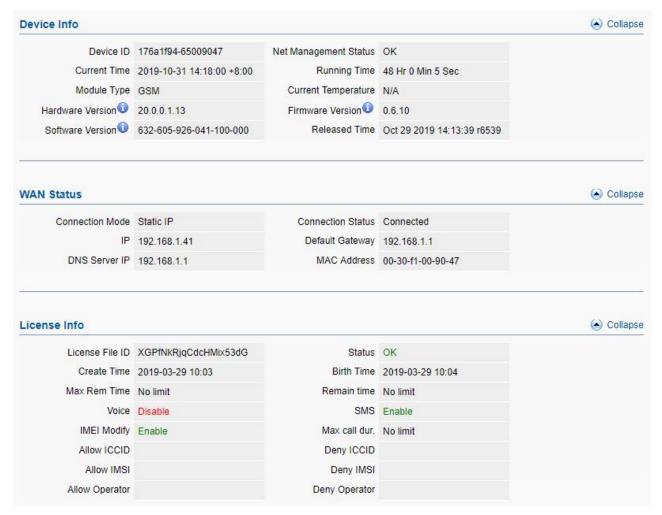


Figure 3.8.2-1 System Status

## 3.8.3 Media Statistics

Media statistics shows the RTP information when send calls.

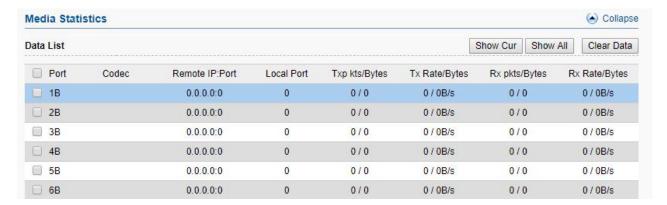


Figure 3.8.3-1 Media Statistics

Items	Description
Port	Number of GSM/CDMA/WCDMA/LTE ports.
Codec	The voice codec of current call use, g729, g723, g711 etc.
Remote IP:Port	The remote server rtp ip and rtp port
Local Port	Device rtp port
Txp kts/Bytes	Device->>server rtp packets
Tx Rate/Bytes	Device->>server rtp sending rate
Rxp kts/Bytes	Server->>device rtp packets
Rx Rate/Bytes	Server->>device rtp sending rate, 0 means mobile side can't hear voice.

Figure 3.8.3-1 Media Statistics

## 3.8.4 SMS Statistics

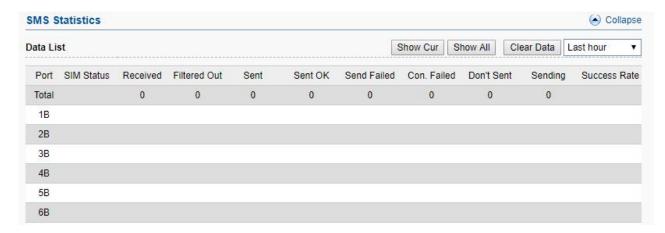


Figure 3.8.4-1 SMS Statistics

Items	Description
Show Cur	Shows current active sim cards sms statistics.
Show ALL	Shows all sim cards sms statistics.
Clear	Clear all ports sms statistics. The data will be clear after rebooting
Time period	Last hour, last two hours, last day and total call statistics for selecting.
Port No.	Number of GSM/CDMA/WCDMA/LTE ports.
SIM status	Indicates whether SIM is registered or not
Received	The sim card received sms counts.
Sent	The sent sms counts.
Sent OK	The successful sms counts.
Sent failed	The failed sms counts.
Con.failed	The consecutive failed sms counts.
Don't send	The cache sms in queue
Sending	The sending sms
Success rate	Success rate

Table 3.8.4-1 SMS Statistics

#### 3.8.5 Traffic Statistics

Traffic statistics shows the sim card data usage, includes total/day/last day/last hour data usage information.

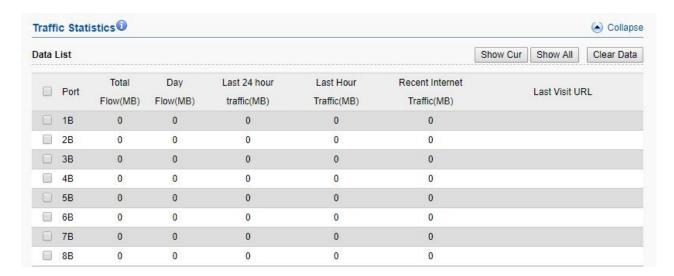


Figure 3.8.5-1 Traffic Statistics

#### 3.8.6 Inter-Call Status

When you enable the inter-calling or inter-SMS, you can monitor the executing details on this page.

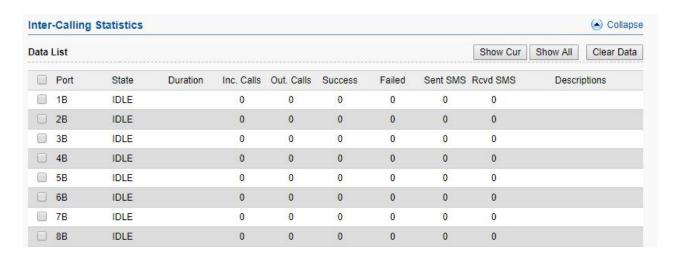


Figure 3.8.6-1 Inter-Call Statistics

## 3.8.7 SMS Query

the device only save 50 receive sms for each port and don't save sent sms record. If you need to save all sms records and query the records, need to connect with eims server first.

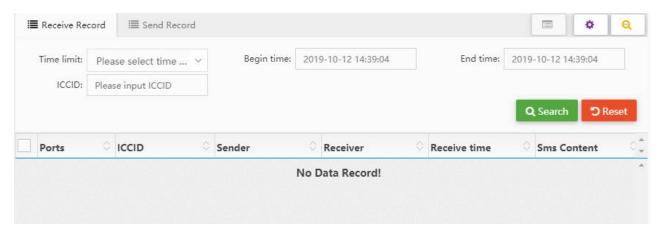


Figure 3.8.7-1 SMS Query

#### 3.9 Save and Reboot

Modification will be applied after you saving and rebooting gateway.(All calls will break off when rebooting.)



Figure 3.10-1 Save and Reboot

# **Chapter IV FAQ**

# 1. What is the default IP, username and password of the device?

Default IP: 192.168.1.67, both username and password are root.

# 2. How to reset the device to factory settings?

Push the "RST" button near power button 10s then it will reset to factory settings.

## 3. SIM card registered failed

- 1) Check the SIM card in mobile first
- 2) Check if install the antenna
- 3) Check if the SIM card insert correctly

## 4. How to update the new firmware?

System settings>>system update>>import file, just upload the firmware file then submit, the

file will upload and save, after that, the device will reboot automatically, 2-3 minutes later, refresh the browser, relogin.

# 5. Why it doesn't work when I change the settings?

Please save and reboot the device to take effect.

# Shenzhen Ejoin Technology Co.,Ltd.

**Address:** 3rd Floor, Wanyuan Business Building, Liuxian NO.2 Road, 71 Block, Bao'an District. Shenzhen City, P.R China.

**Tel:** +86-186-8009-1963

Mobile:

Email: sales@ejointech.com

**Skype:** ejointech.v

Website: www.ejointech.com

Copyright @2018 EJOINTECH. All rights reserved