

# GSM GATEWAY ETS-16x8G USER'S MANUAL



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## 1. Introduction

### 1.1 Overview

GSM VoIP gateway ETS16x8G is newly designed IP to GSM gateway supporting maximum 16 ports 128SIMs of GSM Voice interface, it can effectively realize the smooth transition between PLMN(GSM) and VoIP network. Compact cost effective design and system architecture of GSM Gateway ETS-16x8G provides customer satisfaction in high quality , performance and system reliance.

Mostly important, GSM Gateway ETS-16x8G features with new functions such as multi-SIM rotation, Human behaviour, BTS rotation,proxy server encryption for anti IP block, ETS bandwidth optimization(SBO) , Auto IMEI change and generation, auto activation SIM card etc.

This product uses the state-of-art technology voice compression and Smart QoS of ETS to maintain the maximum voice quality under fast internet line and slow internet line as well, thus It is an ideal gateway for heavy duty VoIP call termination (VoIP to GSM) and Origination (GSM to VoIP), it is fully compatible with leading soft switch and SIP server.

### 1.2 Main features

Support 16 GSM ports, up to 16 concurrent calls (1 Ports 8 SIM card ,total 128 SIM card)

Support GSM: Quad-band 850/900/1800/1900Mhz

CDMA: 450/ 800/ 1900Mhz optional

3G/UMTS: 850/900/2100Mhz optional

Support Multi sim card rotation to avoid sim block

Support BTS rotation and lock

Support encryption for VOS for anti-block of IP port

Support Human behaviour function

Support SMS Sending / batch SMS Sending / receiving

Support USSD balance inquiry

Auto activation SIM card and recharge

Support IMEI change , auto IMEI change and generation

Automatically lock/open SIM card/ port according to its balance or alarm

Support Codec: G.711a/u law, G.723.1, G726,G.729AB

Support bandwidth optimization (optional)

Sys log output by USB interface for tracking records

User friendly web management interface

HTTP Web support for configuration and upgrade

SIM swapping

HTTP Web support ASR, ACD, PDD, SIM balance inquiry

Convert the number as preset rules /Number translation

Call routing / digit map

CDR management

IVR customized

BCCH management

**SIM card rotation conditions:**

- 1) According to accumulated call duration check (talk time)
- 2) According to accumulated idle&talking check(use time)
- 3) According to accumulated calls check (call counter)
- 4) According to consecutive call failure check(call failure)
- 5) According to consecutive low-duration calls check (Low duration)

**Human behaviour conditions:**

- 1) According to accumulated call duration check (talk time)
- 2) According to accumulated idle&talking check(use time)
- 3) According to accumulated calls check (call counter)

### 1.3 Specifications

Interfaces

- Mobile Ports: 16 ports GSM/CDMA channels
- Two(2) 10/100Mbps Ethernet Interface (2xRJ45)
- USB: 1 port

Voice Processing

- Voice Codec: G.711a/u law, G.723.1, G726,G.729AB
- QoS: Diff Serve, T oS, VAD, PLC, CNG

Call Features

- Calling Type: Terminate/Originate calls
- IVR Voice Prompt: Two stage dialing, Customized IVR
- Call handling: One stage dialing, Configurable dial plan, digit map
- DTMF: RFC2833, SIP

Mobile Features

- General Feature: SMS, USSD, IMEI/PIN modify, Call minutes restriction, Carrier select, BCCH, Reversal Polarity Network
- Network Mode: NAT router or switch mode
- Network Protocols: IP,TCP, UDP,TFTP, FTP, RTP, RTCP, ARP, RARP,ICMP Ping, NTP, SNTP, HTTP, DNS, PPPoE, DHCP
- NAT traversal: Static NAT, STUN

Protocol

- Protocol: SIP V2.0 RFC3261
- SIP Characteristics: By port/device registration, Two183 mode

Configuration Management

- Management: TFTP, HTTP, Sys log, CDR
- Web GUI: Configuration, firmware upgrade, call status, CDR ,Configuration backup/restore

Hardware Specifications

- Power Supply:AC100~240V 50/60HZ DC12V/5A
- Temperature: 0~40 °C (Operation) , -20~80 °C (storage)
- Humidity: 5%~90% RH,
- Power Consumption: 35W

- Product Appearance: Rack mountable 1u chassis
- Product Dimensions: 44(W) x 28(D) x 6.8(H) cm
- Product Net weight: 5.0kg
- Carton box Dimensions: 52(W) x 32(D) x 13(H) mm
- Gross weight with Packing box: 7.0kg

### 1.4 Product appearance

Figure 1-4-1 the photos of GSM Gateway ETS-16x8G

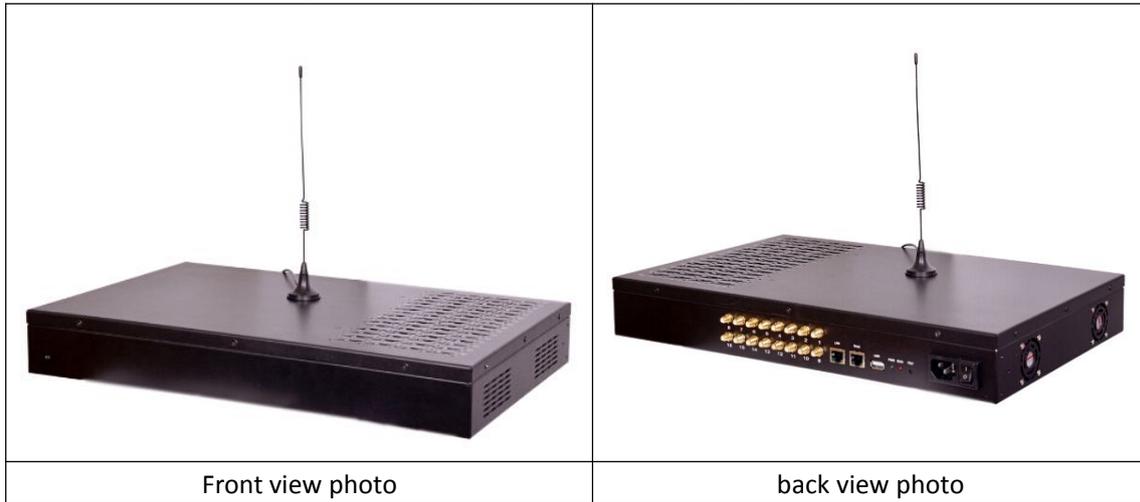


Figure 1-4-2 View of GSM Gateway ETS-16x8G

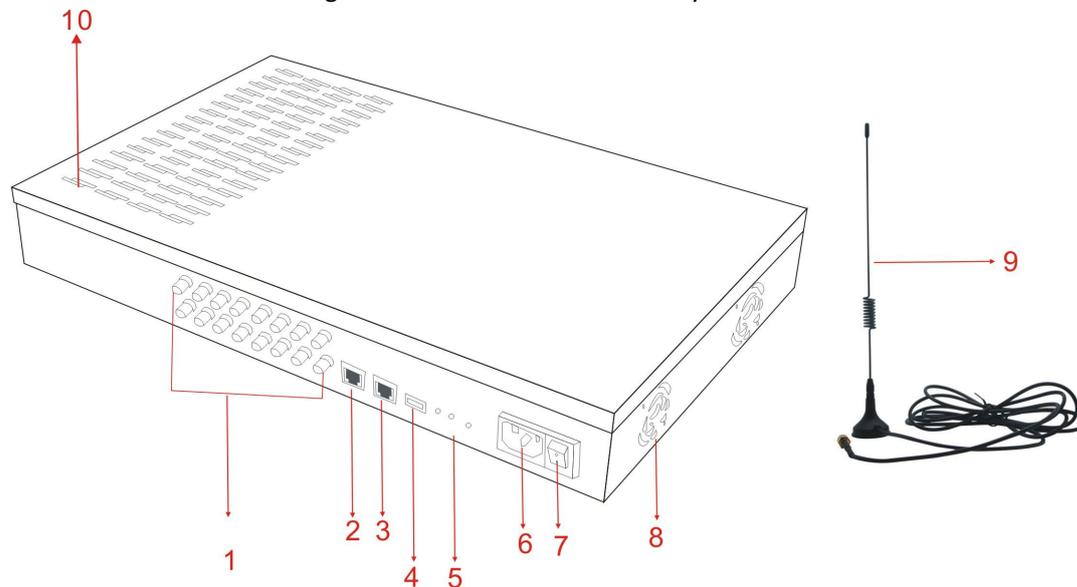


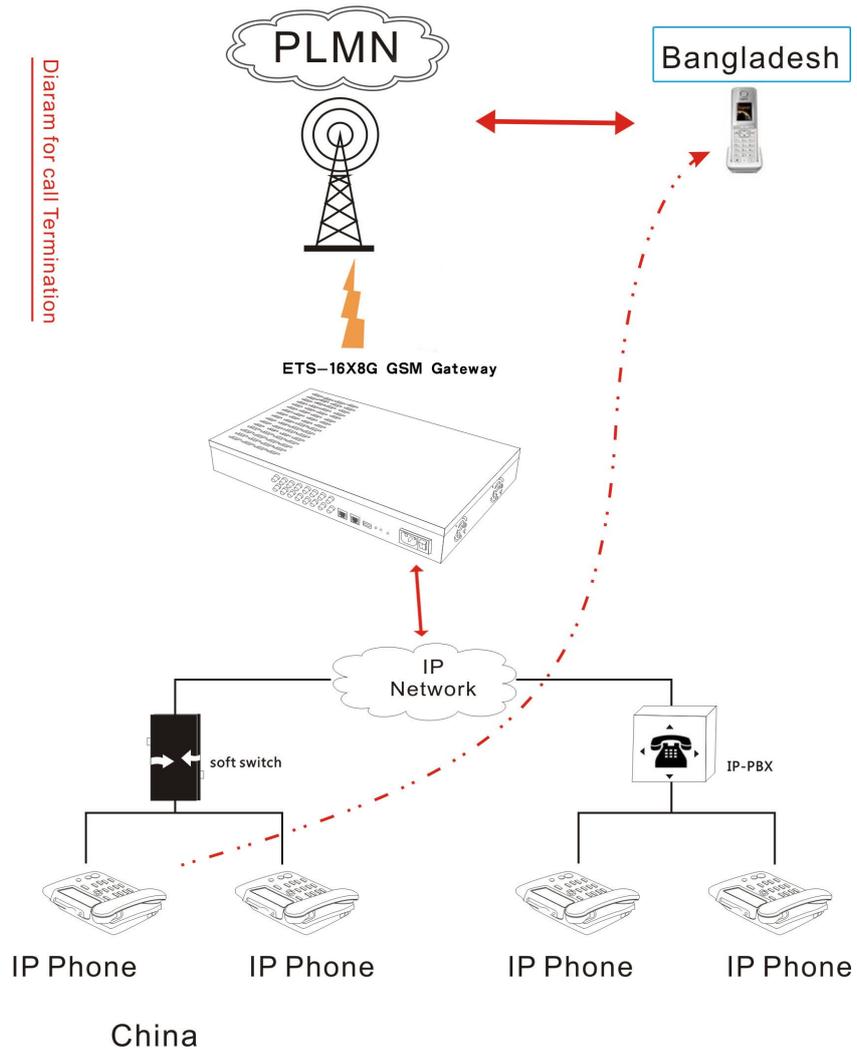
Table 1-4-1 Description of the top view

No.	Sign / item	Description
1	SMA	SMA connector to connect with Antenna, total 16 pieces
2	WAN	Ethernet Interface,10/100M Base-TX, RJ-45 to connect with external network

3	LAN	Local area network, to connect with internal network
4	USB	USB interface for connecting with PC for syslog
5	LED indicators	Led indicators for device running status
6	AC Power	110-240 VAC ,50/60Hz
7	Power switch	To switch on and off the device
8	Electrical Fan	2 Electrical Fans for cooling the device.
9	Antenna	Standard 3m cable Antenna,Gain 3 dbi , short plastic antenna optional But it may make interference noise, not recommended. <b>Attention: The antennas should be placed at a distance(15-20cm) from each other, to avoid interference.</b>
10	SIM Slot	SIM card slot to insert SIM card inside total 128 SIM slots

### 1.5 Call termination diagram

Figure 1-5-1 Call termination diagram



### 1.6 Packing list

Item	Photo	Quantity (piece)
GSM Gateway ETS-16xG host (black)		1
Antenna(3m cable antenna)		16

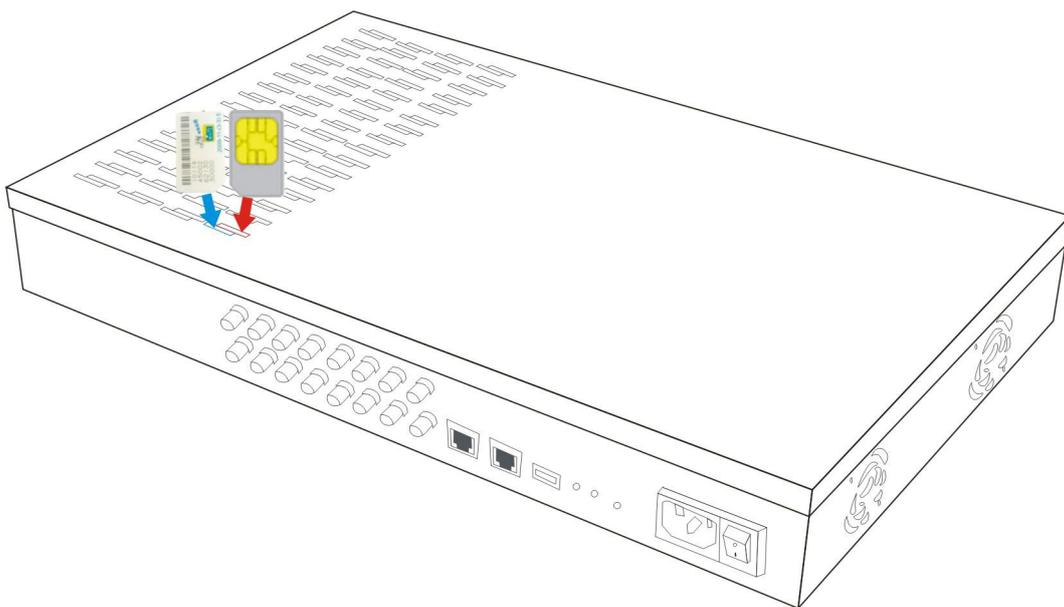
AC power cable		1
USB cable		1
Network cable		2
Weight (Kg)	7.0kg full set	
Size (L x W x H) cm	52x32x13 (outer packing box)	

## 2. Quick Installation Guide

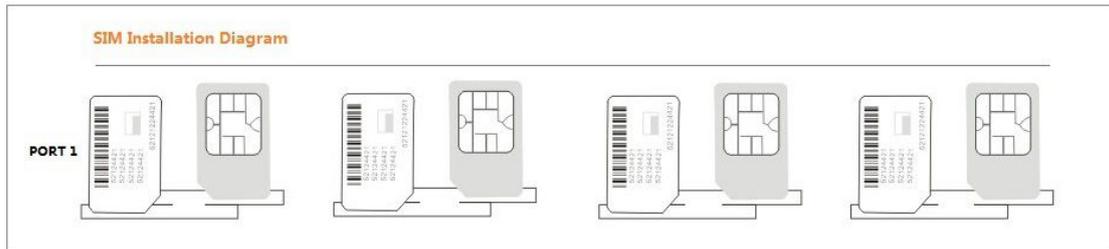
### 2.1 SIM card installation

Install SIM card into each SIM card slot, attention the direction of SIM card inserting, ETS-16G supports SIM card swapping, but not recommended. ( If you want to change SIM card, strongly recommend you to turn the port off from web configuration page then to change SIM card )

Figure 2-1-1 SIM Card installation



## 2.2 SIM card Installation Diagram

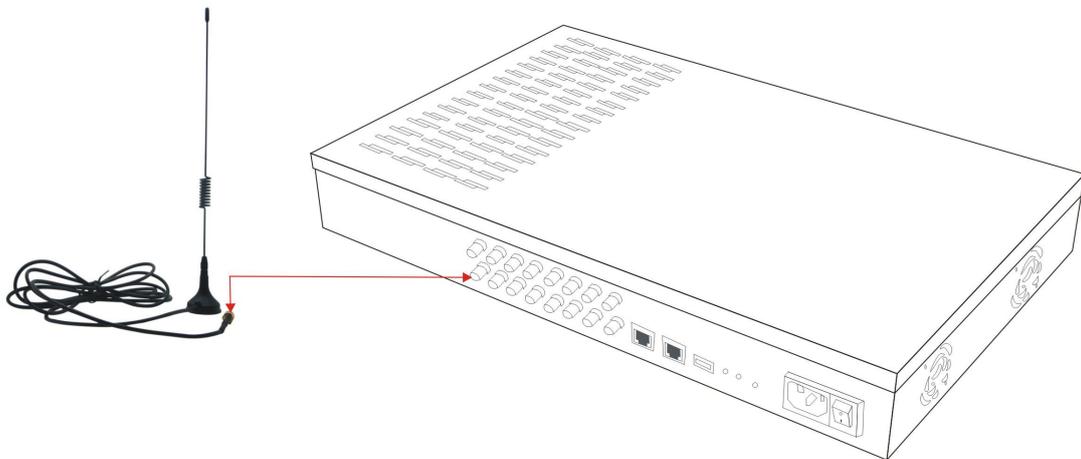


## 2.2 Antenna installation

Install Antenna with 3m cable, and put the antenna at least 1m far away from the device, otherwise it may make interference. Not recommend the short plastic antenna, if customer wants to use short antenna, it may make interference and noise and lower the efficiency of the device.

**Attention: The antennas should be placed at a distance(15-20cm) from each other, to avoid interference.**

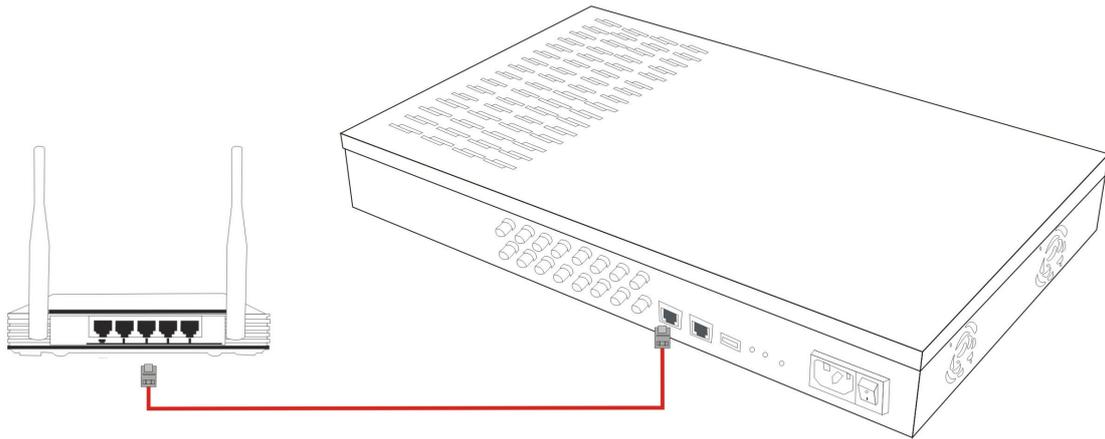
Figure 2-2-1 Antenna installation



## 2.3 Network cable connection of ETS-16x8G

Be sure to connect the WAN port of ETS-16x8G to the router / switch of external network.

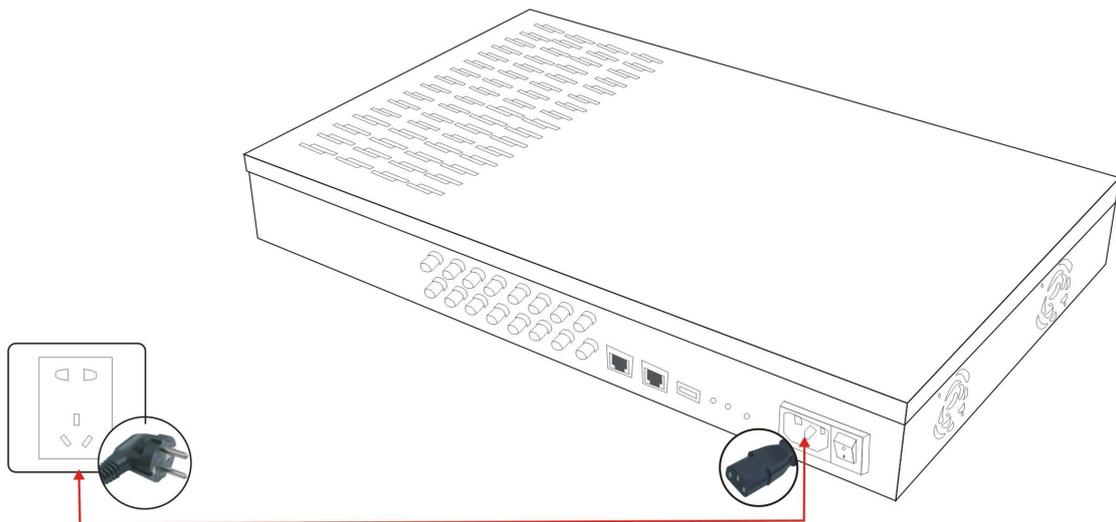
Figure 2-3-1 Network cable connection of ETS-16x8G



#### 2.4 Power cable connection of ETS-16x8G

Connect power cable to the device, and switch on the device ,then it works. We provide US type, EU type, UK type ac power for optional.

Figure 2-4-1 Power cable connection of ETS-16x8G



### 3. Network Configuration

ETS gateway provides two methods for you to enter into web configuration page.

#### 3.1, IVR method configuration

Connect router's cable to WAN port of ETS-16x8G, insert SIM card to SIM 1, connect Antenna for Port 1,then switch on the device. Wait 1 minutes later, the device will fully startup.

Then you can call the number of SIM1 which you inserted to the ETS-16x8G, Your phone will prompt you to input the code, input \*\*\*\*\*01# , you will hear the voice of WAN Port IP address and LAN port IP address accordingly.

### 3.2,LAN port method configuration

Connect PC to LAN port of ETS-16x8G,set PC to automatically obtain IP address. Check the IP address information, you will get the LAN port IP address And its default gateway IP address. See as below:

Figure 3-2-1 LAN & Default gateway IP address



Then you input the default gateway IP address “192.168.89.1” in the browser, it will enter into the Web configuration page, and input Login id: admin, password: admin

Figure 3-2-2 enter into Web configuration through LAN port



Then you will enter into the Web configuration page through LAN port, you will find the WAN port IP address as shown below:

Figure 3-2-3 Show Network information

WAN Information		LAN Information	
Network Ip:	192.168.1.130	Network Ip:	192.168.89.1
Mac Address:	64:9e:f3:78:46:a2	Mac Address:	64:9e:f3:78:46:a3
Wan Link Status:	connected	Lan Link Status:	Disconnected

### 1.3, Enter into Web Configuration Page

(Attention: Before you do this step, Be sure you have changed the LAN cable to connect with WAN port, not LAN port, otherwise it can not work).

After you obtain the WAN IP address, then you can input WAN IP Address of ETS-16G in browser to enter into Web Configuration page.

## 4 Web Configuration

Attention: Before you do the Web configuration, strongly recommend you use the Explorer (Google Chrome, or Microsoft IE 9.0 or above).

### 4.1 Web Configuration

#### 4.1.1 Access the Web configuration page through HTTP

Enter WAN IP address of ETS-16x8G in browser, the GUI shows as below:

Figure 4-1-1 Web configuration interface



Enter Login ID: “admin” and password: “admin” and then click “login” in configuration interface. The default login ID and password are “admin/admin”. It is strongly recommended for you to change the default password to a new password for system security.

#### 4.1.2 Web Configuration

ETS-16x8G administration interface consists of the navigation tree and the detailed configuration interfaces.

Go through navigation tree, user can check, view, modify, and set the device configuration on the right of configuration interface. Currently We have listed “Status”, “BCCH”, “Call history”, “SIM Card”, “Human behavior”, “Port”, “Trunk”, “USSD”, “SMS”, “SMS Bulk”, “Balance Manage”, “call routing”, “System”, “Tools” Columns, and We may upgrade for new features according to special requirements.

Figure 4-1-2 ETS administration interface

**System Information**

- Product Name: GSM Gateway ETS-16G
- Software version: 1.0.0.63 p3
- Hardware Version: V1.0
- Board Version: 1 GSM-M35 1.0.0.55 p1 2 GSM-M35 1.0.0.55 p1 3 GSM-M35 1.0.0.55 p1 4 GSM-M35 1.0.0.55 p1
- Current Time: 1970/01/01 00:26:38

**Network Information**

WAN Information			LAN Information		
Network Ip:	192.168.1.105		Network Ip:	192.168.89.1	
Mac Address:	64.9e.13.78.45.63		Mac Address:	64.9e.13.78.45.64	
Wan Link Status:	connected		Lan Link Status:	Disconnected	

**Port Information**

Port	Enable	Slot	HB mode	Balance(min)	Call Number	Signal	ASR	ACD	PDD	Status	Talk Time	Codec
1	on	3	close	--	--	Ts11	100.0%	1:30	4	Unregister	--	--
2	on	5	close	--	10086#5	Ts11	100.0%	1:21	4	Talking	0:57	G729
3	on	4	close	--	10086#6	Ts11	100.0%	1:22	4	Talking	0:47	G729
4	on	4	close	--	10086#2	Ts11	100.0%	1:11	4	Talking	0:47	G729
5	on	5	close	--	10086#9	Ts11	100.0%	1:31	5	Talking	0:21	G729
6	on	4	close	--	10086#4	Ts11	100.0%	1:17	5	Talking	0:21	G729
7	on	4	close	--	10086#15	Ts11	100.0%	1:27	5	Talking	0:00	G729
8	on	5	close	--	10086#11	Ts11	83.3%	1:31	0	Dialing	--	--
9	on	4	close	--	10086#7	Ts11	100.0%	1:30	4	Talking	0:00	G729
10	on	4	close	--	--	Ts11	100.0%	1:30	5	Idle	--	--
11	on	4	close	--	--	Ts11	100.0%	1:30	4	Idle	--	--
12	on	4	close	--	--	Ts11	100.0%	1:30	4	Idle	--	--
13	on	4	close	--	--	Ts11	100.0%	1:21	4	Idle	--	--
14	on	4	close	--	--	Ts11	100.0%	1:22	4	Idle	--	--
15	on	4	close	--	--	Ts11	100.0%	1:22	5	Idle	--	--
16	on	4	close	--	--	Ts11	100.0%	1:22	5	Idle	--	--

**Trunk Information**

Number	Mapping	Type	Enable	Account	Status	Number	Mapping	Type	Enable	Account	Status
1	10086#1	Ts11	on	10086#1	Idle	1	10086#1	Ts11	on	10086#1	Idle

Table 4.1.1 Description of the Web configuration columns

Status	Shows the device current run status and lists related parameters and data
BCCH	Shows GSM ports BCCH data, e.g. Bcch, LAC and dbm for each port
Call history	Shows IP to GSM,GSM to IP calls,duration,success and failure statistic
Sim card	Shows SIM card working status and parameters, and also for rotation setting, Lock setting , Initial SIM card setting
Human behavior	Shows human behavior status, Mode setting,server/client setting, server number setting, SMS content setting.
Port	Numbers of GSM/CDMA channels
Trunk	Add remote IP of soft switch, SIP server which will send call traffics to gateway.
USSD	USSD (Unstructured Supplementary Service Data) is a Global System for Mobile(GSM) communication technology that is used to send text between a mobile phone and an application program in the network.
SMS	To send SMS and receive SMS
SMS Bulk	To send SMD bulk, working as SMS modem
Balance manage	Shows SIM balance duration, to set the balance and unit and auto balance calculation management (auto query and auto update)
Call routing	To pre-define some digit map /call rules to realize the call routing
System	System instruction and setting
Tools	Useful tools

## 4.2 Status

### 4.2.1 System Information/Network information/Port information

System information shows product's name,software version and hardware version, GSM board version and Current time etc.

Network Information shows WAN and LAN network IP address, Mac Address and also the link status.

Port information shows the port basic information and working status.

Figure 4-2-1-1 system /Network /Port information

System Information				
Product Name:	GSM Gateway ETS-16G			
Software version:	1.0.0.62-b1			
Hardware Version:	V1.0			
Board Version:	1 GSM-M35 1.0.0.55	2 GSM-M35 1.0.0.55	3 GSM-M35 1.0.0.55	4 GSM-M35 1.0.0.55
Current Time:	2014/03/19 16:39:39			

Network Information			
WAN Information		LAN Information	
Network Ip:	192.168.1.37	Network Ip:	192.168.89.1
Mac Address:	64.9e:f3:78:49:22	Mac Address:	64.9e:f3:78:49:23
Wan Link Status:	connected	Lan Link Status:	Disconnected

Port Information												
Port	Enable	Slot	HB mode	Balance(min)	Call Number	Signal	ASR	ACD	PDD	Status	Talk Time	Codec
1	on	8	server	499:00	---	Y <sub>all</sub>	1.7%	0:50	0	Idle	--	--
2	on	8	server	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
3	on	8	server	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
4	on	8	client	499:00	---	Y <sub>all</sub>	100.0%	0:04	4	Idle	--	--
5	on	6	client	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
6	on	6	client	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
7	on	6	client	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
8	on	--	close	--	---	Y <sub>all</sub>	0.0%	0:00	0	Booting	--	--
9	on	6	client	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
10	on	6	client	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
11	on	--	client	--	---	Y <sub>all</sub>	0.0%	0:00	0	Booting	--	--
12	on	6	client	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
13	on	6	client	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
14	on	6	client	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--
15	on	--	client	--	---	Y <sub>all</sub>	0.0%	0:00	0	Booting	--	--
16	on	6	client	500:00	---	Y <sub>all</sub>	0.0%	0:00	0	Idle	--	--

Table 4-2-1-1 Description of system/Network/Port Information

Product name	GSM Gateway ETS-16x8G
Software version	Indicates the firmware version
Hardware version	Indicates the hardware version
Board Version	Indicates the GSM board version
Current time	If connect with external network, it will show the system time
WAN	WAN (Wide Area Network) port information
LAN	LAN (Local Area Network) port Information
Mac Address	Displays the current MAC of the gateway (WAN port and LAN port)
Wan/Lan link status	Displays Wan/Lan port connect status (connected /Disconnected)
Port	Numbers of GSM/CDMA ports .
Enable	Enable displays the status of port (On or Off), if “On” is red color ,means the port is empty or not ready.
Slot	Indicates the current SIM slot
HB mode	Indicates human behavior status, if we don’t activate the human behavior, it will show “close”, if we activate the human behavior, we will see some ports as “Server”, and some ports as “Client” in blue color, if “server” or “client” are red color, means the port is empty or not ready.
Balance (min)	Shows the balance (minutes) if we set the balance management, And if we open this option, it will show the remaining call minutes, when the call minute is “0”, it will close the port (the port is off)
Call number	Shows the outgoing call number
Signal	Shows the GSM signal strength

ASR	Answer Seizure Ratio is a measure of network quality . Its calculated by taking the number of successfully answered calls and dividing by the total number of calls attempted. Since busy signals and other rejections by the called number count as call failures, the ASR value can vary depending on user behavior.
ACD	The Average Call Duration (ACD) is calculated by taking the sum of billable seconds (bill sec) of answered calls and dividing it by the number of these answered calls.
PDD	Post Dial Delay (PDD) is experienced by the originating customer as the time from the sending of the final dialed digit to the point at which they hear ring tone or other in-band information. Where the originating network is required to play an announcement before completing the call then this definition of PDD excludes the duration of such announcements
Talk time	Shows the current call duration
Status	shows the port's status: idle, talking, dialing,booting,no card,error.
Codec	Shows the current codec of the SIP voice, generally ETS-16x8G supports G.711a/u law, G.723.1, G726,G.729AB etc
IMSI	International Mobile Subscriber Identity, it is the uniquely identifies of SIM card
IMEI	International Mobile Equipment Identity, it is the uniquely identifies of the module

#### 4.2.2 Trunk Information

Trunk information shows the IP trunk quantity and status.

Figure 4-2-2-1 Trunk Information

Trunk Information											
Number	Mapping	Type	Enable	Account	Status	Number	Mapping	Type	Enable	Account	Status
1	sip-gsm	account	On	etross-test-2	Connect	9	---	---	Off	---	Uninstall
2	---	---	Off	---	Uninstall	10	---	---	Off	---	Uninstall
3	---	---	Off	---	Uninstall	11	---	---	Off	---	Uninstall
4	---	---	Off	---	Uninstall	12	---	---	Off	---	Uninstall
5	---	---	Off	---	Uninstall	13	---	---	Off	---	Uninstall
6	---	---	Off	---	Uninstall	14	---	---	Off	---	Uninstall
7	---	---	Off	---	Uninstall	15	---	---	Off	---	Uninstall
8	---	---	Off	---	Uninstall	16	---	---	Off	---	Uninstall

Table 4-2-2-1 Description of Trunk Information

Trunk information	Displays the IP trunk quantity, type,and status
Number	Index of the IP trunk, you can add 1 piece trunk or maximum 16 pieces
Mapping	
Type	Displays the IP trunk type (account /peer optional)
Enable	Displays the IP trunk on/off
Account	Trunk account name
Status	Displays trunk connection status, connect / uninstall optional

### 4.2.3 BCCH

The Broadcast Control Channel (BCCH) is a logical broadcast channel used by the base station in a GSM network to send information about the identity of the network. This information is used by a mobile station to get access to the network.

This information includes the Mobile Network Code (MNC), the Location Area Code (LAC) and a list of frequencies used by the neighboring cells (BA: BCCH Allocation List).

Figure 4-2-3-1 BCCH

Port	BCCH																				
	Bcch	LAC	dbm																		
1	592	0x9b1	-69	76	0x9b1	-63	62	0x9b1	-72	68	0x9b1	-73	64	0x9b1	-73	82	0x9b1	-76	560	0x9b1	-77
2	578	0x9b1	-63	78	0x9b1	-62	76	0x9b1	-67	64	0x9b1	-77	62	0x9b1	-77	790	0x9b1	-78	574	0x9b1	-81
3	578	0x9b1	-62	78	0x9b1	-53	76	0x9b1	-55	68	0x9b1	-68	62	0x9b1	-68	66	0x9b1	-72	-	-	-
4	578	0x9b1	-51	78	0x9b1	-50	76	0x9b1	-64	68	0x9b1	-69	62	0x9b1	-71	790	0x9b1	-73	64	0x9b1	-74
5	578	0x9b1	-54	78	0x9b1	-53	76	0x9b1	-66	790	0x9b1	-68	62	0x9b1	-75	68	0x9b1	-79	574	0x9b1	-79
6	578	0x9b1	-52	78	0x9b1	-52	62	0x9b1	-68	64	0x9b1	-72	68	0x9b1	-75	790	0x9b1	-75	574	0x9b1	-76
7	578	0x9b1	-51	78	0x9b1	-52	76	0x9b1	-62	790	0x9b1	-69	62	0x9b1	-73	68	0x9b1	-73	560	0x9b1	-79
8	578	0x9b1	-54	78	0x9b1	-51	76	0x9b1	-60	68	0x9b1	-68	62	0x9b1	-75	562	0x9b1	-77	66	0x9b1	-78
9	78	0x9b1	-51	578	0x9b1	-59	76	0x9b1	-62	790	0x9b1	-72	68	0x9b1	-75	62	0x9b1	-75	82	0x9b1	-77
10	578	0x9b1	-55	78	0x9b1	-61	76	0x9b1	-65	62	0x9b1	-71	64	0x9b1	-72	574	0x9b1	-74	570	0x9b1	-75
11	578	0x9b1	-54	76	0x9b1	-66	78	0x9b1	-69	574	0x9b1	-71	68	0x9b1	-72	62	0x9b1	-73	66	0x9b1	-77
12	578	0x9b1	-61	78	0x9b1	-56	76	0x9b1	-61	790	0x9b1	-72	64	0x9b1	-75	62	0x9b1	-75	570	0x9b1	-77
13	578	0x9b1	-52	78	0x9b1	-49	76	0x9b1	-55	68	0x9b1	-69	64	0x9b1	-71	62	0x9b1	-74	790	0x9b1	-74
14	578	0x9b1	-54	78	0x9b1	-49	76	0x9b1	-61	790	0x9b1	-71	68	0x9b1	-71	62	0x9b1	-73	560	0x9b1	-74
15	78	0x9b1	-50	578	0x9b1	-59	68	0x9b1	-72	82	0x9b1	-73	76	0x9b1	-76	48	0x9b1	-76	52	0x9b1	-77
16	578	0x9b1	-52	78	0x9b1	-55	64	0x9b1	-65	76	0x9b1	-66	62	0x9b1	-68	790	0x9b1	-70	68	0x9b1	-71

Table 4-2-3-1 Description of BCCH

BCCH	Broadcast control channel
LAC	Local Area Code
dbm	The signal gain index, generally use negative, the signal strength is good if the amount > -80

### 4.3 Call history

Call history interface shows all the call records and statistics, it includes IP to GSM call history, GSM to IP call history, CDR, And also provide the interface for clearing all the call history and duration.

#### 4.3.1 IP to GSM call history

Figure 4-3-1-1 IP to GSM call history

IP to GSM Call History											
Port	Call	Duration	Answered	Call Failed Caused by SIP				Call Failed Caused by GSM			System Error
				Canceled	Timeout	Negotiation failed	Other	Busy	NO ANSWER	Error	
1	283	370:59	282	0	0	0	0	0	1	0	0
2	276	373:48	276	0	0	0	0	0	0	0	0
3	276	374:21	275	0	0	0	0	0	0	1	0
4	265	374:48	265	0	0	0	0	0	0	0	0
5	267	377:56	267	0	0	0	0	0	0	0	0
6	271	375:2	271	0	0	0	0	0	0	0	0
7	274	373:31	274	0	0	0	0	0	0	0	0
8	273	373:59	272	0	0	0	0	0	0	0	1
9	277	373:6	277	0	0	0	0	0	0	0	0
10	270	373:56	270	0	0	0	0	0	0	0	0
11	274	373:40	273	0	0	0	0	0	1	0	0
12	273	374:16	273	0	0	0	0	0	0	0	0
13	271	374:18	269	0	0	0	0	0	1	1	0
14	266	373:31	265	0	0	0	0	0	0	1	0
15	273	374:38	273	0	0	0	0	0	0	0	0
16	272	374:57	271	0	0	0	0	0	0	0	1

Refresh

Table 4-3-1-1 Description of IP to GSM call history

IP to GSM call history	Shows Sip VoIP calls to GSM call history (call termination)
Port	Numbers of GSM/CDMA ports
Call	Call amounts
Duration	All the calls accumulated duration
Answered	The calls amount be answered
Call failure caused by Sip	the amount of call failure due to the reason of SIP problem
Canceled	The caller side cancel calls amount
Timeout	The timeout failure calls amount
Negotiation failed	The SIP and GSM negotiation failure calls amount
Others	Other reasons leads to call failure calls amount
Call failed by GSM	The calls failed by GSM side reason amount
Busy	The calls failed by answer side busy reason amount
No answer	The calls failed by no answer reason amount
Error	The calls failed by error reason amount
System error	The calls failed by system error reason amount

4.3.2 GSM to IP call history

Figure 4-3-2-1 IP to GSM call history

GSM to IP Call History										
Port	Call	Duration	Answered	Call Failed Caused by SIP				Call Failed Caused by GSM		System Error
				Canceled	Timeout	Negotiation failed	Other	User Canceled	Error	
1	0	0:0	0	0	0	0	0	0	0	0
2	0	0:0	0	0	0	0	0	0	0	0
3	0	0:0	0	0	0	0	0	0	0	0
4	0	0:0	0	0	0	0	0	0	0	0
5	0	0:0	0	0	0	0	0	0	0	0
6	0	0:0	0	0	0	0	0	0	0	0
7	0	0:0	0	0	0	0	0	0	0	0
8	0	0:0	0	0	0	0	0	0	0	0
9	0	0:0	0	0	0	0	0	0	0	0
10	0	0:0	0	0	0	0	0	0	0	0
11	0	0:0	0	0	0	0	0	0	0	0
12	0	0:0	0	0	0	0	0	0	0	0
13	0	0:0	0	0	0	0	0	0	0	0
14	0	0:0	0	0	0	0	0	0	0	0
15	0	0:0	0	0	0	0	0	0	0	0
16	0	0:0	0	0	0	0	0	0	0	0

[Refresh](#)

Table 4-3-2-1 Description of IP to GSM call history

GSM to IP call history	Shows GSM to VoIP call history (call origination)
Port	Numbers of GSM/CDMA ports
Call	Call amounts
Duration	All the calls accumulated duration
Answered	The calls amount be answered
Call failure caused by Sip	the amount of call failure due to the reason of SIP problem
Canceled	The caller side cancel calls amount
Timeout	The timeout failure calls amount
Negotiation failed	The GSM and SIP negotiation failure calls amount
Others	Other reasons leads to call failure calls amount
Call failed by GSM	The calls failed by GSM side reason amount
Busy	The calls failed by answer side busy reason amount
No answer	The calls failed by no answer reason amount
Error	The calls failed by error reason amount
System error	The calls failed by system error reason amount

### 4.3.3 CDR

CDR is the call details records, it records all the details of the call from which ports, call type (IP to GSM or GSM to IP), call start time, durations, caller number, callee number etc .

Figure 4-3-3-1 CDR

Port	Call Type	Start Time	Duration(s)	Caller Num	Callee Num
1	Ip To Gsm	1970/1/1 14:31:9	94	7804	10086#5
16	Ip To Gsm	1970/1/1 14:31:9	90	7801	10086#2
15	Ip To Gsm	1970/1/1 14:31:7	90	7806	10086#7
10	Ip To Gsm	1970/1/1 14:31:2	88	7815	10086#16
8	Ip To Gsm	1970/1/1 14:31:2	88	7807	10086#8
13	Ip To Gsm	1970/1/1 14:30:44	90	7808	10086#9
9	Ip To Gsm	1970/1/1 14:30:40	92	7800	10086#1
12	Ip To Gsm	1970/1/1 14:30:41	89	7812	10086#13
7	Ip To Gsm	1970/1/1 14:30:32	88	7813	10086#14
14	Ip To Gsm	1970/1/1 14:30:25	89	7805	10086#6
6	Ip To Gsm	1970/1/1 14:31:18	31	7809	10086#10
11	Ip To Gsm	1970/1/1 14:30:16	90	7803	10086#4
3	Ip To Gsm	1970/1/1 14:30:16	90	7802	10086#3
5	Ip To Gsm	1970/1/1 14:30:57	31	7811	10086#12
2	Ip To Gsm	1970/1/1 14:29:59	88	7814	10086#15
4	Ip To Gsm	1970/1/1 14:30:55	31	7810	10086#11
6	Ip To Gsm	1970/1/1 14:29:39	89	7809	10086#10
16	Ip To Gsm	1970/1/1 14:29:31	89	7804	10086#5
15	Ip To Gsm	1970/1/1 14:29:31	89	7801	10086#2
1	Ip To Gsm	1970/1/1 14:29:30	88	7806	10086#7
12	Ip To Gsm	1970/1/1 14:27:23	89	7812	10086#13
7	Ip To Gsm	1970/1/1 14:27:16	88	7813	10086#14
14	Ip To Gsm	1970/1/1 14:27:2	89	7804	10086#5
5	Ip To Gsm	1970/1/1 14:26:54	96	7815	10086#16
10	Ip To Gsm	1970/1/1 14:27:1	88	7807	10086#8
11	Ip To Gsm	1970/1/1 14:27:0	89	7811	10086#12
4	Ip To Gsm	1970/1/1 14:26:52	89	7803	10086#4

Total: 1500 entries 50 entries/page Total 30 page

Table 4-3-3-1 Description of CDR

CDR	Call details records
Port	Numbers of the GSM/CDMA Ports
Call type	Displays the call type from IP to GSM or GSM to IP.
Start time	The calls start time records
Duration(s)	Displays the calls duration (seconds)
Caller Num	Displays the caller ID number
Callee Num	Displays the callee ID number
Download	Click the download button to download the CDR to save in your PC to keep records, change the file name to <u>file.csv</u> ,then you can open it by Microsoft excel

#### 4.3.4 Clear history

Note: Click “Clear call history”, it means all the records of call in and call out will be deleted

Click “Clear All Cdr”,it means all Cdr will be deleted

Figure 4-3-4-1 Clear record



NOTE: 1.Click "Clear Call history",it means all record of call in and call out will be delete

Table 4-3-4-1 Description clear record

Clear record	Clear record including “Clear call history” and “Clear All Cdr”
Clear call history	Clear call history means all the call records will be deleted
Clear all CDR	Clear all CDR means all Cdr will be deleted
Submit	Click this button “submit” to execute

#### 4.4 SIM card

GSM Gateway ETS-16x8G support SIM card rotation to avoid the block by the operators, this chapter we will explain how it works.

##### 4.4.1 Status

Figure 4-4-1-1

Sim Card Status																						
No.1 No.2 No.3 No.4 No.5 No.6 No.7 No.8 No.9 No.10 No.11 No.12 No.13 No.14 No.15 No.16																						
Slot	Insert	ACT	Imsi	Imei	Current							Statistics Total										
					Balance	Call	Talk	Used	Failed	Low Duration	Call	Talk	Used	Asr	Acq	Answered	Failed	Low Duration	No Answer	No Alert	Other	
Unlock	1	yes	no	460009472576404	862106028958496	--	2	0:3:02	0:9:35	0/0	0/0	2	0:3:02	0:9:36	100%	1:31	2	0	0	0	0	0
Unlock	2	yes	no	460009182572061	862106028958496	--	2	0:3:02	0:3:50	0/0	0/0	2	0:3:02	0:3:50	100%	1:31	2	0	0	0	0	0
Unlock	3	yes	no	460026068374592	862106028958496	--	2	0:3:02	0:3:42	0/0	0/0	2	0:3:02	0:3:42	100%	1:31	2	0	0	0	0	0
Unlock	4	yes	no	460025881996216	862106028958496	--	2	0:3:02	0:3:43	0/0	0/0	2	0:3:02	0:3:43	100%	1:31	2	0	0	0	0	0
Unlock	5	yes	no	460024871356955	862106028958496	--	2	0:3:02	0:3:38	0/0	0/0	2	0:3:02	0:3:38	100%	1:31	2	0	0	0	0	0
Unlock	6	yes	no			--	0	0:0:00	0:0:00	0/0	0/0	0	0:0:00	0:0:00	0%	0:00	0	0	0	0	0	0
Unlock	7	yes	no			--	0	0:0:00	0:0:00	0/0	0/0	0	0:0:00	0:0:00	0%	0:00	0	0	0	0	0	0
Unlock	8	yes	no			--	0	0:0:00	0:0:00	0/0	0/0	0	0:0:00	0:0:00	0%	0:00	0	0	0	0	0	0

Table 4-4-1 Description of SIM card status

SIM card status	Shows the whole 128 SIM card status
No.1 -No.16	Numbers of the GSM/CDMA Ports from No.1 to No.16
Slot	SIM card slot, each port has 8 SIM slots
Insert	Indicates SIM inserted or not, If SIM card inserted ,will display “Yes”, And the whole line will show deep blue color,If the SIM card is in current use, the background color will show sky blue color, if no SIM card inserted, will display “no”, and the whole line will show grey color. See Figure 4-4-1-2
ACT	Means to activate the SIM card, currently the function is under development
IMSI	International Mobile Subscriber Identity, it is the uniquely identifies of SIM card
IMEI	International Mobile Equipment Identity, it is the uniquely identifies of the module
Current	Means to display the current use SIM card status and statistics, if rotate to next sim card, all the parameters will start from 0
Statistics total	Means to display the total of the SIM card status (in use or not in use, if

	the SIM card inserted), if the sim card is taken out, all the parameters will be erased and it will start from 0 if you insert a new SIM card
Balance	Display the balance of the SIM card
Call	Counter the call times
Talk	Talk time(duration)
Used	SIM card power on time(online time)
Failed	Consecutive Call failure times
Low duration	Consecutive Low duration times
ASR	Answer Seizure Ratio is a measure of network quality . Its calculated by taking the number of successfully answered calls and dividing by the total number of calls attempted. Since busy signals and other rejections by the called number count as call failures, the ASR value can vary depending on user behavior.
ACD	The Average Call Duration (ACD) is calculated by taking the sum of billable seconds (bill sec) of answered calls and dividing it by the number of these answered calls.
Answered	The answer side answer the call times
No answer	The answer side no answer the call times
No alert	The answer side no ring times
other	Other reasons times
Unlock	When we preset balance management or call failure, low duration management ,the device will lock the SIM card and the character "unlock" will display red color if the parameters reaches the preset value. How to unlock: 1,Recharge the SIM card then click the "unlock" button to unlock it. If balance is less than the preset value . 2,Just click "unlock" button to unlock , if it is call failure or low duration reason. See figure 4-4-1-3

Figure 4-4-1-2, This Figure is to help you understand the SIM card status

If we insert the SIM card and the device can read out the IMSI of the SIM card and also display the GSM module IMEI, and the whole line character will show deep blue color, and if the SIM card in current use, the background color for the whole line will show sky blue color, If no SIM card inserted ,or the device can not read the SIM card,it will display "No",and the whole line character will show grey color. See the figure Figure 4-4-2 as below:

Figure 4-4-1-2

Slot	Insert	ACT	Imsi	Imei	Current						Statistics Total											
					Balance	Call	Talk	Used	Failed	Low Duration	Call	Talk	Used	Asr	Acid	Answered	Failed	Low Duration	No Answer	No Alert	Other	
<input type="button" value="Unlock"/>	1	yes	no	460004342179908	862106028803775	--	1	0:00	0:0:15	0/0	0/0	3	0:1:36	0:5:27	100%	0:48	Current use SIM card	0	0	0		
<input type="button" value="Unlock"/>	2	yes	no	460025881691704	862106028803775	--	2	0:3:02	0:3:38	0/0	0/0	2	0:3:02	0:3:38	100%	1:31	2	0	0	0	0	0
<input type="button" value="Unlock"/>	3	yes	no	460077520011725	862106028803775	--	2	0:3:02	0:3:45	0/0	0/0	2	0:3:02	0:3:45	100%	1:31	2	0	0	0	0	0
<input type="button" value="Unlock"/>	4	yes	no	460026068374592	862106028803775	--	2	0:2:03	0:2:38	0/0	0/0	2	0:2:03	0:2:38	100%	1:01	2	0	0	0	0	0
<input type="button" value="Unlock"/>	5	yes	no	460025884716939	862106028803775	--	2	0:2:03	0:2:40	0/0	0/0	2	0:2:03	0:2:40	100%	1:01	SIM card inserted but not in current use	0	0	0	0	0
<input type="button" value="Unlock"/>	6	yes	no	460025884183545	862106028803775	--	2	0:2:03	0:2:44	0/0	0/0	2	0:2:03	0:2:44	100%	1:01	2	0	0	0	0	0
<input type="button" value="Unlock"/>	7	yes	no	460079365793210	862106028803775	--	2	0:2:03	0:2:42	0/0	0/0	2	0:2:03	0:2:42	100%	1:01	2	0	0	0	0	0
<input type="button" value="Unlock"/>	8	no	no	460008933855071	862106028803775	--	0	0:0:00	0:0:00	0/0	0/0	0	0:0:00	0:0:00	0%	0:00	0	0	0	0	0	0

Figure 4-4-1-3 Unlock

Slot	Insert	ACT	Imsi	Imei	Current						Statistics Total												
					Balance	Call	Talk	Used	Failed	Low Duration	Call	Talk	Used	Asr	Acid	Answered	Failed	Low Duration	No Answer	No Alert	Other		
<input type="button" value="Unlock"/>	1	yes	no	460024871761983	862106028803775	7.00	1	0:0:32	0:0:56	0/0	0/0	1	0:0:32	0:0:57	100%	0:32	1	0	0	0	0	0	
<input type="button" value="Unlock"/>	2	yes	no	460025881691704	862106028803775	8.00	0	0:0:00	0:0:02	0/0	0/0	4	0:4:33	0:6:30	100%	1:31	3	0	0	0	0	0	
<input type="button" value="Unlock"/>	3	yes	no	460077520011725	862106028803775	8.00	0	0:0:00	0:0:01	0/0	0/0	2	0:3:02	0:3:47	100%	1:31	2	0	0	0	0	0	
<input type="button" value="Unlock"/>	4	yes	no	460026068374592	862106028803775	8.00	0	0:0:00	0:0:02	0/0	0/0	2	0:2:03	0:2:42	100%	1:01	due to balance lower than preset value, failure and low duration times more than preset value, the SIM card will be locked, it will display red color, you have to set balance to unlock it if it is balance reason, if failure or low duration reason, you just click "unlock" to unlock.	0	0	0	0	0	0
<input type="button" value="Unlock"/>	5	yes	no	460025884716939	862106028803775	8.00	0	0:0:00	0:0:02	0/0	0/0	2	0:2:03	0:2:43	100%	1:01	2	0	0	0	0	0	
<input type="button" value="Unlock"/>	6	yes	no	460025884183545	862106028803775	8.00	0	0:0:00	0:0:01	0/0	0/0	2	0:2:03	0:2:46	100%	1:01	2	0	0	0	0	0	
<input type="button" value="Unlock"/>	7	yes	no	460079365793210	862106028803775	--	0	0:0:00	0:0:00	0/0	0/0	2	0:2:03	0:2:42	100%	1:01	2	0	0	0	0	0	
<input type="button" value="Unlock"/>	8	no	no	460008933855071	862106028803775	--	0	0:0:00	0:0:00	0/0	0/0	0	0:0:00	0:0:00	0%	0:00	0	0	0	0	0	0	

4.4.2 Rotate

SIM rotation setting can effectively lower being blocked rate by the operators. There are 5 conditions you can set .see the figure 4-4-2-1

Actually SIM rotation setting should abide by the real situation of the block mechanism of operators, then employ different setting for different operators/countries. And also customer should do research then adjust the suitable conditions for the setting.

Remarks:

- 1, if user fill condition 1 , talk time >30 minutes, and use time >120 minutes, that means when both conditions are met, then the device will rotate to next slot. Otherwise it will not rotate.
- 2,if user fill condition 1: talk time >30 minutes, and condition 2 : use time >120 minutes in different condition columns, that means when 1 condition is met, then will execute this one. Another condition will be ignored.
- 3,Condition setting can not be self-contradictory,or the settings value can not be too small, otherwise it will affect the device running.
- 4, Strongly suggest customer to set easy conditions or do according to etross advice first.

Figure 4-4-2-1

Rotate Condition					
	Talk Time	Use Time	Call Counter	Call Failure	Low Duration
Condition 1	> 30 mins	> mins	>	>	>
Condition 2	> mins	> 120 mins	>	>	>
Condition 3	> mins	> mins	> 10	>	>
Condition 4	> mins	> mins	>	>	>
Condition 5	> mins	> mins	>	>	>
Condition 6	> mins	> mins	>	>	>

Table 4-4-2 Description of Rotate Condition

Rotate condition	For setting rotate conditions
Condition	There are maximum 6 conditions can be set
Talk time	Condition according to call duration
Use time	Condition according to SIM card online time
Call counter	Condition according to call times
Call failure	Condition according to consecutive call failure times
Low duration	Condition according to consecutive low duration times
Delete	Click "delete" to delete condition
Add	To add one condition
Save	To save the conditions setting

#### 4.4.3 Lock

Lock here means to lock the SIM card and doesn't permit it to use, why we do this? In VoIP call termination practice, operator may block the SIM card if they think the SIM card is for call termination purpose, and consecutive call failure and consecutive low duration calls are among their judgment standards, and low balance reminder also help us to do recharge in advance.

There are 3 kind of lock settings:

- 1, Consecutive call failure lock setting
- 2, Consecutive low duration lock setting
- 3, Low balance lock setting

Figure 4-4-3

**Call Failure Lock**  
 Enable  ON  OFF  
 Maximum Times

**Low Duration Lock**  
 Enable  ON  OFF  
 Maximum Times   
 Threshold  (s)

**Low Balance Lock**  
 Threshold  (mins)

Table 4-4-3 Description of lock

Call failure lock	Consecutive call failure lock
Enable	Enable has two status "On" and "Off" ,if you want to use Lock, then click "On", if no use lock, then click "Off"
Maximum Times	Set lock maximum times
Low duration Lock	Consecutive low duration lock
Threshold	The value which is met then do lock

Low balance lock	Condition according to consecutive call failure times
------------------	---

#### 4.4.4 Change SIM slot Manually

Change SIM slot manually means we can select which SIM card to be used manually by clicking the related SIM slot. Then the SIM slot will be current one for use.

How to change SIM slot manually?

Choose the port first, and click to select, then choose the slot you want to use , then click “submit” button.

Figure 4-4-4

Change Sim Slot Manually

Port	Slot							
1	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
2	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
3	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
4	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
5	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
6	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
7	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
8	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
9	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
10	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
11	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
12	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
13	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
14	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
15	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8
16	<input type="radio"/> Slot1	<input checked="" type="radio"/> Slot2	<input type="radio"/> Slot3	<input type="radio"/> Slot4	<input type="radio"/> Slot5	<input type="radio"/> Slot6	<input type="radio"/> Slot7	<input type="radio"/> Slot8

All  
  All Slot1  
  All Slot2  
  All Slot3  
  All Slot4  
  All Slot5  
  All Slot6  
  All Slot7  
  All Slot8

Remarks:

**Blue** color represents the current use SIM slot

**Deep blue** color represents the slot has SIM card ,but not in current use.

**Red** color represents empty SIM slot, no Insert SIM card

Table 4-4-3 Description of change SIM slot manually

Change sim slot manually	To select SIM slot to be used currently by manually
Port	Port 1 to Port 16 ,total 16
Slot	Every port has 8 slots, to insert SIM card
Submit	After you select finish, click “click” to submit

#### 4.5 Human Behavior

Human behavior function means the device can simulate the human behavior to make/receive calls.

As we know, VoIP call termination is mainly for outgoing calls, operator can easily find this characteristics, and think it is VoIP termination, then it will block the SIM card. While Human behavior is designed to let the ports call each other and SMS to each other, just like a human being phone call behavior, the operators can not distinguish it is for normal phone call or termination, therefore human behavior function can help our client lower the SIM card being blocked rate and realize the efficiency of termination.

ETS human behavior theory

GSM Gateway ETS-16x8G allocates some ports as server ports(also you can use some other ETS GSM gateway as Server port) , some ports as client ports, Server port doesn't pass traffic calls, client port pass traffic calls. And user can preset some conditions for client port , when the condition is met, client port will send message to server port SIM card, when server port receives the message from client port,then server port will make a phone call to client port. There will be call in and call out records for the SIM card in each port, thus SIM card can not be blocked.

Figure 4-5-1 Human behavior information

Human Behavior Information					
Port	Mode	Slot	Human Behavior Statistics		
			Talk	call	Used
1	server	8	0:0:50	62	5:26:19
2	server	8	0:0:00	0	5:25:37
3	server	8	0:0:00	0	5:25:33
4	client	8	0:0:04	1	5:24:09
5	client	6	0:0:00	0	5:22:16
6	client	6	0:0:00	0	25:1:32
7	client	6	0:0:00	0	25:1:25
8	close	--	--	--	--
9	client	6	0:0:00	0	25:2:49
10	client	6	0:0:00	0	25:2:53
11	client	--	--	--	--
12	client	6	0:0:00	0	5:5:07
13	client	6	0:0:00	0	25:2:57
14	client	6	0:0:00	0	25:1:39
15	client	--	--	--	--
16	client	6	0:0:00	0	25:1:46

Table 4-5-1 Description of human behavior information

Port	Numbers of the GSM/CDMA Ports
Mode	<p>There are close, server, client mode</p> <p>Close: human behavior function is not activated</p> <p>Client: set the port as client port</p> <p>Sever: set the port as server port</p> <p>How to set mode, please refer to 4.5.2 Mode (Human behavior mode</p>

	setup)
Slot	Displays the current SIM slot
Talk	Displays the current slot call duration
Call	Displays the current slot call times
Used	Displays the current slot online time.

4.5.2 Mode (Human behavior mode setup)

Setup the human behavior mode, first choose the port, then to set it close, server or client according to your requirement.

Close: human behavior function is not activated

Client: set the port as client port

Sever: set the port as server port,if the port is set as server, the SIM card number should be filled in the blank, see Figure 4-5-2

(To save the port resources, customer can buy other ETS GSM gateway ETS-16G as server port)

Figure 4-5-2 Human behavior mode setup

Table 4-5-2 Description of human behavior Mode setup

Port	Numbers of the GSM/CDMA Ports
Mode	There are close, server, client mode Close: human behavior function is not activated Client: set the port as client port Sever: set the port as server port
Submit	To save the mode setting

4.5.3 Client (Human behavior condition (client))

Human behavior setting can effectively lower being blocked rate by the operators. There are 3 conditions you can set .see the figure 4-5-3

Human behavior condition setting also should abide by the real situation of the block mechanism of operators, then employ different setting for different operators/countries. And also user should do research then adjust the suitable conditions for the setting.

Remarks:

1, if you fill condition 1 , talk time >30 minutes, and use time >120 minutes, that means when

both conditions are met, then the device will make action (“request call in” or “send SMS” )

2,if you fill condition 1: **talk time >30 minutes**, and condition 2 : **use time >120 minutes** in different condition columns, that means when 1 condition is met, then will execute this one. Another condition will be ignored.

3,Condition setting can not be self-contradictory,or the settings value can not be too small, otherwise it will affect the device running.

4, Strongly suggest customer to set easy conditions or do according to etross advice first.

Figure 4-5-3 Human behavior Condition (client)

Human Behavior Condition(client)						
	Talk Time	Use Time	Call Counter	Action	Parameter	
Condition 1	> 30 mins	> mins	>	Request Call In ▾	55 (s)	Delete
Condition 2	> mins	> 120 mins	>	Request Call In ▾	58 (s)	Delete
Condition 3	> mins	> mins	> 10	Send Sms ▾	(s)	Delete

Table 4-5-3 Description of human behavior condition(client)

Condition1,2,3	There are maximum 6 conditions can be set
Talk time	Condition according to call duration
Use time	Condition according to SIM card online time
Call counter	Condition according to call times
Action	Action type
Request call in	When condition is met, the client port will “request call in ” action
Send SMS	When condition is met, the client port will “Send SMS” action
Parameter (s)	Parameter here represents the call duration for “request call in”
Delete	Click “delete” to delete condition

#### 4.5.4 Sever (Human behavior condition(server))

Sever condition setting is almost same as Client condition,but not recommended to do setting. If you want to do the setting, please refer to 4.5.3 Client (Human behavior condition (client)) or according to Figure 4-5-4

Figure 4-5-4 Human behavior condition (Sever)

Human Behavior Condition(server)						
	Talk Time	Use Time	Call Counter	Action	Parameter	
Condition 1	> 100 mins	> mins	>	Request Call In ▾	56 (s)	Delete
Condition 2	> mins	> 120 mins	>	Request Call In ▾	55 (s)	Delete
Condition 3	> mins	> mins	> 50	Send Sms ▾	(s)	Delete
Condition 4	> mins	> mins	>	Send Sms ▾	(s)	Delete

#### 4.5.5 Server number

If user sets the server ports, user should fill the server number into the blank of Human behavior server number setup, and the server numbers should be same with server port in human behavior mode setup, the sequence is not important. See Figure 4-5-5

Figure 4-5-5 human behavior Sever number setup

Table 4-5-5 Description of human behavior Sever number setup

Sever number setup	To input the server port SIM card number into the blank
Number translation	To translation some prefix to specified number E.g. Prefix: 00880 ,translation: 0

#### 4.5.6 Update SMS content

In ETS Human behavior theory,client port will send message to server port when the condition is met, to avoid the detect of operator, user can let client port send different message content to server port to request call in . Here as below give user D.I.Y message content. User should make a .txt file in PC,see the figure 4-5-6,message.txt, and click “upload” to upload the message.txt file into the device. When sever port receives any line of the message, it will send call to the client port.

Figure 4-5-6 message Edit

#### 4.5.7 Auto SMS bulk

Auto SMS bulk to permit the port to send SMS to some specified numbers according to preset cycle.see Figure 4-5-7

Figure 4-5-7 Auto SMS bulk

**Message Edit**

Switch  On  Off

Send Cycle 10 Mins

Content I have tested GSM gateway ets16x8G, It works well

选择文件 未选择文件 Upload

13530152030  
13689522522  
18945460000  
13530106766

All  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16

save

You can also upload number list as a .txt file to the device.

.txt file format should be as below:

[Number Start]

13530152030

10086

10086

13356956522

15025258888

[Number End]

#### 4.5.8 Human behavior practice examples

Example 1:

Port Information												
Port	Enable	Slot	HB mode	Balance(min)	Call Number	Signal	ASR	ACD	PDD	Status	Talk Time	Codec
1	on	5	client	49:55	01764216138	Y <sub>out</sub>	42.6%	7:17	7	Talking	1:48	G729
2	on	2	client	78:45	---	Y <sub>out</sub>	41.8%	5:35	8	Idle	--	--
3	on	1	client	27:51	01821488244	Y <sub>out</sub>	43.2%	7:31	6	Talking	7:13	G729
4	on	5	client	32:32	01718269393	Y <sub>out</sub>	40.6%	7:18	6	Talking	1:03	G729
5	on	1	client	57:18	01771297863	Y <sub>out</sub>	46.6%	7:41	7	Talking	4:57	G729
6	on	1	client	88:54	01961932164	Y <sub>out</sub>	44.7%	9:19	7	Talking	5:21	G729
7	on	8	client	87:15	01815370561	Y <sub>out</sub>	36.9%	6:45	6	Talking	0:40	G729
8	on	3	client	93:09	01687217803	Y <sub>out</sub>	40.4%	6:31	7	Talking	47:10	G729
9	on	2	client	85:12	01756470114	Y <sub>out</sub>	41.8%	5:59	7	Talking	10:14	G729
10	on	2	client	59:24	01835550850	Y <sub>out</sub>	34.6%	6:45	6	Talking	3:55	G729
11	on	1	client	89:06	01777107582	Y <sub>out</sub>	31.8%	5:40	22	Talking	6:22	G729
12	on	8	client	84:48	+8801813010041	Y <sub>out</sub>	37.5%	5:51	7	Talking	0:39	G711_A
13	on	4	client	79:32	01786095382	Y <sub>out</sub>	41.0%	5:36	8	Talking	0:11	G729
14	on	5	client	69:14	01858817563	Y <sub>out</sub>	44.2%	6:14	6	Talking	5:14	G729
15	on	4	server	425:34	+8801852382219	Y <sub>out</sub>	68.8%	2:19	6	Talking	0:38	G729
16	on	3	server	442:19	---	Y <sub>out</sub>	72.1%	0:53	6	Idle	--	--

Explanation: The port2 Human behavior condition is met, it turns “red”, status is “idle” and waits for server port to call in.

The port12 Human behavior condition is met already and it turns “red”, status is “talking” means sever port15 is talking with client port 12 now. Sever port15 call number +8801852382219 is client port12 SIM slot 8 number, while client port12 call number +8801813010041 is Sever port 15 SIM slot 4 number. And server port 16 is in idle and is ready to make call if it receives request call in message .

#### Example 2

Port Information												
Port	Enable	Slot	HB mode	Balance(min)	Call Number	Signal	ASR	ACD	PDD	Status	Talk Time	Codec
1	on	6	client	106:52	---	Y <sub>out</sub>	41.7%	7:13	6	Idle	--	--
2	on	2	client	78:45	+8801862987702	Y <sub>out</sub>	41.8%	5:35	8	Talking	0:25	G711_A
3	on	1	client	17:17	+8801813010041	Y <sub>out</sub>	43.6%	7:34	6	Talking	0:10	G711_A
4	on	5	client	32:32	01718269393	Y <sub>out</sub>	40.6%	7:18	6	Talking	5:24	G729
5	on	1	client	57:18	01771297863	Y <sub>out</sub>	46.6%	7:41	7	Talking	9:19	G729
6	on	1	client	88:54	01961932164	Y <sub>out</sub>	44.7%	9:19	7	Talking	9:43	G729
7	on	8	client	87:15	01815370561	Y <sub>out</sub>	36.9%	6:45	6	Talking	5:01	G729
8	on	4	client	98:27	---	Y <sub>out</sub>	40.9%	7:22	7	Idle	--	--
9	on	2	client	85:12	01756470114	Y <sub>out</sub>	41.8%	5:59	7	Talking	14:36	G729
10	on	2	client	59:24	01835550850	Y <sub>out</sub>	34.6%	6:45	6	Talking	8:16	G729
11	on	1	client	89:06	01777107582	Y <sub>out</sub>	31.8%	5:40	22	Talking	10:43	G729
12	on	1	client	111:00	---	Y <sub>out</sub>	36.9%	5:45	7	Unregister	--	--
13	on	4	client	79:32	01786095382	Y <sub>out</sub>	41.0%	5:36	8	Talking	4:32	G729
14	on	5	client	69:14	01858817563	Y <sub>out</sub>	44.2%	6:14	6	Talking	9:35	G729
15	on	4	server	424:36	+8801838454883	Y <sub>out</sub>	69.2%	2:18	6	Talking	0:11	G711_A
16	on	3	server	442:19	+8801838959984	Y <sub>out</sub>	72.1%	0:53	6	Talking	0:25	G711_A

Explanation: There are 2 client ports (port2, port3) condition are met, so server ports (port15, port16) are making calls to port2 and port3.

#### 4.6 Port

Port means the number of GSM/CDMA channel, We can easily setup the port parameters according to the real requirements from this interface. It has single port setting and batch ports setting for optional.

##### 4.6.1 Config (Port Setting)

Figure 4-6-1 Port Setting

Port Setting								Batch Setting							
No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16
Port enable		<input checked="" type="radio"/> ON		<input type="radio"/> OFF											
Call Routing Profile		gsm-sip													
Port type		IVR		8010											
Gsm band		Auto													
Sim-pin		OFF		888999											
Speaker volume		70													
Microphone sensor		10													
Hide caller ID		OFF													
Call in forbidden		OFF													
		Mode Forbidden													
Bcch roam		Valid Dbm 85													
		Roam Cycle 10 (Min)													
		Bcch List													
		0		0		0		0		0		0		0	
Call Forward		Mode Close													
		Condition Unconditional													
		Sim Card Number 13530152030													
		Next Group Number													
		Direct Forward Number													
save															

Table 4-6-1 Description of port setting

Port Setting	Port setting means we set single port each time
Port enable	Means we can choose to open or close the port (On / Off)
Call routing profile	To choose routing method,SIP to GSM(Termination) or GSM to SIP (Origination)
Port type	Call in type: IVR or hotline for selection
GSM band	To choose the GSM frequency, generally default "auto"
SIM-PIN	SIM pin setting and the PIN code number to be inputted
Speaker Volume	To set the speaker's volume value
Microphone sensor	To set the microphone's sensor value
Hide caller ID	To hide the outgoing caller's ID ( Need carrier's support),default is off
Call in forbidden	To forbid call in, default is off
BCCH roam	To set BCCH roaming if you enable it on
Valid Dbm	To set the base station dbm value,if the value is more than this value,the base station will not accept Bcch roam, only the value is less than this value, it will roam to this base station
Roam cycle	To set rotate/cycle after specified minutes .e.g.10 minutes means rotate to next base station after 10 minutes.
BCCH list	Means you can input the BCCH list in the blank, then the base station roam will do in these BCCH list . You can get the BCCH list parameters from the Status\BCCH
white	To permit the BCCH roam in these specified BCCH list

Black	To permit the BCCH roam in other BCCH list expect the specified BCCH list
Call forward	Call forward function is for call origination, only used in China,can not working in other countries.so to avoid misunderstanding, here not do explanation.
Save	To save the setting

### 4.6.1.2 Batch setting

To do batch setting of ports, you can do the setting in one time if all the ports setting parameters are same.

Figure 4-6-1-2 Batch setting

Table 4-6-1-2 Description of batch setting

Port batch setting	To set all the 16 ports parameters in one time
Port enable	Means we can choose to open or close the port (On / Off)
Trunk number	To specify the Trunk to use for this port
Port type	Call in type: IVR or hotline for selection
SIM-PIN	SIM pin setting and the PIN code number to be inputted
Speaker Volume	To set the speaker's volume value
Microphone sensor	To set the microphone's sensor value
Hide caller ID	To hide the outgoing caller's ID ( Need carrier's support),default is off
Call in forbidden	To forbid call in, default is off
BCCH roam	To set BCCH roaming if you enable it on
Valid Dbm	To set the base station dbm value,if the value is more than this value,the base station will not accept Bcch roam, only the value is less than this value, it will roam to this base station
Roam cycle	To set rotate/cycle after specified minutes .e.g.10 minutes means rotate to next base station after 10 minutes.

BCCH list	Means you can input the BCCH list in the blank, then the base station roam will do in these BCCH list . You can get the BCCH list parameters from the Status\BCCH
Save	To save the setting
white	To permit the BCCH roam in these specified BCCH list
Black	To permit the BCCH roam in other BCCH list expect the specified BCCH list

#### 4.6.2 Power manage

Port Power switch can let user to choose switch on /off the port manually from web, no need to power off the whole unit.

Figure 4-6-2 Port Power switch

Port	ON	OFF	Status
<input checked="" type="checkbox"/> 1	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 2	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 3	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 4	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 5	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 6	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 7	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 8	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 9	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 10	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 11	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 12	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 13	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> 14	<input checked="" type="radio"/>	<input type="radio"/>	Talking
<input checked="" type="checkbox"/> 15	<input checked="" type="radio"/>	<input type="radio"/>	Talking
<input checked="" type="checkbox"/> 16	<input checked="" type="radio"/>	<input type="radio"/>	Unregister
<input checked="" type="checkbox"/> All	<input type="radio"/> All ON	<input type="radio"/> All OFF	

Table 4-6-2 Description of port power switch

Port	Port 1 to port 16, total 16 ports
Port switch	On / off
Status	Port Status
Submit	Submit to save the setting

#### 4.6.3 IMEI manage

The device can provide IMEI change for the GSM module in each port.

Figure 4-6-3-1 IMEI manage

No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16
Imei Mode: Fixed															
Slot Imei Config Value															
1															
5															
Imei Status															
1	862106028808600														
5	862106028808600														
please input IMEI data!															
Auto Generate Clear All															
save Modify Current Imei Batch Setting															

Table 4-6-3-1 Description of IMEI manage

IMEI manage	To manage IMEI for GSM module each port,mainly for change IMEI
IMEI mode	There are 4 modes for IMEI Fixed: means the IMEI of each module is original one, no change Every slot with an IMEI, means in each slot has an IMEI no, sim card change or not change, the slot IMEI will keep same Every sim with an IMEI, means when you insert a new SIM card, the device will generate an IMEI for it, when this SIM card is taken out and re-put in another slot, the IMEI will keep same Random: device will generate IMEI randomly. But generally if operator does not block IMEI,we just choose "Fixed" Refer to Figure 4-6-3-2
Slot IMEI config value	The IMEI no.for each slot to be inputted
IMEI status	Displays the current IMEI number in each slot / port
Auto generate	Auto generate IMEI no.
Clear all	Clear all the IMEI no.
Save	To save the IMEI no.setting
Modify Current IMEI	To modify / change the current IMEI no. See Figure 4-6-3-3
Batch setting	For batch modify / change IMEI no. See Figure 4-6-3-4

Figure 4-6-3-2 IMEI change mode

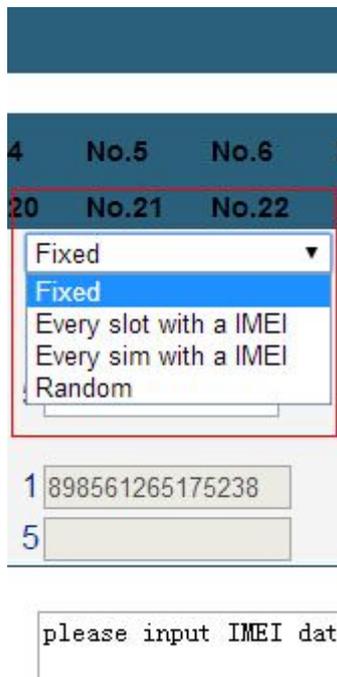


Figure 4-6-3-3 Modify Current IMEI

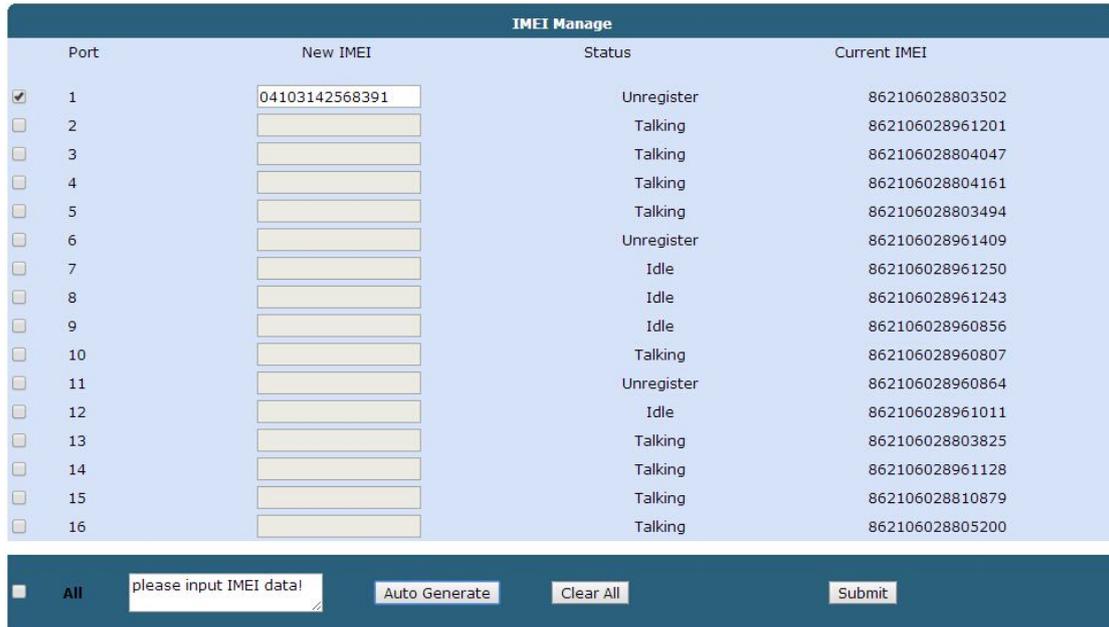
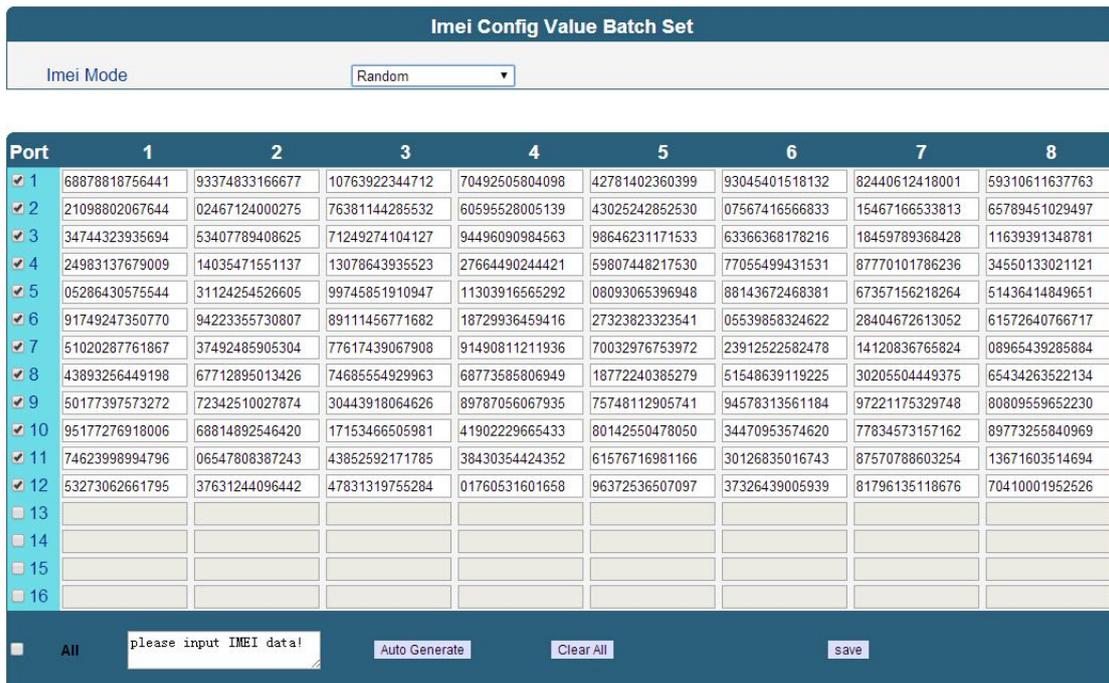


Figure 4-6-3-3 IMEI Batch setting



## 4.7 Trunk

### 4.7.1 Trunk Setting

Trunk or IP trunk interface permits us to add remote IP of softs witch, SIP server which will send call traffics to ETS-16x8G gateway. In one ETS-16x8G GSM gateway,we can setup 1 or several trunks . User can add remote soft switch or IP server by “account” or by “peer”, to realize the connection with remote soft switch or IP server.

Figure 4-7-1 Trunk setting

Trunk Settings
Batch Setting

No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16
No.17	No.18	No.19	No.20	No.21	No.22	No.23	No.24	No.25	No.26	No.27	No.28	No.29	No.30	No.31	No.32

Trunk Enable  ON  OFF

Trunk Type

**Account Setting**

Sever IP

Server Port

Local Port

Call Domain

Name

Password

Auth Id

Expiration

Anti Register

**Peer Setting**

Peer Device IP

Peer Device Port

Local Port

Local URL

Table 4-7-1 Description of Trunk setting

Trunk Setting	To set the trunk parameters
Trunk enable	To open (on) /Close(off) the Trunk
Account setting	Trunk type, to set with account according to SIP server or Soft switch
Server IP	SIP server IP address
Sever port	Sip server port number, default is 5060
Local port	Local port number, default is 5060
Call domain	Call domain setting should be same with Server IP
Name	Nickname of the trunk
Password	Authentication password registered in SIP server or soft switch
Auth Id	Authentication ID which registered in SIP server or Soft switch
Expiration	Register expiration in SIP server
Anti register	Anti register switch
Peer setting	Trunk type, to peer with SIP server of Soft switch
Peer device IP	It is an interworking parameter between the remote Soft switch and the SIP server. It specifies the IP address of the peer equipment.
Peer device port	It is an interworking parameter between the remote Soft switch and the SIP server. It specifies the SIP port number of the peer equipment.
Local port	Local port number, default is 5060
Local URL	Local device URL address
Save	To save the selected parameters

### 4.7.2 Trunk batch setting

Figure 4-7-2 Trunk Batch Setting

**Trunk Batch Setting**
[Close](#)

---

Trunk Enable	<input type="radio"/> ON <input checked="" type="radio"/> OFF
Trunk Type	<input type="text" value="peer"/>
Sever IP	<input type="text"/>
Server Port	<input type="text"/>
Local Port	<input type="text"/>
Call Domain	<input type="text"/>
Name	<input type="text"/>
Password	<input type="text"/>
Auth Id	<input type="text"/>
Expiration	<input type="text"/>
Anti Register	<input type="text" value="close"/>
Peer Device IP	<input type="text"/>
Peer Device Port	<input type="text"/>
Local Port	<input type="text"/>
Local URL	<input type="text"/>

Table 4-7-2 Trunk Batch setting

Trunk Batch Setting	To Batch set the trunk parameters
Trunk enable	To open (on) /Close(off) the Trunk
Account setting	Trunk type, to set with account according to SIP server or Soft switch
Server IP	SIP server IP address
Sever port	Sip server port number, default is 5060
Local port	Local port number, default is 5060
Call domain	Call domain setting should be same with Server IP
Name	Nickname of the trunk
Password	Authentication password registered in SIP server or soft switch
Auth Id	Authentication ID which registered in SIP server or Soft switch
Expiration	Register expiration in SIP server
Anti register	Anti register switch
Peer setting	Trunk type, to peer with SIP server of Soft switch
Peer device IP	It is an interworking parameter between the remote Soft switch and the SIP server. It specifies the IP address of the peer equipment.
Peer device port	It is an interworking parameter between the remote Soft switch and the SIP server. It specifies the SIP port number of the peer equipment.
Local port	Local port number, default is 5060
Local URL	Local device URL address

Save	To save the selected parameters
------	---------------------------------

### 4.8 USSD

#### 4.8.1 Compose

USSD (Unstructured Supplementary Service Data) is a Global System for Mobile(GSM) communication technology that is used to send text between a mobile phone and an application program in the network. Applications may include prepaid roaming or mobile chatting.

Figure 4-8-1-1 USSD

The screenshot shows a web interface titled 'USSD'. It features a table with three columns: 'Port', 'USSD Request', and 'USSD Reply'. There are 16 rows, each representing a port from 1 to 16. Each row has a checked checkbox in the 'Port' column, the text 'balance check' in the 'USSD Request' column, and 'not send' in the 'USSD Reply' column. Below the table, there is a summary row with a checked checkbox, the text 'All', 'balance check', and three buttons: 'Copy To Select', 'Clear All', and 'Send'.

Table 4-8-1 Description of USSD

Port	Select the GSM channel to send USSD
USSD request	Display the request info of USSD
USSD reply	Show the return value of USSD
All	Select all the GSM ports (channels)
Copy to select	Copy the USSD request info to selected ports
Clear all	Clear the USSD request or USSD reply
Send	Send the request info of USSD

USSD reply information, after you click “send” ,you will get USSD reply status.

Figure 4-8-1-2 USSD reply status

USSD STATUS		
Port	Status	USSD Reply
<input checked="" type="checkbox"/>	1	finish
<input type="checkbox"/>	2	inactive
<input type="checkbox"/>	3	inactive
<input type="checkbox"/>	4	inactive
<input type="checkbox"/>	5	inactive
<input type="checkbox"/>	6	inactive
<input type="checkbox"/>	7	inactive
<input type="checkbox"/>	8	inactive
<input type="checkbox"/>	9	inactive
<input type="checkbox"/>	10	inactive
<input type="checkbox"/>	11	inactive
<input type="checkbox"/>	12	inactive
<input type="checkbox"/>	13	inactive
<input type="checkbox"/>	14	inactive
<input type="checkbox"/>	15	inactive
<input type="checkbox"/>	16	inactive

NOTE: If you do nothing within 20 minutes, connection will be disconnected.

### 4.8.2 Inbox

Inbox records all the USSD reply messages

Figure 4-8-2 receive USSD message details

Recv USSD Message Details																
No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16	
Index	Date,Time	USSD Content														
<input type="checkbox"/>	1	2014/07/18 01:42:48	Balance Tk. 22.55. Validity 16/08/2014.Dial *8444*21# Get 25MB@10Tk/Day,FreeSMS 4hr+60SMS@5TKDial *8666*05#													
<input type="checkbox"/>	2	2014/07/18 01:38:56	Balance Tk. 31.27. Validity 16/08/2014.Dial *8444*21# Get 25MB@10Tk/Day,FreeSMS 4hr+60SMS@5TKDial *8666*05#													
<input type="checkbox"/>	3	2014/07/18 01:33:37	Balance Tk. 5.78. Validity 16/08/2014.Dial *8444*21# Get 25MB@10Tk/Day,FreeSMS 4hr+60SMS@5TKDial *8666*05#													
<input type="checkbox"/>	4	2014/07/18 01:33:37	Balance Tk. 5.78. Validity 16/08/2014.Dial *8444*21# Get 25MB@10Tk/Day,FreeSMS 4hr+60SMS@5TKDial *8666*05#													
<input type="checkbox"/>	5	2014/07/18 01:33:37	Balance Tk. 5.78. Validity 16/08/2014.Dial *8444*21# Get 25MB@10Tk/Day,FreeSMS 4hr+60SMS@5TKDial *8666*05#													
<input type="checkbox"/>	6	2014/07/18 01:33:37	Balance Tk. 5.78. Validity 16/08/2014.Dial *8444*21# Get 25MB@10Tk/Day,FreeSMS 4hr+60SMS@5TKDial *8666*05#													
<input type="checkbox"/>	7	2014/07/18 01:33:37	Balance Tk. 5.78. Validity 16/08/2014.Dial *8444*21# Get 25MB@10Tk/Day,FreeSMS 4hr+60SMS@5TKDial *8666*05#													
<input type="checkbox"/>	8	2014/07/18 01:33:37	Balance Tk. 5.78. Validity 16/08/2014.Dial *8444*21# Get 25MB@10Tk/Day,FreeSMS 4hr+60SMS@5TKDial *8666*05#													

All

Total: 8entry 10entry/page 1/1page Jump to

### 4.8.3 Outbox

Outbox records all the USSD sending messages

Figure 4-8-3 Sending USSD message details

Sending USSD Message Details																
No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16	
Index	Date,Time	USSD Content														
<input type="checkbox"/>	1	2014/07/18 08:08:35	*222#													

All      Delete      Resend  
 Total: 1entry 10entry/page 1/1page      Jump to 1      Remove All      PgUp      PgDn

#### 4.8.4 Sent

Sent records all sent out USSD messages

Figure 4-8-4 Sent USSD message details

Sent USSD Message Details																
No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16	
Index	Date,Time	USSD Content														
<input type="checkbox"/>	1	2014/07/18 01:42:44	*222#													
<input type="checkbox"/>	2	2014/07/18 01:38:52	*222#													
<input type="checkbox"/>	3	2014/07/18 01:33:32	*222#													
<input type="checkbox"/>	4	2014/07/18 01:33:32	*222#													
<input type="checkbox"/>	5	2014/07/18 01:33:32	*222#													
<input type="checkbox"/>	6	2014/07/18 01:33:32	*222#													
<input type="checkbox"/>	7	2014/07/18 01:33:32	*222#													
<input type="checkbox"/>	8	2014/07/18 01:33:32	*222#													

All      Delete      Resend  
 Total: 8entry 10entry/page 1/1page      Jump to 1      Remove All      PgUp      PgDn

#### 4.9 SMS

##### 4.9.1 Compose

Send SMS permit you to send SMS by ETS-16x8G, See as figure 4-9-1 message

Figure 4-9-1 Message

**Message**

Port	SMS messages	Mobile number
<input checked="" type="checkbox"/>	1 hello etross	13530152030
<input checked="" type="checkbox"/>	2 test	13530152030
<input checked="" type="checkbox"/>	3 ets-16G	13530152030
<input checked="" type="checkbox"/>	4 你好!	13530152030
<input checked="" type="checkbox"/>	5 test	13530152030
<input checked="" type="checkbox"/>	6 test	13530152030
<input checked="" type="checkbox"/>	7 test	13530152030
<input checked="" type="checkbox"/>	8 test	13530152030
<input checked="" type="checkbox"/>	9 test	13530152030
<input checked="" type="checkbox"/>	10 test	13530152030
<input checked="" type="checkbox"/>	11 test	13530152030
<input checked="" type="checkbox"/>	12 test	13530152030
<input checked="" type="checkbox"/>	13 test	13530152030
<input checked="" type="checkbox"/>	14 test	13530152030
<input checked="" type="checkbox"/>	15 test	13530152030
<input checked="" type="checkbox"/>	16 test	13530152030

NOTE: Get the international code and phone number of destination before sending, and the format of phone number must be(code+phonenumber)

All

Table 4-9-1 Description of Send SMS

Message	SMS
Port	Select the GSM channel to send SMS
SMS message	The content of SMS
Mobile number	The destination mobile phone no. Which the SMS will be sent to
All	Select all the GSM channels
Copy to select	Copy the content of SMS to selected ports
Copy mobile number	Copy mobile number to the selected ports
Clear all	Clear all the content of SMS or mobile phone numbers
Send	Send SMS

SMS send status Shows the SMS Send result.if the port is not active,it shows inactive, If the SMS send successfully, then it shows “finish” ,otherwise ,it shows “fail” .

Figure 4-9-1-2 SMS send status

SMS Send STATUS		
Port	Message Send Status	
<input checked="" type="checkbox"/>	1	finish
<input type="checkbox"/>	2	inactive
<input type="checkbox"/>	3	inactive
<input type="checkbox"/>	4	inactive
<input type="checkbox"/>	5	inactive
<input type="checkbox"/>	6	inactive
<input type="checkbox"/>	7	inactive
<input type="checkbox"/>	8	inactive
<input type="checkbox"/>	9	inactive
<input type="checkbox"/>	10	inactive
<input type="checkbox"/>	11	inactive
<input type="checkbox"/>	12	inactive
<input type="checkbox"/>	13	inactive
<input type="checkbox"/>	14	inactive
<input type="checkbox"/>	15	inactive
<input type="checkbox"/>	16	inactive

NOTE: If you do nothing within 20 minutes, connection will be disconnected.

[Exit](#)

### 4.9.2 Inbox

Inbox records all the SMS reply messages

Figure 4-9-2 Receive message details

Recv Message Details																
No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16	
No.17	No.18	No.19	No.20	No.21	No.22	No.23	No.24	No.25	No.26	No.27	No.28	No.29	No.30	No.31	No.32	
Index	Caller ID	Date,Time	SMS Content													
<input type="checkbox"/>	1	1008611	2014/07/10 15:04:19	1												
<input type="checkbox"/>	2	1008611	2014/07/10 15:04:19	交互菜单快速查询本机短号、开通\取消短号集群网；还可以查询话费、流量等热点信息使用情况，赶紧试试吧！中国移动【4G快一步，满意求												
<input type="checkbox"/>	3	1008611	2014/07/10 15:04:19	【1008611快捷干线】尊敬的客户：1008611可以办理、查询短号集群网业务啦！只需免费发送“短号”到1008611，即可获取数字												
<input type="checkbox"/>	4	10086	2014/07/02 15:45:18	打市公安局反信息诈骗咨询专线0755-81234567进行咨询。												
<input type="checkbox"/>	5	10086	2014/07/02 15:45:18	冒充民政部门工作人员致电逝者亲属，谎称向其发放抚恤金，诱导事主前往柜员机并借此行骗。提醒广大市民提高警惕，若接到此类陌生的												
<input type="checkbox"/>	6	10086	2014/07/02 15:45:18	【深圳市公安局温馨提示】广大市民：近期我局反信息诈骗咨询专线通过警情监测发现“冒充政府发放抚恤金”诈骗，不法分子针对有亲人去												
<input type="checkbox"/>	7	10086	2014/07/01 08:43:13	尊敬的神州行客户：7月1日扣取[广东]本地5元短号网套餐(1)5.00元。回复YE查询余额。中国移动广东公司深圳分公司												
<input type="checkbox"/>	8	10086	2014/07/01 08:06:38	cn充值，天天充值99折，快来试下吧！中国移动广东公司												
<input type="checkbox"/>	9	10086	2014/07/01 08:06:38	尊敬的客户：截止01日00:47，您的号码账户余额为0元，尚需缴费0.13元，号码现已暂停使用。现手机登陆wap.gd.10086.												

All 
Total: 9entry 10entry/page 1/1page
Jump to

### 4.9.3 Outbox

Outbox records all SMS sending messages

Figure 4-9-3 Sending message details

Sending Message Details															
No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16
No.17	No.18	No.19	No.20	No.21	No.22	No.23	No.24	No.25	No.26	No.27	No.28	No.29	No.30	No.31	No.32
Index	Caller ID	Date,Time	SMS Content												
<input type="checkbox"/>	1	10086	2014/07/18 09:56:51	Hi morning											
<input type="checkbox"/>	2	123456	2014/07/17 15:52:59	Kalkeuter fanae nachche lakhindarer smriti,,~<c>/*:58											

All    
 Total: 2entry 10entry/page 1/1page Jump to

#### 4.9.4 Sent

Sent records all SMS sent out messages

Figure 4-9-4 Sent messages details

Sent Message Details															
No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9	No.10	No.11	No.12	No.13	No.14	No.15	No.16
No.17	No.18	No.19	No.20	No.21	No.22	No.23	No.24	No.25	No.26	No.27	No.28	No.29	No.30	No.31	No.32
Index	Caller ID	Date,Time	SMS Content												
<input type="checkbox"/>	1	13423844674	2014/06/05 18:23:20	I'm five hundred miles away from home,,~<c>/*:52											

All      
 Total: 1entry 10entry/page 1/1page Jump to

#### 4.10 SMS bulk

SMS bulk is designed for some users to send bulk SMS to some numbers, it can be used as GSM Modem Pool purpose.

##### 4.10.1 Compose

Figure 4-10-1 Message edit



You can fill the content which will be sent  
 And you can fill the mobile phone number in the blank and every number should be one line, and also you can make a number list file as .txt, then “upload” into the number blank, then you choose the ports which will be responsible for sending the content to the destination number lists shown as Figure 4-10-1.to click “save” button to finish the setting.

.txt file format should be as below:

```
[Number Start]
13530152030
10086
10086
13356956522
15025258888
[Number End]
```

#### 4.10.2 Outbox

Outbox displays the SMS sending records for user’s reference, see Figure 4-10-2

Figure 4-10-2 Outbox

**OutBox**

**Current State:** UNKNOWN

**Content**

sq	Number	Status	Result	Port	Time
Total: 0 entries 20 entries/page Total 1 page <input style="width: 50px;" type="text" value="1"/> <input type="button" value="PgUp"/> <input type="button" value="PgDn"/>					
<input type="button" value="Pause"/> <input type="button" value="Start"/>		<input type="button" value="Delete"/> <input type="button" value="Download"/>			

### 4.10.3 Sentbox

Sent box displays all the SMS sent records for user's reference , see Figure 4-10-3

Figure 4-10-3 SentBox

**SentBox**

**Current State:** Sent

**Content**

sq	Number	Status	Result	Port	Time
1	10086	sent	ok	1	2014/05/16 17:49:37
2	10086	sent	ok	2	2014/05/16 17:49:39
3	10086	sent	ok	3	2014/05/16 17:49:37
4	18576627923	sent	ok	4	2014/05/16 17:49:37
5	10086	sent	ok	5	2014/05/16 17:49:36
6	10086	sent	ok	6	2014/05/16 17:49:37
7	10086	sent	ok	7	2014/05/16 17:49:37
8	10086	sent	ok	8	2014/05/16 17:49:37
9	10086	sent	ok	9	2014/05/16 17:49:37
10	10086	sent	ok	10	2014/05/16 17:49:37
11	10086	sent	ok	11	2014/05/16 17:49:37

All  1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16

All  17  18  19  20  21  22  23  24  25  26  27  28  29  30  31  32

Total: 11 entries 20 entries/page Total 1 page

### 4.11 Balance manage

#### 4.11.1 Set

GSM Gateway ETS16x8G provides user balance management function, but user has to preset the SIM card balance after its activation, attention: all the call balance use the minute as unit, not dollar, so you have to transfer it before you input data. (User can use USSD or SMS management to obtain the SIM card balance).

Figure 4-11-1 Balance config

Balance Config											Batch Setting
port	Switch	Slot (unit:mins)								Units of measurement(S)	
		1	2	3	4	5	6	7	8		
1	<input checked="" type="radio"/> ON <input type="radio"/> OFF	120	120	120	120	120	120	120	120	120	60
2	<input checked="" type="radio"/> ON <input type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
3	<input checked="" type="radio"/> ON <input type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
4	<input checked="" type="radio"/> ON <input type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
5	<input checked="" type="radio"/> ON <input type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
6	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
7	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
8	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
9	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
10	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
11	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
12	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
13	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
14	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
15	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1
16	<input type="radio"/> ON <input checked="" type="radio"/> OFF	--	--	--	--	--	--	--	--	--	1

Table 4-11-1 Description of balance config

Balance config	To set every SIM card balance
Port	The numbers of GSM/CDMA channels
Switch	To activate balance management (On), to close (Off).
Slot (mins)	Shows the balance time in each SIM slot (use minute as unit)
Unit of measurement(s)	To set unit duration( eg. 60 seconds as a unit, whether less than or equals to 60 seconds, it will bill as a unit)
Save	To save the setting

If user wants to know the real SIM card balance and automatically fill in the balance, then user should activate “Auto balance query” and “Auto balance update” function.

#### 4.11.2 Auto Balance Query

Auto balance Query can automatically check the balance of SIM card by sending USSD or SMS if the remaining balance is less than Threshold value in every query cycle. This may prompt user to do recharge for the SIM card in time.

Figure 4-11-2 Balance Query

Balance Query	
Mode	Ussd ▼
Threshold	10 mins
Query Cycle	2 mins
Query USSD Format	*222#
Query SMS Number	
Query SMS Format	

**NOTE:** If the remaining number of call minutes less than the current setting, the system will timing inquire balance automatically as the setting mode

Save

#### 4.11.3 Auto Balance Update

Auto Balance update, user can get the real balance of the SIM card, just we have to fill the Analysis format: e.g. "Your balance is" or "Balance Tk." according to USSD reply message. Then the device will automatically get the real balance through Auto balance query and then to fill into the balance config through Auto Balance update.

Attention rate min and dollar should be integer.

Analysis format is according to USSD or SMS reply message,

Examples: 1, Your balance is 80 dollar, validity 2014-08-09 ...

2, Balance Tk. 24.05, validity 2014-10-9 ....

Users just take the character before the balance value as analysis format, so the system will automatically take all the real balance data if we switch this function "On",

Figure 4-11-3 Auto Balance update

### Ussd Update Balance

Enable  ON  OFF

Balance Accumulation

Analysis Format

Rate  min/  dollar

### Sms Update Balance

Enable  ON  OFF

Balance Accumulation

Analysis Number

Analysis Format

Rate  min/  dollar

### Used Balance Info

Port	Balance(Mins:Seconds)	Port	Balance(Mins:Seconds)
1	--	9	--
2	--	10	--
3	--	11	--
4	--	12	--
5	--	13	--
6	--	14	--
7	--	15	--
8	--	16	--

Start Time: 1970/01/01 00:00:00      Totalled: 0:00     

### Valid Threshold Setting

Threshold  S

## 4.12 Call routing

### 4.10.1 Digit map syntax:

ETS-16x8G digit map supports digit (0,1,2,...9), "[", "]", "\*", "-", and ".".

#### 1. Digit:

A digit from "0" to "9"

#### 2. Range []:

One or more Digit enclosed between square brackets ("[" and "]"), but only one can be selected

#### 3. Star \*

matches any digit ("0" to "9")

4. Subrange -

Two digits separated by hyphen ("-") which matches any digit between and including the two. The subrange construct can only be used inside a range construct, i.e., between "[" and "]"

5. Comma ,

Two digits separated by comma (",") which means this two digits matches, the comma construct can only be used inside a range construct, i.e., between "[" and "]"

Examples:

Test\_1 digit map: 12[5,6,7,8,9], port 1,2,3,4,5

means any number starts with 125,126,127,128,129 can use port 1,2,3,4,5

Test\_2 digit map:13[0-2] , port 11,12

Means any numbers starts with 130,131,132 can use port 11, port 12

Test\_3 digit map: \*[1-5,8,9], port 14,15,16

Means any numbers starts with first digit (0,1,2,3,4,5,6,7,8,9) and second digit (1,2,3,4,5,8 or 9) will use port 14,15,16.

Figure 4-12-1 call routing configuration

Call Routing Configuration			
name	Digit Map	Port	
<a href="#">test_1</a>	13[5,6,7,8,9]	1,2,3,4,5,	<input type="button" value="Delete"/>
<a href="#">test_2</a>	13[0-2]	11,12,	<input type="button" value="Delete"/>
<a href="#">test_3</a>	*[1-5,8,9]	14,15,16,	<input type="button" value="Delete"/>

Figure 4-12-2 Call routing add

**Call Routing Add**

Description:

Digit1: <input type="text" value="[0,0]"/>	Digit11: <input type="text"/>
Digit2: <input style="border: 2px solid orange;" type="text" value="[1-9]"/>	Digit12: <input type="text"/>
Digit3: <input type="text"/>	Digit13: <input type="text"/>
Digit4: <input type="text"/>	Digit14: <input type="text"/>
Digit5: <input type="text"/>	Digit15: <input type="text"/>
Digit6: <input type="text"/>	Digit16: <input type="text"/>
Digit7: <input type="text"/>	Digit17: <input type="text"/>
Digit8: <input type="text"/>	Digit18: <input type="text"/>
Digit9: <input type="text"/>	Digit19: <input type="text"/>
Digit10: <input type="text"/>	Digit20: <input type="text"/>

All  
  1  
  2  
  3  
  4  
  5  
  6  
  7  
  8  
  9  
  10  
  11  
  12  
  13  
  14  
  15  
  16

4.13 System

4.13.1 System Configuration

System configuration describes WAN & LAN configuration, Voice Codec, DTMF parameter setting and time setting

1, Wan configuration

Wan configuration can be done by 3 methods, 1) Static IP , 2) DHCP , 3) PPPoE . The user can do Wan configuration according to the real need .

Figure 4-11-1 System configuration

Wan Configuration	
<input checked="" type="radio"/> Static	<input type="radio"/> DHCP <input type="radio"/> PPPOE
Static Ip	192.168.1.208
Static Gateway	192.168.1.1
Static Netmask	255.255.255.0
PPPOE account	
PPPOE password	
<input type="radio"/> Obtain DNS server address automatically	
<input checked="" type="radio"/> Use the following DNS server addresses	
Primary DNS Server	8.8.8.8
Secondary DNS Server	9.9.9.9

Lan Configuration	
Ip Address	192.168.89.1
Subnet Mask	255.255.255.0
DHCP	<input checked="" type="radio"/> open <input type="radio"/> close
Start of DHCP Ip pool	192.168.89.100
End of DHCP Ip pool	192.168.89.200
DHCP IP Lease Period	3600

Voice Codec	
Codec	select1: G.711 A select2: G.711 MU select3: G.726 select4: G.729 select5: G.723
Packet per frame	20 (ms)

DTMF Parameter	
DTMF Method	<input type="radio"/> in-audio <input checked="" type="radio"/> RTP (RFC2833)
DTMF Payload Type	100

Time Settings	
Time	Year/Month/Day--Hour:Minute:Second
NTP Enable	<input checked="" type="radio"/> Yes <input type="radio"/> No
Primary NTP Server Address	us.pool.ntp.org
Primary NTP Server Port	123
Secondary NTP Server Address	us.pool.ntp.org
Secondary NTP Server Port	123
Check Interval	3600 s
Time Zone	GMT+8:00 (Beijing, Singapore, Taipei, Hong Kong)

Table 4-13-1 Description of system configuration

Static	Means use static IP, to configure static IP address, static gateway, and Netmask manually
DHCP	Dynamic Host Configuration Protocol, means to obtain IP address automatically
PPPoE	Need ISP offer the account and password. Use this mode when there is not router in the local network
Obtain DNS Server Address Automatically	When enable the WAN port option of "Obtain DNS Server Address Automatically" , which will be enabled subsequently.
Use the Following DNS Server Addresses	Fill in the IP address of "Primary DNS Server" and "Secondary DNS Server"
Voice codec	Codec list for selection
DTMF parameter	To set the DTMF parameter, it should be same with the SIP server
Time setting	To set the system time

#### 4.13.2 Back up & restore

To click “backup” to download configuration file to your computer.

To click “restore” to send saved data from computer to the device ETS-16G

Figure 4-13-2 Back up & restore

**NOTES:** The upload process will last about 30s.

#### 4.13.3 Reset & Reboot

Reset to default means to restore to factory setting.

Reboot means to power off then power on the device again.

Figure 4-13-3 Reset & Reboot

#### 4.13.4 upgrade firmware

The user can upgrade firmware from this file upload interface.

Note: After uploading, the device will auto restart to take effect.

Figure 4-13-4 File Upload

**NOTE:** After uploading, the device will auto restart to take effect.

#### 4.13.5 IVR Voice upload

When call in to the SIM card of the ETS-16G, the system will pay IVR if you choose the port type(call in) is IVR , also the user cal upload custom IVR.

Figure 4-13-5 IVR voice prompt upload



IVR Voice Prompt Upload

Send 'wav' file from your computer to the device.

IVR Voice Prompt File for Goip Incoming Calls  浏览...

NOTE: 1.Please upload sampled by 8khz, 8bit,and not more than 300k bytes, single channel wav file

Note: The IVR sound formate is 8kHz , with Wav format, and the size can not exceed 300k bytes

#### 4.11.6 Username & Password

Users can change the user's name and password to enter into the web configuration,it is also strongly recommended to change the password, but please do remember the password. The default username & password: admin / admin

Figure 4-13-6 username &amp; password



Username & Password

Old Username

Old Password

New Username

New Password

Confirm Password

#### 4.14 Tools

##### 4.14.1 Ping Test

Ping is usually used to test the reach ability of a host on an Internet Protocol (IP) network and to measure the round-trip time for messages sent from the originating host to a destination host.

Figure 4-14-1 Ping Test

Ping Test	
Ping Destination	<input type="text"/>
Number of Ping(1-100)	<input type="text" value="5"/>
Ping Packet Size(56-1024 bytes)	<input type="text" value="56"/>

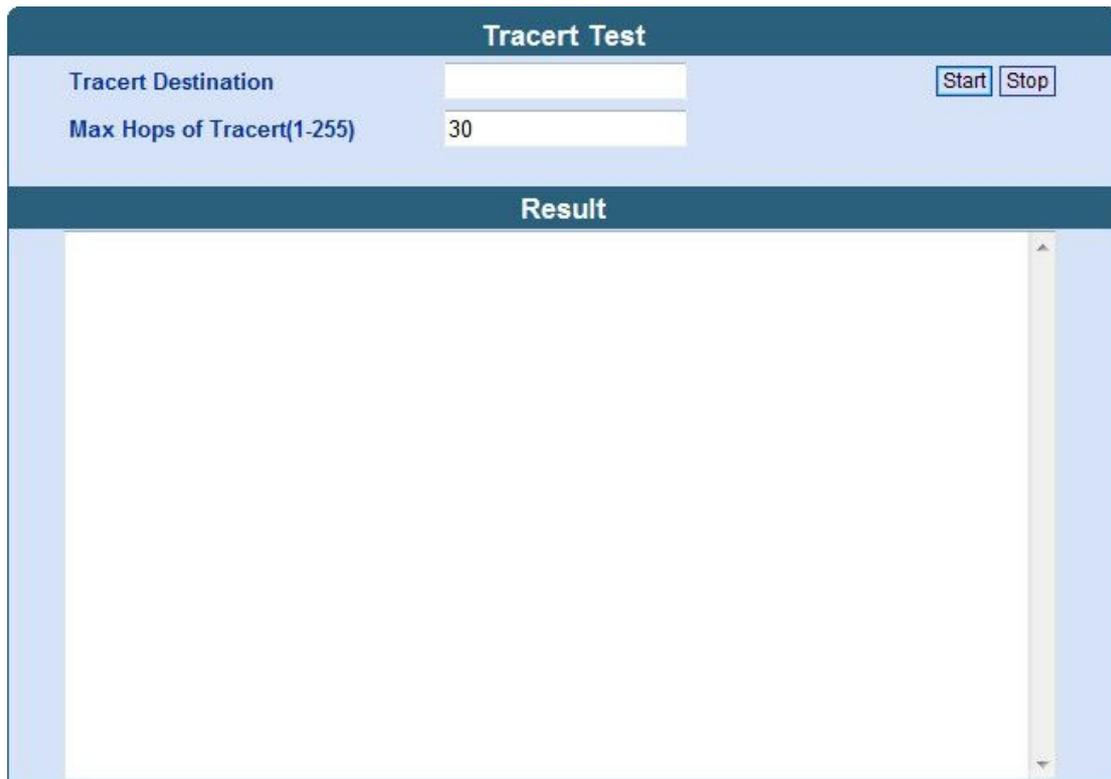
---

Result
<div style="border: 1px solid #ccc; height: 200px; width: 100%;"></div>

#### 4.14.2 Tracert Test

Tracert is a computer network diagnostic tool for displaying the route (path) and measuring transit delays of packets across an Internet Protocol (IP) network.

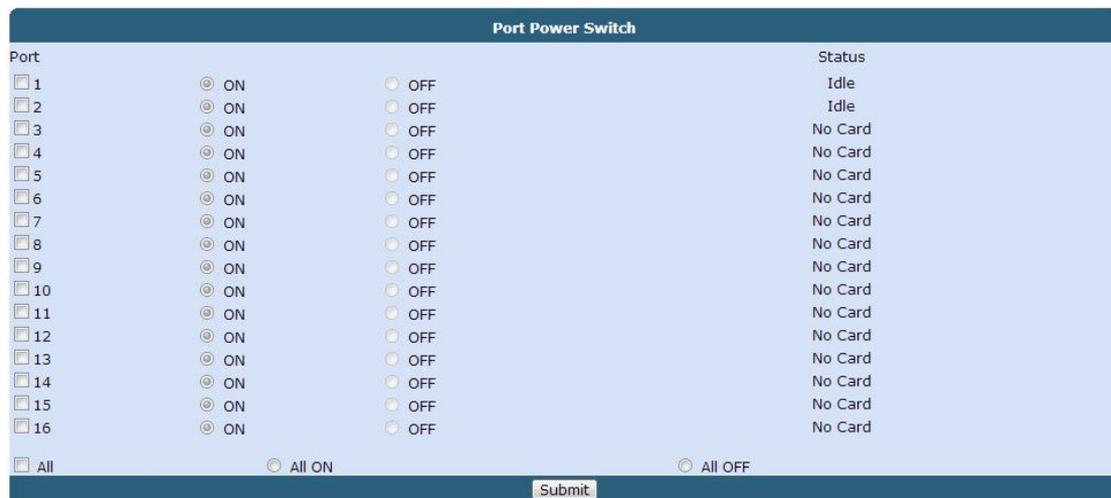
Figure 4-14-2 Tracert test



#### 4.14.3 Port Power manage

Port power manage permits user to open(On) or close(Off) the port power supply, so user can change SIM card or do other operations without re boot the device.

Figure 4-14-3 Port power switch



#### 4.14.4 Change IMEI

Due to the carrier's block, users have to change IMEI frequently, ETS-16G provide user the interface to change IMEI of the module easily. It can also auto generate the IMEI no. Very smart way to use.

Figure 4-14-4 Change IMEI

Message				
Port				
<input type="checkbox"/>	1	<input type="text"/>	Idle	863070016307091
<input type="checkbox"/>	2	<input type="text"/>	Idle	863070016307125
<input type="checkbox"/>	3	<input type="text"/>	No Card	---
<input type="checkbox"/>	4	<input type="text"/>	No Card	---
<input type="checkbox"/>	5	<input type="text"/>	No Card	---
<input type="checkbox"/>	6	<input type="text"/>	No Card	---
<input type="checkbox"/>	7	<input type="text"/>	No Card	---
<input type="checkbox"/>	8	<input type="text"/>	No Card	---
<input checked="" type="checkbox"/>	9	<input type="text"/>	No Card	---
<input type="checkbox"/>	10	<input type="text"/>	No Card	---
<input type="checkbox"/>	11	<input type="text"/>	No Card	---
<input type="checkbox"/>	12	<input type="text"/>	No Card	---
<input type="checkbox"/>	13	<input type="text"/>	No Card	---
<input type="checkbox"/>	14	<input type="text"/>	No Card	---
<input type="checkbox"/>	15	<input type="text"/>	No Card	---
<input type="checkbox"/>	16	<input type="text"/>	No Card	---

All

#### 4.14.5 Debug

Figure 4-14-5 Debug

**Decode Switch**

Sms Decode Switch  ON  OFF

Ussd Decode Switch  ON  OFF

**Call Test**

Port  Call Id

### 5. Glossary:

0-9

**3G-** refers to the third generation of mobile telephony that supports high-speed data transfer and is primarily suitable for mobile Internet.

**A**

**ACD-** The Average Call Duration (ACD) is calculated by taking the sum of billable seconds (bill second) of answered calls and dividing it by the number of these answered calls.

**ASR-** Answer Seizure Ratio is a measure of network quality . Its calculated by taking the number of successfully answered calls and dividing by the total number of calls attempted. Since busy signals and other rejections by the called number count as call failures, the ASR value can vary depending on user behavior.

**B**

**BCCH-** The Broadcast Control Channel (BCCH) is a logical broadcast channel used by the base station in a GSM network to send information about the identity of the network. This information is used by a mobile station to get access to the network.

## C

CDMA- [Code Division Multiple Access](#)

CDR- [Call data records](#)

CODEC- [Coder-Decoder](#)

## D

DTMF- [Dual Tone Multi Frequency](#)

DHCP- [Dynamic Host Configuration Protocol](#)

## G

GSM- [Global System for Mobile Communications](#)

GPRS- [General Packet Radio Service](#)

## I

IMEI- [International Mobile Equipment Identity](#)

IMSI- [International Mobile Subscriber Identification Number](#)

IVR- [Interactive Voice Response](#)

## L

LAN- [Local Area Network](#)

## M

MAC- [Media Access Control](#)

## P

PDD- [Post Dial Delay](#)

PSTN- [Public Switched Telephone Network](#)

## S

SIM- [Subscriber Identity Module](#)

SIP- [Session Initiation Protocol](#)

SMS-[Short Message Service](#)

## U

USB- [Universal Serial BUS](#)

USSD- [Unstructured Supplementary Service Data](#)

UMTS- [Universal Mobile Telecommunications System](#)

## V

VLAN- [Virtual Local Area Network](#)

VPN- [Virtual Private Network](#)

## W

WAN- Wide Area Network , Ethernet Interface,10/100M Base-TX, RJ-45 to connect with external network