## **About This Manual**



WWW.AKUVOX.COM



# AKUVOX R20K DOOR PHONE Administrator Guide

Thank you for choosing Akuvox R20K series door phones. This manual is intended for the administrators who need to properly configure the door phone. This manual is written based on the 320.30.10.9 version, and it provides all the configurations for the functions and features of the Akuvox door phone. Please visit Akuvox web or consult technical support for any new information or the latest firmware.

## **Product Overview**

Akuvox R20K series can be connected with indoor monitors for remote access control and communication. They allow audio and video calls with visitors, as well as unlocking the door if necessary.

## Change Log

Add Expansion Module.

## **Model Specification**

Model	R20K
Button	Physical Numeric Keypad
Relay In	2
Relay Out	2
RS485	$\checkmark$
PoE	$\checkmark$
Card Reader	$\checkmark$

## **Introduction to Configuration Menu**

- Status: this section gives you basic information such as product information, network information, account information, etc.
- Intercom: this section covers intercom settings, call log, etc.
- Account: this section concerns SIP account, SIP server, proxy server, transport protocol type, audio & video codec, DTMF, session timer, etc.
- Network: this section mainly deals with DHCP & static IP setting, RTP port setting, device deployment, etc.
- **Phone**: this section includes light settings, tab & button display, LCD settings and voice settings.
- Contacts: this section includes group and contact setting.
- **Upgrade**: this section covers firmware upgrade, device reset & reboot, configuration file auto-provisioning, and fault diagnosis.
- Security: this section is for password modification.

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► Security

## Access the Device

## Access the Device

Door phones' system settings can be either accessed on the device directly or on the device web interface.

### **Obtain Device IP Address**

Searching the device IP by the IP scanner in the same LAN network. Just click the Scan tab in the IP scanner to check the device IP. Or checking the device IP address from the device setting screen.

IP Sc	anner				
Online Devic	e: 7			Gearch	
Index	IP Address	Mac Address	Model	Room Number	Firmware Version
1	192.168.35.102	0C11050A7F9B		1.1.1.1.1	111.30.1.216
2	192.168.35.103	0C11050BE577	R20	1.1.1.1.1	20.30.4.10
3	192.168.35.104	0C11050B00B4	R20	1.1.1.1.1	20.30.4.10
4	192.168.35.107	0C11050B083F	C317	1.1.1.1.1	117.30.2.831
5	192.168.35.101	0C11050785A9	R27	1.1.1.1.1	27.30.5.1
6	192.168.35.105	A8102020128A		1.1.1.1.1	915.30.1.15
7	192.168.35.109	0C11050A5951	R29	1.1.1.1.1	29.30.2.16

## Access the Device Setting on the Web Interface

Press "\*3258\*", and the device IP address will be announced automatically.

You can also enter the device IP address on the web browser in order to log in to the device web interface where you can configure and adjust parameters, etc.

#### 

The initial user name and password are all **admin**, and please be case-sensitive to the user names and passwords entered.

User Name	admin
Password	****
	Remember Username/Password
	Login

Note:

- Download IP scanner: <u>https://knowledge.akuvox.com/docs/akuvox-ip-scanner?highlight=IP</u>
- See detailed guide: <u>https://knowledge.akuvox.com/v1/docs/en/how-to-obtain-ip-address-via-ip-scanner?highlight=IP%20Scanner</u>
- Google Chrome browser is strongly recommended.

## Language and Time Setting

## Language Setting

The device supports the following web languages:

• English, Russian, Spanish, Dutch, French, German, Polish, Japanese, and Hebrew.

Navigate to the web **Phone > Time/Lang > Web Language** interface.

Fime/Lang	
	Web Language
Mode	English 🗸

## **Time Setting**

Time settings on the web interface allows you to set up the NTP server address that you obtained to automatically synchronize your time and date. When a time zone is selected, the device will automatically notify the NTP server of the time zone so that the NTP server can synchronize the time zone setting in your device.

Navigate to the web Phone > Time/Lang > NTP interface.

	NTP	
Time Zone	GMT+0:00 GMT	
Primary Server	0.pool.ntp.org	
Secondary Server	1.pool.ntp.org	
Update Interval	3600	(>= 3600s)
System Time	03:25:12	

#### Parameter Set-up:

• **Preferred/Alternate Server**: the NTP server address. The alternate server will take effect when the primary server is invalid.



• Update Interval: the time interval between two consecutive NTP requests.

You can also set up time manually, select the Manual checkbox, and input time data.

Manual			
Date	Year	Mon	Day
Time	Hour	Min	Sec

## **LED Setting**

## LED Fill Light

LED fill light is mainly designed to reinforce the light at night or in a dark environment.

Navigate to the web Intercom > LED Setting > LED Fill Light interface.

	LED Fill Light	
Mode	Auto	~
Min Photoresistor	1500	(0~1800)
Max Photoresistor	1600	(0~1800)

#### Parameter Set-up:

- Mode: Auto enables the LED light to be turned on automatically. Schedule turns on the LED according to the time schedule.
- Min/Max Photoresistor: set the minimum and maximum photoresistor value based on the current actual photo-resistor value detected to control the ON-OFF of the LED light. You can set the maximum photoresistor value for the IR LED to be turned on and the minimum value for it to be turned off. The minimum and maximum photoresistor value are from 0 to 1800 respectively.

### **LED Display Status**

LED display adjustment is used to indicate the light changes of the call button in 5 statuses: normal (idle), offline, calling, talking, and receiving a call. The LED status allows users to verify the current mode of the device.

To set it up on the web Intercom > LED Setting > LED Status interface.

#### Akuvox

	LED State	us
Device Status	LED Color	LED Display Mode
NORMAL V	Blue 🗸	Always On 🗸
OFFLINE 🗸	Red 🗸	2500/2500 Blink 🗸
CALLING 🗸	Blue 🗸	2500/2500 Blink 🗸
TALKING 🗸	Green 🗸	Always On 🗸
RECEIVING V	Green 🗸	2500/2500 Blink 🗸

The default LED Display Status:

LED Status		Description
Blue	Always on	Normal status
	Flashing	Calling
Red	Flashing	Network is unavailable
Green	Always on	Talking on a call
	Flashing	Receiving a call
Pink	Flashing	Upgrading

#### Parameters Set-up:

- State: there are five states: Normal, Offline, Calling, Talking and Receiving.
- LED Color: it can support three colors: Red, Green, Blue.
- LED Display Mode: the different blink frequencies.

#### Note:

- The Status and Color of item cannot be changed.
- The LED of upgrading mode cannot be adjusted.

## Set up LED Display from HTTP URL

You can enter the HTTP URL in the browser to manage the LED color and frequency.

Navigate to the web **Intercom > LED Setting > LED Control** to enable the function.

	LE	D Control	
Wake Mode	Auto	~	
LED Control			
Keypad LED Enabled			
Card LED Enabled			

The HTTP URL format is: http://PhoneIP/fcgi/do? action=LedAction&State=1&Color=1&Mode=2500

• Status: 1=ldle; 2=OffLine; 3=Calling; 4=Talking; 5=Receiving; Color: 1=Green; 2=Blue; 3=Red; Mode: 0=Always On; 1=Always Off; 500/1000/1500/2000/25000/3000

## LED Setting on Card Reader Area

You can enable or disable the LED lighting on the card reader area as needed on the web interface. Meanwhile, if you do not want to have the LED light on the card reader area stay on, you can also set the timing for the exact time span during which the LED light can be disabled in order to reduce electrical power consumption.

Navigate to the web Intercom > LED Setting > LED Control interface.

	LED	Control
Wake Mode	Auto	~
LED Control		
Keypad LED Enabled		
Card LED Enabled		
Time (H)	18 -	06 (0~23)

#### Parameters Set-up:

• Time (H): the time span for the LED lighting to be valid. If the time span is set from 8-0 (Sart time- End time), it means LED light will stay on during the time span from 8:00 am

to 12:00 pm during one day (24 hours).

## LED Setting on Keypad

You can enable or disable the LED lighting on the keypad area as needed on the web interface. Meanwhile, if you do not want to have the LED light on the card reader area stay on, you can also set the timing for the exact time span during which the LED light can be disabled in order to reduce electrical power consumption.

Navigate to the web Intercom > LED Setting > LED Control interface.

	LED	Control
Wake Mode	Auto	~
LED Control		
Keypad LED Enabled		
Time (H)	18 -	06 (0~23)
Card LED Enabled		

Time (H): the time span for the LED lighting to be valid. If the time span is set from 8-0 (Sart time- End time), it means LED light will stay on during the time span from 8:00 am to 12:00 pm during one day (24 hours).

## **Volume and Tone Configuration**

## **Volume Configuration**

You can configure the Mic volume according to your need for open-door notification. Moreover, you can also set up the tamper alarm volume when unwanted removal of the access control terminal occurs.

v	olume Control	
Mic Volume	8	(1~15)
Volume Level	1	~
Speaker Volume	15	(1~15)
Keypad Volume	8	(1~15)
Tamper Alarm Volume	15	(1~15)
Prompt Volume	15	(0~15)

Navigate to the web Phone > Audio > Volume Control interface.

#### Parameter Set-up:

- Volume Level : controls the volume of all speakers. The default is 1, the first level of volume, the volume range is roughly 80-95, and 2 is the second level of volume, the volume range is roughly 95-109.
- **Prompt Volume**: includes various types of prompt sound for door open success and failure, ringback, etc.

## **IP Announcement**

Navigate to the web Phone > Audio > IP announcement interface.

IP A	nnouncement	
Active Time After Reboot	0	(0~180 sec
Loop Times	1	(0~10)

#### Parameter Set-up:

Active Time After Reboot: the IP announcement time after the device reboot. If you set it as 30 seconds, then you must press the call button within 30 seconds for the IP announcement after the device is rebooted, otherwise, the IP announcement will expire. If you set it as 0 seconds, then you can press the call button any time after the reboot for the IP announcement.

## **Open Door Tone Configuration**

You can control the prompt words that accompanies the tone on the web **Phone > Audio > Open Door Tone Setting** interface.

Open [	oor Tone Setting	
Open Door Inside Tone		
Open Door Outside Tone		
Open Door Failed Tone		

#### Parameter Set-up:

- Open Door Inside Tone: allows users to hear the open door tone when they open the door by pressing the exit button.
- Open Door Outside Tone: allows users to hear the open door tone when they open the door using the access methods supported by the door phone.

### **Keypad Tone Setting**

	Keypad Tone Setting	
Keypad Tones	Веер	~

#### Parameter Set-up:

• Keypad Tones: select Beep and you can hear the beep sound when pressing on the keypad. If you select Digital Sounds, you can hear the announcement of corresponding numberic keys when pressing on the keypad.

## **Upload Tone Files**

## **Upload Ringback Tone**

Navigate to the web Phone > Audio > Tone Upload interface.

File Format: wav, size: < 200KB	, samplerate: 1600	0, Bits: 16	
Open Door Succeeded Outside Warning	Choose File	No file chosen	
	Upload	Delete	Expor
Open Door Succeeded Inside Warning	Choose File	No file chosen	
	Upload	] Delete [	Expor
Open Door Failed Warning	Choose File	] No file chosen	
	Upload	Delete	Expor
Ringback	Choose File	] No file chosen	
	Upload	Delete	Expor
Trigger Manager Dial Warning	Choose File	No file chosen	
	Upload	Delete	Expor

## **Upload Open Door Tone**

You can upload the tone for open door failure and success on the device web interface.

The outside tone is heard when users open doors via card or DTMF. The inside tone is heard when users open doors via triggered input interface. Please follow the prompt about the file size and format.

Navigate to the web Phone > Audio > Tone Upload interface.

Open Door Succeeded Outside Warning	Choose File	No file chosen	
	Upload	Delete	Export
Open Door Succeeded Inside Warning	Choose File	] No file chosen	
	Upload	Delete	Export
Open Door Failed Warning	Choose File	No file chosen	
	Upload	Delete	Export
Ringback	Choose File	No file chosen	
	Upload	Delete	Export
Trigger Manager Dial Warning	Choose File	No file chosen	
	Upload	Delete	Export

#### Parameter Set-up:

- Open Door Succeeded Outside Warning: warning tone that will go off when users open the door by pressing the exit button.
- Open Door Succeeded Inside Warning: warning tone that will go off when they open the door using the access methods supported by the door phone.
- **Trigger Manager Dial Warning**: warning tone that will go off when users press the push button to make group call or sequence call.

## **Network Setting**

## **Network Status**

To check the network status on the web Status > Basic > Network Information interface.

Network Information		
Port Type	DHCP Auto	
Link Status	Connected	
IP Address	192.168.36.103	
Subnet Mask	255.255.255.0	
Gateway	192.168.36.1	
Preferred DNS Server	218.85.152.99	
Alternate DNS Server	8.8.8.8	

## **Device Network Configuration**

To ensure normal functioning, make sure that the device has its IP address set correctly or obtained automatically from the DHCP server.

#### Navigate to the web Network > Basic interface



#### Parameter Set-up:

- DHCP: DHCP mode is the default network connection. If the DHCP mode is turned on, the door phone will be assigned by the DHCP server with IP address, subnet mask, default gateway and DNS server address automatically.
- Static IP: when static IP mode is selected, the IP address, subnet mask, default gateway, and DNS servers address have to be manually configured according to the actual network environment.
- IP Address: enter the IP address when the static IP mode is selected.
- Subnet Mask: set up the subnet mask according to the actual network environment.
- Default Gateway: set up the correct gateway according to the IP address.
- Preferred/Alternate DNS Server: preferred DNS server is the primary DNS server address while the alternate DNS server is the secondary one. The door phone will connect to the alternate server when the primary one is unavailable.

### **Device Deployment in Network**

To facilitate device control and management, configure Akuvox intercom devices with details such as location, operation mode, address, and extension numbers.

Navigate to the web <b>Network</b>	Advanced >	> Connect Setting	interface.
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	Connect Setti	ing
Server Mode	None	▼
Discovery Mode		
Device Address	1.1.1	1.1.1
Device Extension	1	
Device Location	Stair Phone	

#### Parameter Set-up:

• Server Mode: it is automatically set up according to the actual device connection with a specific server in the network such as SDMC, Cloud and None. None is the default factory setting indicating the device is not in any server type, therefore, you are allowed to choose Cloud or SMDC in discovery mode.

- **Discovery Mode**: allows the device to be discovered by other devices in the network. By disabling it, the device will be concealed and not to be discovered by other devices.
- Device Address: specifies the device address by entering device location information from the left to the right: Community, Unit, Stair, Floor, Room in sequence.
- Device Extension: the device extension number for the device you installed.
- Device Location: the location in which the device is installed and used.

### **Device Local RTP configuration**

Real-time Transport Protocol(RTP) lets devices stream audio and video data over a network in real time.

To use RTP, devices need a range of ports. A port is like a channel for data on a network. By setting up RTP ports on your device and router, you can avoid network interference and improve audio and video quality.

Navigate to the web **Network > Advanced > Local RTP** interface.

Local R1	P	
Starting RTP Port	11800	(1024~65535)
Max RTP Port	12000	(1024~65535)

Parameter Set-up:

- Min RTP Port: the port value to establish the start point for the exclusive data transmission range.
- Max RTP port: the port value to establish the end point for the exclusive data transmission range.

## **NAT Setting**

Network Address Translation(NAT) lets devices on a private network use a single public IP address to access the internet or other public networks. NAT saves the limited public IP addresses, and hides the internal IP addresses and ports from the outside world.

#### To set up NAT, navigate to the web **Account > Basic > NAT** interface.

	NA	г	
NAT	Disabled	~	
Stun Server Address			Port 3478 (1024~65535)

#### Parameter Set-up:

- Stun Server Address: the SIP server address in Wide Area Network(WAN).
- **Port**: the SIP server port.

Then go to the web **Account > Advanced > NAT** interface.

	NAT	
UDP Keep Alive Messages	<	
JDP Alive Msg Interval	30	(5~60s)
RPort		

#### Parameter Set-up:

- UDP Keep Alive Messages: if enabled, the device will send out the message to the SIP server so that the SIP server will recognize if the device is in online status.
- UDP Alive Msg Interval: the message sending time interval ranges from 5 to 60 seconds. The default is 30 seconds.
- **RPort**: enable the RPort when the SIP server is in WAN.

### **SNMP Setting**

Simple Network Management Protocol(SNMP) is a protocol for managing IP network devices. It allows network administrators to monitor devices and receive alerts for attention-worthy conditions. SNMP provides variables describing system configuration, organized in hierarchies and described by Management Information Bases (MIBs).

Navigate to the web **Network > Advanced > SNMP** interface.

SN	IMP	
Enabled		
Port		(1024~65535)
Trusted IP		

Parameter Set-up:

• **Trusted IP**: the allowed SNMP server address. It can be an IP address or any valid URL domain name.

### **VLAN Setting**

A Virtual Local Area Network (VLAN) is a logical group of nodes from the same IP domain, regardless of their physical network segment. It separates the layer 2 broadcast domain via switches or routers, sending tagged packets only to ports with matching VLAN IDs. Utilizing VLANs enhances security by limiting ARP attacks to specific hosts and improves network performance by minimizing unnecessary broadcast frames, thereby conserving bandwidth for increased efficiency.

Navigate to the web Network > Advanced > VLAN interface.

	VL	AN		
LAN Port	Enabled			
	VID	1		(1~4094)
	Priority	0	~	

#### Parameter Set-up:

- VID: the VLAN ID for designated port.
- Priority: the VLAN priority for designated port.

## **TR069 Setting**

TR-069 (Technical Report 069) provides the communication between Customer-Premises Equipment (CPE) and Auto-Configuration Servers (ACS). It includes both a safe auto configuration and the control of other CPE management functions within an integrated framework. For door phones, the administrators can manage all the devices on a common TR-069 Platform. IP phones can be easily and securely configured on the TR-069 platform to make mass deployment more efficient.

	TR069		
	Enabled		
	Version	1.0	~
ACS	URL		
	User Name		
	Password	*****	
Periodic Inform	Enabled		
	Periodic Interval	1800	(3~24×3600s
CPE	URL		
	User Name		
	Password	******	

Navigate to the web **Network > Advanced > TR069** interface.

#### Parameter Set-up:

- Version: to select supported TR069 version (version 1.0 or 1.1).
- ACS/CPE: ACS is short for auto configuration servers as server side, and CPE is short for customer-premise equipment as client side devices.
- URL: the URL address for ACS or CPE.
- Periodic Interval: the interval for periodic inform.

#### Note

 TR-069 is a technical specification entitled CPE WAN Management Protocol (CWMP). It defines an application layer protocol for remote management of end-user devices.

## **Device Web HTTP Setting**

This function manages device website access. The door phone supports two remote access methods: HTTP and HTTPS (encryption).

Navigate to the web **Network > Advanced > Web Server** interface.

Web Se	erver	
HTTP Enabled		
HTTPS Enabled	<b>Z</b>	
HTTP Port	80	(80,1024~65534)
HTTPS Port	443	(443,1024~65534)

## **Intercom Call Configuration**

## **IP Call & IP Call Configuration**

An IP call is a direct call between two intercom devices using their IP addresses, without a server or a PBX. IP calls work when the devices are on the same network.

Navigate to the web Phone > Call Feature > Direct IP interface.

	Direct IP	
Enabled		
Auto Answer		
Port	5060	(1~65535)

## SIP Call & SIP Call Configuration

Session Initiation Protocol(SIP) is a signaling transmission protocol used for initiating, maintaining, and terminating calls.

A SIP call uses SIP to send and receive data between SIP devices, and can use the internet or a local network to offer high-quality and secure communication. Initiating a SIP call requires a SIP account, a SIP address for each device, and configuring SIP settings on the devices.

## **SIP Account Registration**

Each device needs a SIP account to make and receive SIP calls.

Akuvox intercom devices support the configuration of two SIP accounts, which can be registered under two independent servers.

Navigate to the web Account > Basic > SIP Account Interface.

nt-Basic	
	SIP Account
Status	UnRegistered
Account	Account 1 🗸
Account Enabled	
Display Label	204
Display Name	204
Register Name	204
User Name	204
Password	******

#### Parameter Set-up:

- Display Label: the device label to be shown on the device screen.
- Display Name: the device's name to be shown on the device being called to.

a. To register SIP account for Akuvox indoor monitors, obtain Register Name, Username, and Password from Akuvox indoor monitor PBX screen.

b. To register SIP account for third-party devices, obtain Register Name, Username, and Password from third-party service provider.

### **SIP Server Configuration**

SIP servers enable devices to establish and manage call sessions with other intercom devices using the SIP protocol. They can be third-party servers or built-in PBX in Akuvox indoor monitor.

Navigate to the web Account > Basic > SIP Server interface.

	Ficience off	
Server IP	192.168.1.88	Port 5060 (1024~65535)
Registration Period	1800	(30~65535s)
	Altornato SID (	Sorvor
	Alternate SIP S	Server
Server IP	Alternate SIP S	Server
Server IP	Alternate SIP S	Server Port 5060 (1024~65535)

a. To register SIP account for Akuvox indoor monitors, obtain Server IP and Server Port from Akuvox indoor monitor PBX screen.

b. To register SIP account for third-party devices, obtain Server IP and Server Port from third-party service provider.

#### Parameter Set-up:

- Preferred SIP Server: the primary server IP address or its URL.
- Alternate SIP Server: the backup SIP server IP address or its URL.
- Port: the SIP server port for data transmission.
- Registration Period: the SIP account registration time span. SIP re-registration will start automatically if the account registration fails during the registration time span. The registration period ranges 30-65535s with 1800 default.

## **Configure Outbound Proxy Server**

An outbound proxy server is used to receive all initiating request messages and route them to the designated SIP server in order to establish a call session via port-based data transmission.

Navigate to the web Account > Basic > Outbound Proxy Server Interface.

Outbo	und Proxy Server
Outbound Enabled	
Server IP	Port 5060 (1024~65535)
Backup Server IP	Port 5060 (1024~65535

Parameter Set-up:

- Server IP: the SIP address of the outbound proxy server.
- Port: the Port number for establishing a call session via the outbound proxy server.

## **Configure Data Transmission Type**

Akuvox intercom devices support four data transmission protocols: User Datagram Protocol(UDP), Transmission Control Protocol(TCP), Transport Layer Security(TLS), and DNS-SRV.

Navigate to the web **Account > Basic > Transport Type** interface.

	Transp	ort Type	
Туре	UDP	~	

#### Parameter Set-up:

- UDP: an unreliable but very efficient transport layer protocol. UDP is the default transport protocol.
- TCP: a reliable but less-efficient transport layer protocol.
- TLS: a secured and reliable transport layer protocol.
- DNS-SRV: obtains DNS record for specifying the location of servers. SRV not only records the server address but also the server port. Moreover, SRV can also be used to configure the priority and the weight of the server address.

## **Call Settings**

## DND

The Do Not Disturb(DND) feature prevents unwanted incoming SIP calls, ensuring uninterrupted focus. It also allows you to set a code to be sent to the SIP server when rejecting a call.

Navigate to the web Phone > Call Feature interface

Phone-Call Feature		
	DND	
Enabled	0	
Return Code When DND	486(Busy Here)	~

## **Prevent SIP Hacking**

Internet phone eavesdropping is a network attack that allows unauthorized parties to intercept and access the content of the communication sessions between intercom users. This can expose sensitive and confidential information to the attackers. SIP hacking protection is a technique that secures SIP calls from being compromised on the Internet.

Navigate to the web Account > Advanced > Call interface.

	Call	
Max Local SIP Port	63531	(1024~65535)
Min Local SIP Port	63521	(1024~65535)
Auto Answer		
Prevent SIP Hacking		

## **Manager Dial Call**

Manager Dial Call includes two types of calls: Sequence call and group call. It allows quick initiation of pre-configured numbers by pressing the Management key on the door phone.

Navigate to the web **Intercom > Basic > Manager Dial** interface.

Call Type		Group Ca	
Call Timeout (Sec)		60	~
(If the local group is no	ot blank, then o	nly the local numb	pers will be called.)
ıp Call Number (L	ocal)		
			][
	   Gi	roup Call	

#### Parameter Set-up:

- Call Type: select the group call or sequence call (Robin call) for the manager dial call.
- Sequence Call: sequence call is used to initiate multiple numbers when your press the manager dial button. If the previous callee does not answer within the sequence call timeout, the call will be transferred to the next one. If the call is answered by one of the callees, the call will not be transferred.
- When Refused: if you select End All Calls, the sequence call will be terminated if the call is rejected by the called party. If you select End This Call Only, the sequence call will be continued to the next called party if it is rejected by the first called party.
- Group Call: group call is used to initiate calls to multiple numbers at the same when you press the manager dial button.

Note

Sequence call works with SmartPlus Cloud.

## **Speed Dial**

Speed dial is a function that allows you to make speedy calls by pressing the dial key on the keypad.

Navigate to the web **Intercom > Basic > Speed Dial** interface. Enter one SIP/IP number in one field.

Speed Dial			

After the manager dial or speed dial is set up, you can set up relays to be triggered by pressing the manager dial key or dial key.

Scroll down to the Trigger Relay By Speed Dial or Manager Dial section.



## **Speed Dial on Expansion Module**

The device supports connecting with an extension unit, allowing you to set up more speed dial numbers. Users can press the key on the unit to call.

#### 

	1(	)
	Katharine	ļ Ļ
	Xaviera	<b>1</b>
	Joseph	4
	Doris	4
	Ternence	<u>, , </u>
I	Taylor	

Navigate to the web Intercom > Extension Unit interface.

xtension Unit				
Extension Unit 1				
Current Ve	ersion: 6	Locate Module		
ndex	Label	Number		
1				
2				
3				
4				
5				
6				

Parameter Set-up:

- Locate Module: when clicking it, the key light will flash three times at 500ms intervals.
- Label: the key name, usually the callee's name.
- Number: the called device's IP/SIP number.

#### 

#### Note

- ONLY the device with firmware version 320.30.10.116 and above support this feature.
- Please consult Akuvox tech team for the latest firmware.

### Web Call

The web call feature allows for making calls via the device's web interface, commonly used for remote call testing purposes.

Navigate to web Intercom > Basic > Web Call interface.

	We	eb Call			
Web Call(Ready)	Web Call Number	Auto	~	Dial Out	Hang U

Parameters Set-up:

Web Call (Ready): the called IP/SIP number.

## **Auto Answer**

Auto-answer feature allows the device to automatically pick up incoming calls without any manual intervention. You can also customize this feature by setting the time duration for auto-answering and choosing the communication mode between audio and video.

To enable this feature on the web Account > Advanced > Call interface, you can set up the related parameters on web the Phone > Call Feature > Auto Answer.

	Call	
Max Local SIP Port	5062	(1024~65535)
Min Local SIP Port	5062	(1024~65535
Auto Answer	✓	
Prevent SIP Hacking		

	Auto Answer	
Auto Answer Delay	0	(0~5 Sec)
Mode	Video 🗸	

#### Parameters Set-up:

- Auto Answer Delay: the delay time (from 0-5 seconds) before the call can be answered automatically. For example, if you set the delay time as 1 second, then the call will be answered in 1 second automatically.
- Mode: the video or audio mode for answering the call automatically.

### **Multicast**

The Multicast function allows one-to-many broadcasting for different purposes. For example, it enables the indoor monitor to announce messages from the kitchen to other rooms, or to broadcast notifications from the management office to multiple locations. In these scenarios, indoor monitors can either listen to or send audio broadcasts.

Navigate to the web **Phone > Multicast** interface.
lulticast				
	Multic	ast Setting		
Multicast Prior	ity Paging Barge	1	~	
Paging Priority Enabled				
	Prie	ority List		
IP Address	Listening A	ddress	Label	Priority
1st IP Address	224.1.6.21:51230		AKUVOX	1
2nd IP Address				2
3rd IP Address				3
4th IP Address				4
5th IP Address				5
6th IP Address				6
7th IP Address				7
8th IP Address				8
9th IP Address				9
10th IP Address				10

#### Parameters Set-up:

- Multicast Priority Paging Barge: multicast or how many multicast calls are higher priority than SIP call, if you disable Paging Priority Active, SIP call will have high priority.
- Paging Priority enabled: multicast calls are called in order of priority or not.
- Listening Address: the multicast IP address to be listened. The multicast IP address needs to be the same as the listened part and the multicast port cannot be the same for each IP address. Multicast IP address is from 224.0.0.0 to 239.255.255.255.

# **Configure Maximum Call Duration**

The door phone allows you to set up the call time duration in receiving the call from the calling device as the caller side might forget to hang up the intercom device. When the call time duration is reached, the door phone will terminate the call automatically.

Navigate to the web Intercom > Basic > Max Call Time interface.

		Max Call Time
Max Call Time	5	(2~30 Min)

Note

 Max call time of the device is also related with max call time of SIP server. If using SIP account to make a call, please pay attention to the max call time of SIP server. If the max call time of SIP server is shorter than the max call time of device, the shorter one is available.

### **Maximum Dial Duration**

Maximum Dial Duration is the time limit for incoming- and/or outgoing calls on the door phone. If configured, the door phone will automatically terminate the call if no one answers the call within the preset time, whether it is incoming or outgoing.

Navigate to the web Intercom > Basic > Max Dial Time interface.

		Max Dial Time	
Dial In Time	60	(5~120 Sec)	
Dial Out Time	60	(5~120 Sec)	

Note

• Max dial time of device is also related with max dial time of SIP server. If using SIP account to make a call, please pay attention to the max dial time of SIP server. If the max dial time of SIP server is shorter than the max dial time of device, the shorter one is available.

# Hang Up After Open Door

This feature automatically ends the call once the door is released, allowing for the seamless reception of subsequent calls.

Navigate to the web Intercom > Basic > Hang Up After Open Door interface.

	Hang Up A	fter Open Door	
Туре	DTMF Or HTTP	~	
Time Out	5	(0~15 Sec)	

- Type: the door can be opened via DTMF, HTTP Command, DTMF Or HTTP, and Input, DTMF Or HTTP.
- **Timeout**: the call will be automatically hang up within this value after the door is opened.

# **Contacts Configuration**

The contacts list is for granting access or calling permission to the indoor monitor or other devices.

To set it up on the web **Contacts > Access Allowlist** interface.

# **Manage Contacts**

You can search, display, edit, and delete the contacts in your contacts list on the web.

Navigate to the web Contacts > Access Allowlist.

Acces	s Allowli	st						
Con	tacts		All Contacts	~				
Sear	rch				Search	Rese	et	
Index	Nam	ne	Phone N	lumber	Acco	ount	Floor	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10						_		
Page	1~	Prev		Next	Delete		Delete A	
Con	tact Setti	ng						
	Name			Phone N	umber			
	Account	Auto	~	Floc	or N	one		
		Add		Edit	Cancel			

- Account: the registered SIP account to make a call. If using IP direct call, it is not available.
- Floor: the floor number that the contact is allowed to access.

# Audio & Video Codec Configuration

# Audio Codec Configuration

The door phone supports three types of Codec (PCMU, PCMA, and G722) for encoding and decoding the audio data during the call session. Each codec varies in terms of sound quality. You can select the specific codec with different bandwidths and sample rates flexibly according to the actual network environment.

Navigate to the web **Account > Advanced** interface.



Please refers to the bandwidth consumption and sample rate for the three codecs types below:

Codec Type	Bandwidth Consumption	Sample Rate
PCMA	64 kbit/s	8kHZ
PCMU	64 kbit/s	8kHZ
G722	64 kbit/s	16kHZ

# **Video Codec Configuration**

The door phone supports the H264 codec that provides better video quality at a much lower bit rate with different video quality and payload.

Navigate to the web Account > Advanced interface.

Video Codec			
Name	✓ H264		
Resolution	4CIF	~	
Bitrate	2048	~	
Payload	104	~	

#### Parameter Set-up:

- Name: check to select the H264 video codec format for the door phone video stream. H264 is the video codec by default.
- Resolution: the video quality resolution has four option, CIF, VGA, 4CIF and 720P according to the actual network environment. The default resolution is 4CIF.
- **Bitrate**: the video stream bitrate ranges from 128 to 2048. The greater the bitrate, the data transmitted in every second is greater in amount, therefore, the clearer the video will be. The default code bitrate is 2048.
- **Payload**: the payload ranges from 90 to 119 for configuring the audio/video configuration file. The default payload is 104.

# Video Codec Configuration for IP Direct Calls

You can select the IP call video quality by selecting the proper codec resolution according to the network condition.

Navigate to the web Phone > Call Feature > IP Video Parameters interface.

IP	Video Parameters	
Video Resolution	4CIF	~
Video Bitrate	2048 kbps	~
Video Payload	104	~

#### Parameter Set-up:

- Video Resolution: the video quality resolution has four option, CIF, VGA, 4CIF and 720P according to the actual network environment. The default resolution is 4CIF.
- Video Bitrate: the video stream bitrate ranges from 64 to 2048 kbps. The greater the bitrate, the data transmitted in every second is greater in amount, therefore, the clearer the video will be. The default code bitrate is 2048.
- Video Payload: the payload ranges from 90 to 119 for configuring the audio/video configuration file. The default payload is 104.

### **Configure DTMF Data Transmission**

In order to achieve door access via DTMF code or some other applications, you are required to properly configure DTMF in order to establish a DTMF-based data transmission between the door phone and other intercom devices for third-party integration.

Navigate to the web Account >	• Advanced >	DTMF	interface.
-------------------------------	--------------	------	------------

	DTMF		
Туре	RFC2833	~	
How To Notify DTMF	Disabled	~	
Payload	101	(	96~127)

- Type: select DTMF mode among five options: Inband, RFC2833, Info, Info+Inband and Info+RFC2833 based on the specific DTMF transmission type of the third-party device to be matched with as the party for receiving signal data.
- How to Notify DTMF: select among four types: Disable, DTMF, DTMF-Relay, and Telephone-Event according to the specific type adopted by the third-party device. You are required to set it up only when the third party device to be matched with adopts Info mode.
- **Payload**: set the payload according to the specific data transmission payload agreed on between the sender and receiver during the data transmission.

# **Relay Setting**

# **Relay Switch Setting**

You can configure the relay switch(es) and DTMF for the door access on the web **Intercom** > **Relay** interface.

	Relay		
Relay ID	RelayA 🗸	RelayB	~
Туре	Default state 🗸	Default state	~
Mode	Monostable 🗸	Monostable	~
Trigger Delay(Sec)	0 ~	0	~
Hold Delay(Sec)	3 ~	3	~
DTMF Mode	1 Digit DTMF ~		
1 Digit DTMF	0 ~	1	~
2~4 Digits DTMF	010	012	
Relay Status	RelayA: Low	RelayB: Low	
Relay Name	RelayA	RelayB	

- Type: when Default state is selected, the Relay Status shows Low which means the door is closed and the Relay Status shows High which means the door is opened. If Invert State is selected, the Relay Status shows High which means the door is closed and Low means the door is opened.
- Mode: there are two modes Monostable and Bistable. If Monostable is selected, the relay status will be automatically reset within the relay delay time after the relay is triggered. If Bistable is selected, relay status will be reset after the relay is triggered again.

- **Trigger Delay (Sec)**: the relay trigger delay time ranges from 1-10 seconds. If you set the delay time as 5 seconds, the relay will not be triggered until 5 seconds after you press the unlock tab.
- Hold Delay (Sec): the relay hold delay time ranges from 1-10 seconds. If you set the hold delay time as 5 seconds, the relay will resume the initial state after maintaining the triggered state for 5s.
- DTMF Mode: the number of DTMF digits for the door access control (Ranging from 1-4 digits).
- 1 Digit DTMF: select the code from \*0-9 and ,# if the DTMF Option is set as 1 digit.
- 2~4 Digits DTMF: set the DTMF code according to the DMTP Option setting. For example, you are required to set the 3-digits DTMF code if DTMP Option is set as 3digits.
- Relay Status: relay status is low by default which means normally closed(NC). If the relay status is high, then it is in normally open status(NO).
- **Relay Name**: name the relay switch to distinguish it from others. You can name the relay switch according to where it is located for convenience.

#### Tip

- Only the external devices connected to the relay switch need to be powered by power adapters as relay switch does not supply power.
- It is suggested to connect the door lock to Relay B.

# **Security Relay Setting**

The Security Relay, known as Akuvox SR01, is a product designed to bolster access security by preventing unauthorized forced entry attempts. Installed inside the door, it directly governs the door opening mechanism, ensuring that the door remains secure even in the event of damage to the device.



Navigate to the web Intercom > Relay > Security Relay interface.

	Security Relay
Relay ID	Security Relay A
Connect Type	RS485
Trigger Delay(Sec)	0 ~
Hold Delay(Sec)	5 ~
1 Digit DTMF	2 ~
2~4 Digits DTMF	013
Relay Name	Security Relay A
Enabled	
	Test

- Connect Type: the connection type between the security relay and the door phone.
- **Trigger Delay(Sec)**: the relay trigger delay time ranges from 0 to 10 seconds. If you set the delay time as 5 seconds, the relay will not be triggered until 5 seconds after you press the unlock tab. The default is 0 meaning triggering relay right after you press the unlock tab.
- Hold Delay(Sec): the relay hold delay time ranges from 1 to 60 seconds. If you set the hold delay time as 5 seconds, the relay will be delayed for 5 seconds after the door is opened.
- 1 Digit DTMF: set the 1 digit DTMF code from 0-9 and \*, #.
- 2~4 Digits DTMF: set the DTMF code according to the DMTP Option setting. For example, you are required to set the 3-digit DTMF code if DTMP Mode is set as 3-digits.

• Relay Name: name the relay to distinguish it from others. It can be edited on the SmartPlus cloud and SDMC.

# Web Relay Setting

A web relay has a built-in web server and can be controlled via the Internet or a local network. The device can use a web relay to either control a local relay, or a remote relay somewhere else on the network.



Navigate to the web **Phone > Web Relay** interface. **IP Address**, **User Name**, and **Password** are provided by the web relay manufacturer.

b Relay			
	Web R	telay	
Туре		Disabled 🗸	
IP Address			
User Name			
Password		******	
	Web Relay Ac	tion Setting	
Action ID	Web Relay Action	Web Relay Key	Web Relay Extension
Action ID 01			
Action ID 02			

#### Parameter Set-up:

- Type: Web Relay enables the feature. Both enables both local relay and web relay. The local relay has a higher priority.
- **Password**: the password is authenticated via HTTP and you can define the passwords using http get in Action.
- Web Relay Action: enter the specific web relay action command provided by the web manufacturer for different actions by the web relay. Without adding IP, username, password, you can enter multiple HTTP commands in the web relay action field. See the HTTP command example below:

a. If you do not enter the IP address in the IP Address Field above, fill in a complete HTTP command.

For example, http://admin:admin@192.168.1.2/state.xml?relayState=2.(HTTP://@IP address>/state.xml?relayState=2)

b. If you have already entered the IP address above, fill in the omitted HTTP command, for example, state.xml?relayState=2.

• Web Relay Key: optional setting. When entering the configured DTMF code, the door can only be opened via DTMF code and RF cards.

• Web Relay Extension: optional setting. When entering the SIP or IP number of an intercom device such as an indoor monitor, only the device can receive the web relay action command and trigger the web relay via DTMF code.

# **Door Access Schedule Management**

# **Relay Schedule**

The relay schedule allows you to set a specific relay to always open at a certain time. This is helpful for situations like keeping the gate open after school or keeping the door open during work hours.

Navigate to the web Intercom > Relay > Relay Schedule interface.

Relay ID	RelayA	~		
Schedule Enat	oled 🗹			
	All Schedules	Enable	ed Schedules	
	1002:Never	-	^	
	1001.ninuy5			
		-	-	

#### Parameter Set-up:

• Relay ID: the relay to be set up.

# **Configure Door Access Schedule**

A door access schedule lets you decide who can open the door and when. It applies to both individuals and groups, ensuring that users within the schedule can only open the door using the authorized method during designated time periods.

### **Create Door Access Schedule**

You can create door access schedules for daily, weekly, or custom time periods.

Navigate to the web **Intercom > Schedule** interface.

			-	Schedule	Secting			_
		Schedule 1	Туре [	Normal	~			
		Schedule M	Name [					
		Date Rang	je (	20220215	- 20	220215		
		Day of We	ek F	Mon 🗆 Tue Fri 🗖 Sat (	Wed Sun	Check All		
		Date Time	(	нн ∨:∩	MM 🗸 -	нн ♥: ММ ♥	•	
			Add	1		Reset		
			Sch	oduloc M	anadom	ont		
			Sch	edules M	anagem	nent		-
[	All	~	Sch	edules M	anagem	nent		_
Index	All Schedule ID	► Source	Sch Mode	edules M	anagem Date	Day of Week	Time	
Index 1	All Schedule ID 1002	✓ Source Local	Sch Mode Daily	edules M Name Never	anagem Date -	Day of Week	Time -	
Index 1 2	All Schedule ID 1002 1001	Source Local Local	Sch Mode Daily Daily	edules M Name Never Always	anagem Date -	Day of Week	Time - 00:00:00- 23:59:59	
Index 1 2 3	All Schedule ID 1002 1001	✓ Source Local Local	Sch Mode Daily Daily	edules M Name Never Always	anagem Date - -	Day of Week - -	Time - 00:00:00- 23:59:59	
Index 1 2 3 4	All Schedule ID 1002 1001	✓ Source Local Local	Sch Mode Daily Daily	edules M Name Never Always	Date - -	Day of Week - -	Time - 00:00:00- 23:59:59	
Index 1 2 3 4 5	All Schedule ID 1002 1001	✓ Source Local Local	Sch Mode Daily Daily	edules M Name Never Always	Date - -	Day of Week - -	Time - 00:00:00- 23:59:59	
Index 1 2 3 4 5 6	All Schedule ID 1002 1001	✓ Source Local Local	Sch Mode Daily Daily	edules M Name Never Always	Date - -	Day of Week - -	Time - 00:00:00- 23:59:59	
Index 1 2 3 4 5 6 7	All Schedule ID 1002 1001	✓ Source Local Local	Sch Mode Daily Daily	edules M Name Never Always	Date - -	Day of Week	Time - 00:00:00- 23:59:59	
Index 1 2 3 4 5 6 7 8	All Schedule ID 1002 1001	✓ Source Local Local	Sch Mode Daily Daily	edules M Name Never Always	Date - -	Day of Week - -	Time - 00:00:00- 23:59:59	
Index 1 2 3 4 5 6 7 8 9	All Schedule ID 1002 1001	✓ Source Local Local	Sch Mode Daily Daily	edules M Name Never Always	Date - -	Day of Week	Time - 00:00:00- 23:59:59	
Index 1 2 3 4 5 6 7 8 9 10	All Schedule ID 1002 1001	✓ Source Local Local	Sch Mode Daily Daily	edules M Name Never Always	Date - -	Day of Week	Time - 00:00:00- 23:59:59	

- Schedule Type: there are three types to choose from: Daily, Weekly, and Normal.
- Date Range: this field will only be displayed when the Normal type is selected.

# Import and Export Door Access Schedule

You can create door access schedules one by one or in bulk. You can export the current schedule file, edit it or add more schedules following the format, and import the new file to the desired devices. This helps you manage your door access schedules easily.

Navigate to the web Intercom > Schedule > Import/Export Schedule(.xml) interface.

chedules		
Import/Expo	rt Schedules(.xm	nl)
Chassa File No file chasen	Import	Export

# **Door Unlock Configuration**

# **Configure PIN Code for Door Unlock**

There are two types of PIN codes for door access: public and private. A private PIN is unique to each user, while the public one is shared by residents in the same building or complex. You can create and modify both the public and private PIN codes.

### **Configure Public Code for Door Unlock**

The device supports public pin codes for administrators or cleaners to open the door.

Navigate to the web Intercom > PIN Setting > Public PIN interface.

		Public PIN
Enabled		
PIN Code	******	(3~8 digits, press #PIN Code# to unlock)
Admin Code	*****	(Press *Admin Code# to modify the public PIN)

Parameter Set-up:

• PIN Code: customize 3-8 digit numbers for the public key value.

# **Configure Private PIN Code**

On the web interface, you can create the PIN code and customize additional settings, such as defining the door access schedule to determine when the code is valid and specifying which relay to open.

To enable the private PIN code on the web Intercom > PIN Setting > Private PIN interface.

		Private PIN
Enabled	<b>~</b>	

To configure it on the web **Intercom > User** interface. Click **Add**.

Jser ID	1
lame	
Role	General User 🗸
	Private PIN

#### Parameter Set-up:

• Code: enter the user's private PIN.

After user information and PIN code are entered, you can scroll down to **Access Setting** and configure private PIN code access control.

Relay	🗹 Relay A 🗆 Relay B	
Web Relay	0 ~	
Floor No.	None	
All Schedules	Enabled Schedules	
1001:Always 1002:Never	1001:Always	

- Relay: select the relay(s) that you want to apply the private PIN code for the door unlock.
- Web relay: select the specific number of web relay action commands you have set up on

the web interface.

• Schedule: select from the created door access schedule on the right box and move the one to be applied to the user(s)-specific PIN code door access to the box on the right side.

# **Configure RF Card for Door Unlock**

Users can swipe RF cards to open doors. Before they can do so, you need to set up related parameters.

# Assign RF Cards to Users

Navigate to the web Intercom > User interface. Click Add.

				User				
Name/User	ID	All	~	Search	Reset		Add	]
Index	Source	User ID	Name	RF Card	Floor No.	Web R So elay	hedule-Rela: y	Edit
<b>1</b>								
2								
3								
User	ID			User Basic				
Nam Role	e			Ger	eral User	~		
				Private PIN				
Code	2							
				RF Card				
Code	9				Oł	otain		

#### Parameter Set-up:

- User ID: the user ID is 11 digits maximum in length and cannot be reused for other users. The user ID can be generated automatically or manually.
- Role: select General User for residents and Admin for the administrator.
- Code: place the card on the device's card reader area and click Obtain to acquire the card code.

#### Note

• RF card with 13.56 MHz and 125 KHz can be applicable to the door phone for door access.

After the user information and RF card are configured, you can configure the access control on the **Access Setting** section.

	Access	Setting	
Relay		🗹 Relay A 🗆 Relay B	
Web Relay		0 ~	
Floor No.		None	
All Schedules		Enabled Schedules	
1001:Always 1002:Never	*  >>  <	1001:Always	
	-		-

- Relay: select the relay(s) that you want to apply the private PIN code for the door unlock.
- Web relay: select the specific number of web relay action commands you have set up on the web interface.

• Schedule: select from the created door access schedule on the right box and move the one to be applied to the user(s)-specific PIN code door access to the box on the right side.

# **IC/ID Card Control**

Enable or disable the device-supporting card type.

Navigate to the web Intercom > Card Setting > Card Type Support interface.

	Card Type Support
IC Support Enabled	
ID Support Enabled	

### **Configure RF Card Code Format**

To integrate the RF card door access with the third-party intercom system, you need to match the RF card code format with the one used by the third-party system.

Navigate to the web Intercom > Card Setting > RFID interface.

	RFID	
IC Card Display Mode	8HN	~
ID Card Order	Normal	~
ID Card Display Mode	8HN	~

- IC Card Display Mode: select the card code format for the IC Card for the door access among seven format options: 8H10D; 6H3D5D(W26); 6H8D; 8HN; 8HR; 6H3D5D-R(W26); 8HR10D. The card code format is 8HN by default in the door phone.
- ID Card Order: select ID card reading in normal order or reversed order. You might need to select card orders for third-party integration (eg. third-party access control). and you can also reverse the card number for card protection.

 ID Card Display Mode: select the card format for the ID Card for the door access among seven format options: 8H10D; 6H3D5D(W26); 6H8D; 8HN; 8HR; 6H3D5D-R(W26); 8HR10D. The card code format is 8HN by default in the door phone.

### **Mifare Card Encryption**

The door phone can encrypt Mifare cards for greater security. When this feature is enabled, it reads the data in the cards' designated sectors and blocks, not the UID.

Navigate to the web Intercom > Card Setting > Mifare Card Encryption interface.

Card Setting	
	Mifare Card Encryption
Enabled	
Sector / Block	0 / 0
Block Key	

Parameter Set-up:

- Sector/Block: the sector and block that you want the card number to be written into the Mifare Card. For example, you can write the card number into sector 3 and block 3 in the card.
- Block Key: the block password for access.

### **NFC Card Setting**

NFC (Near Field Communication) is a popular way for door access. It uses radio waves for data transmission interaction. The device can be unlocked by NFC. You can keep the mobile phone closer to the device for door access.

To enable it on the web Intercom > Card Setting > Contactless Smart Card interface.

	Contactless Smart Card
NFC Enabled	

### Import and Export User Data

You can export the user data in batch to modify such information as PIN codes and RF card codes. Then, import it to other devices for efficiently managing users.

Navigate to the web Intercom > User interface.

	Import/Export Use	r	
User Data (.tgz)	Choose File No file chosen	Import	Export
AES Key For Import	*****		

Parameter Set-up:

• AES Key For Import: enter the AES code before importing the AES-encrypted .tgz file to the door phone.

### Access Authentication Mode

The door phone allows dual authentication for door access, using the combination of two methods. When the mode is set up, users must unlock the door in the order of the chosen methods.

Navigate to the web Intercom > Relay interface.

Access	Authentication Mode
Authentication Mode	Any Method 🗸

# **Configure Open Relay via HTTP for Door Unlock**

You can unlock the door remotely without approaching the device physically for door entry by typing in the created HTTP command (URL) on the web browser to trigger the relay when you are not available by the door for door entry.

Navigate to the web Intercom > Relay > Open Relay Via HTTP interface.

	Open Relay Via HTTP	
Enabled		
Session Check	0	
UserName		
Password	****	

#### Parameter Set-up:

- Session Check: enable it to protect data transmission security.
- User Name: customize the username as part of the HTTP command, for example, admin.
- Password: customize the password as part of the HTTP command. For example: 12345.

#### Please refer to the following example:

http://192.168.35.127/fcgi/do?

action=OpenDoor&UserName=admin&Password=12345&DoorNum=1

#### Note:

- DoorNum in the HTTP command above refers to the relay number #1 to be triggered for the door access.
- The device with high security mode enabled only supports the new HTTP formats. Please refer to <u>Security</u>.

# **Configure Exit Button for Door Unlock**

When users need to open the door from inside by pressing the Exit button, you need to set up the Input terminal that matches the Exit button to activate the relay for the door access.

Navigate to the web **Intercom > Input** interface.

	Input A
Enabled	
Trigger Electrical Level	Low 🗸
Action To Execute	FTP 🗌 Email 🗌 HTTP 🗌 SIP Call 🗌
HTTP URL	
Action Delay	0 (0~300 Sec)
Action Delay Mode	Unconditiona 🗸
Execute Relay	None 🗸
Door Status	DoorA: High

#### Parameter set-up:

- **Trigger Electrical Level**: select the trigger electrical level options between High and Low according to the actual operation of the exit button.
- Action To Execute: select the method to carry out the action among four options: FTP, Email, HTTP, and SIP Call.
- HTTP URL: enter the URL if you select the HTTP to carry out the action.
- Action Delay: set up the delay time when the action is carried out. For example, if you set the action delay time at 5 seconds, then the corresponding actions will be carried out 5 seconds after your press the button.
- Action Delay Mode: if you select Unconditional Execution, the action will be carried out when the input is triggered. If you select Execute If Input Still Triggered, then the action will be carried out when the input stays triggered. For example, if the door stays open after triggering input, an action such as an email will be sent to notify the receiver.
- Execute Relay: set up relays to be triggered by the actions.

# **Configure DTMF for Door Unlock**

Dual-tone multi-frequency signaling(DTMF) is a way of sending signals over phone lines by using different voice-frequency bands. Users can use the DTMF function to unlock the door for visitors during a call by either typing the DTMF code on the soft keypad, or tapping the unlock tab with the DTMF code on the screen.

	Relay		
Relay ID	RelayA 🗸	RelayB	~
Туре	Default state 🗸	Default state	~
Mode	Monostable 🗸	Monostable	~
Trigger Delay(Sec)	0 ~	0	~
Hold Delay(Sec)	3 ~	3	~
OTMF Mode	1 Digit DTMF 🗸		
1 Digit DTMF	0 ~	1	<b>v</b>
2~4 Digits DTMF	010	012	
Relay Status	RelayA: Low	RelayB: Low	
Relay Name	RelayA	RelayB	

Navigate to the web Intercom > Relay > Open Relay Via DTMF interface.

#### Parameter Set-up:

- DTMF Mode: the number of DTMF digits for the door access control(Ranging from 1-4 digits).
- 1 Digit DTMF: select the code from \*0-9 and ,# if the DTMF Option is set as 1 digit.
- 2~4 Digits DTMF: set the DTMF code according to the DMTP Option setting. For example, you are required to set the 3-digits DTMF code if DTMP Option is set as 3digits.

#### Note

Intercom devices involved must be consistent in the DTMF type, otherwise DTMF code cannot be applied.

# **DTMF White List**

In order to secure the door access via DTMF codes, you can set up the DTMF whitelist on the device web Intercom > Relay > Open Relay Via DTMF interface so that only the caller numbers you designated in the door phone can use the DTMF code to gain door access.

	Open Relay Via DTMF
Assigned The Authority For	Only Contacts List 🗸

Parameter Set-up:

 Assigned The Authority For: All Numbers allows all numbers for the DTMF door unlock; None denies all numbers for the DTMF door unlock; Only Contacts List allows the contact numbers in your door phone.

# **Monitor and Image**

MJPEG and RTSP are the primary monitoring stream types discussed in this chapter.

MJPEG, or Motion JPEG, is a video compression format that uses JPEG images for each video frame. Akuvox devices display live streams on the web interface and capture monitoring screenshots in MJPEG format. Settings related to MJPEG determine video quality and the on/off status of the live stream function.

RTSP stands for Real Time Streaming Protocol. It can be used to stream video and audio from the third-party cameras to the device. You can add a camera's stream by adding its URL. The URL format of Akuvox devices is <u>rtsp://Device's IP/live/ch00\_0</u>

ONVIF is an Open Network Video Interface Forum. It enables the device to scan and discover cameras or intercom devices with activated ONVIF functions. Live streams obtained through ONVIF are essentially in RTSP format.

# **RTSP Stream Monitoring**

You can use RTSP to watch a live video stream from other intercom devices on the device.

# **RTSP Basic Setting**

Navigate to the web Intercom > RTSP > RTSP Basic interface.

SP	
RTSP Basic	
Enabled	
RTSP Authorization Enabled	
MJPEG Authorization Enabled	
Authentication Mode	Basic 🗸
User Name	admin
Password	****

Parameter Set-up:

- **RTSP Authorization Enabled**: when enabled, you are required to select RTSP Authentication Mode and enter RTSP username and password for authentication.
- RTSP Authentication Mode: select RTSP authentication type between Basic and Digest.

### **RTSP Stream Setting**

The RTSP stream can use either H.264 or Mjpeg as the video codec. If you choose H.264, you can also adjust the video resolution, bitrate, and other settings.

Navigate to the web Intercom > RTSP > RTSP Stream interface.

	RTSP Stream
Audio Enabled	
Video Enabled	
2nd Video Enabled	
Audio Codec	PCMU V
Video Codec	H.264 ~
2nd Video Codec	H.264 ~

#### Parameter Set-up:

- Video Enabled: After enabling RTSP feature, the video RTSP is enabled by default and cannot be modified.
- 2nd Video Enabled: Akuvox door phones support 2 RTSP streams, you can enable the second one.

Video Resolution	720P	~
Video Framerate	30 fps	~
Video Bitrate	2048 kbps	~
2nd Video Resolution	VGA	~
2nd Video Framerate	30 fps	~
2nd Video Bitrate	512 kbps	~

- Video Resolution: select video resolutions among five options: CIF, VGA, 4CIF, 720P, 1080P. The default video resolution is 720P, and the video from the door phone might not be able to be shown in the indoor monitor if the resolution is set higher than 720P.
- Video Framerate: 30fps is the default video frame rate.
- Video Bitrate: select video bitrate among six options: 64 kbps, 128kbps, 256kbps, 512 kbps, 1024 kbps, 2048 kbps according to the network environment. The default video bitrate is 2048 kpbs.
- 2nd Video Resolution: select the video resolution for the second video stream channel. The default is VGA.
- 2nd Video Framerate: select the video framerate for the second video stream channel. The default is 30 fps.
- 2nd Video Bitrate: select video bitrate among six options: 64 kbps, 128kbps, 256kbps, 512 kbps, 1024 kbps, 2048 kbps according to the network environment. The default video bitrate is 512 kpbs.

# **RTSP OSD Setting**

This feature is used to add a watermark to the RTSP video or picture. To protect the owner of the video or image.

Navigate to the web Intercom > RTSP > RTSP OSD Setting interface.

	RTSP OSD Setting
RTSP OSD Enabled	
RTSP OSD Color	White ~
RTSP OSD Text	

#### Parameter Set-up:

- RTSP OSD Color: there are five color options, White, Black, Red, Green, and Blue for RTSP watermark text.
- RTSP OSD Text: customize the text you want to show for the watermark.

### NACK

Negative Acknowledgment (NACK) indicates a failure or error in data transmission or processing. It is used to request retransmission or signal the failure to the sender for ensuring data integrity.

To enable NACK, navigate to the web Phone > Call Feature > Others interface.

	others	
Return Code When Refuse	486(Busy Here)	~
JACK Enabled		

#### Parameter Set-up:

• NACK Enabled: It can be used to prevent losing data packet in the weak network environment when discontinued and mosaic video image occurred.

# **MJPEG Image Capturing**

You can take a monitoring image in Mjpeg format with the device. To do this, you need to turn on the Mjpeg function and choose the image quality.

You can enable the Mjpeg function on the Intercom > RTSP > RTSP Basic and set the image quality on the web Intercom > RTSP > MJPEG Video Parameters interface.

nabled	
RTSP Authorization Enabled	
MJPEG Authorization Enabled	
Authentication Mode	Digest ~
User Name	admin
Password	*****

MJPEG Video Parameters				
Enabled				
Video Resolution	VGA	~		
Video Framerate	30 fps	~		
Video Quality	90	~		

#### Parameter Set-up:

Video Resolution: select video resolutions among five options: CIF, VGA, 4CIF, 720P, 1080P. The default video resolution is VGA, and the video from the door phone might not be able to be shown in the indoor monitor if the resolution is set higher than VGA.

### **ONVIF**

You can access the real-time video from the device's camera using the Akuvox indoor monitor or other third-party devices like Network Video Recorder(NVR). Enabling and setting up the ONVIF function on the device will allow its video to be visible on other devices.

Navigate to the web Intercom > ONVIF interface.

Basic Setting				
Discoverable				
User Name	admin			
Password	*****			

#### Parameter Set-up:

- **Discoverable**: when enabled, the video from the door phone camera can be searched by other devices.
- Password: customize the password for authentication. The default is admin.

After the setting is complete, you can enter the ONVIF URL on the third party device to view the video stream.

The example format is: http://IP address:80/onvif/device\_service.

### **Live Stream**

There are two ways to check the real-time video from the device. One is to go to the device web interface and view the video there. The other is to enter the correct URL on the web browser and access the video directly.

Navigate to the web Intercom > Live Stream interface.



# Live Stream


## Security

## **Tamper Alarm Setting**

The tamper alarm function prevents anyone from removing the devices without permission. It does this by setting off the tamper alarm and making calls to a designated location when the device detects a change in its gravity value from the original one.

Navigate to the web Security > Basic > Tamper Alarm interface.

Ta	amper Alarm	
Enabled		
Gravity Sensor Threshold	32	(0~127)
Trigger Options	Only Alarm	•

Parameter Set-up:

- Gravity Sensor Threshold: the threshold for the gravity sensor sensitivity. The lower the value is, the easier the tamper alarm will be triggered. It is 32 by default.
- Trigger Options: decides what can be triggered when the gravity sensor is triggered.

## **Client Certificate Setting**

Certificates ensure communication integrity and privacy. To use the SSL protocol, you need to upload the right certificates for verification.

### Web Server Certificate

It is a certificate sent to the client for authentication when the client requests an SSL connection with the Akuvox door phone. Please upload the certificates in accepted formats.

Navigate to the web Security > Advanced > Web Server Certificate interface.

Index	Issue To	Issuer	Expire Time	Delete
1	IPphone	IPphone	Sun Oct 9 16:00:00 2034	Delete
	Woh Con	AFTITICATA U		

## **Client Certificate**

This certificate verifies the server to the Akuvox door phone when they want to connect using SSL. The door phone verifies the server's certificate against its client certificate list.

Navigate to the web Security > Advanced > Web Server Certificate interface.

		Client Certific	ate	
Index	Issue To	Issuer	Expire Time	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
	Delete Client Certific	ate Upload(.PE	Cancel	
Inde	ex		Auto 🗸	
Ch	oose File No file chose	en	Submit Ca	ncel
Only	Accept Trusted Certifica	ates	Disabled 🗸	
	Cubmit		Cancal	

#### Parameter Set-up:

- Index: select the desired value from drop-down list of Index. If you select Auto value, the uploaded certificate will be displayed in numeric order. If you select the value from 1 to 10, the uploaded certificate will be displayed according to the value that the user selected.
- Select File: click Choose file browse local drive, and locate the desired certificate. (\*.pem only)
- Only Accept Trusted certificates: if select Enabled, as long as the authentication success, the phone will verify the server certificate based on the client certificate list. If select Disabled, the phone will not verify the server certificate no matter whether the certificate is valid or not.

## **Upload TLS Certificate for SIP Account Registration**

Before applying for a SIP account from a SIP or a DNS server using the TLS protocol, you'll need to upload a TLS certificate. This certificate is essential for server authentication.

		SIP Server Certificate				
Index	Issue To	Issuer	Expire Time	Delete		
1	akpbx	cloud.akuvox.com	Sun Sep 10 03:21:52 2049	Delete		
	SIP Se	erver Certificate Upl	oad(.PEM/.DER/.CER)			

Navigate to the web Security > Advanced > Web Server Certificate interface.

## **Motion Detection**

Motion Detection is a feature that allows unattended video surveillance and automatic alarms. It detects any changes in the image captured by the camera, such as someone walking by or the lens being moved, and activates the system to perform the appropriate action.

## **Configure Motion Detection**

Navigate to the web Intercom > Motion > Motion Detection Options interface.

Motion Dete	ection Options
Suspicious Moving Object Detection	Disabled V
Timing Interval	10 (0~120 Sec)
Motion Detec	ct Time Setting
Motion Deter	ct Time Setting
Motion Detec	ct Time Setting ☑ Mon ☑ Tue ☑ Wed ☑ Thur
Motion Detec	ct Time Setting ☑ Mon ☑ Tue ☑ Wed ☑ Thur ☑ Fri ☑ Sat ☑ Sun □ Check All



- Suspicious Moving Object Detection: select Disable to disable the motion detection. Select IR Detection to enable the IR sensor-based motion detection. And select Video Detection to enable the video-based motion detection during the monitoring of the suspicious moving object.
- Time Interval: the time interval for the motion detection. If you set the default time interval as 10 Sec, then the motion detection time span will be 10 seconds. Assuming that we set the time interval as 10 then, and the first movement captured can be seen as start point of the motion detection, and if the movement continues through 7 seconds of the 10 seconds interval, then the alarm will be triggered at 7 seconds ( the first trigger point) and motion detection action can be triggered (sending out notification) anywhere between 7-10 seconds once the movement is detected."10" Sec interval is a complete cycle of the motion detection before it starts another cycle of the same time interval. To be more specific, the first trigger point can be calculated as the Time interval minus three.

You can set up the actions triggered by motion detection on the same interface.

		Act	tion To	Exec	cute		
Action To Execute	FTP		Email		SIP Call	HTTP	
HTTP URL							

## **Security Notification Setting**

## **Email Notification Setting**

Set up email notification to receive screenshots of unusual motion from the door phone.

Navigate to the web Intercom > Action > Email Notification interface. The email notification will show the captured image.

	Email Notification	
Sender's Email Address		
Receiver's Email Address		
SMTP Server Address		
SMTP User Name		
SMTP Password	*****	
Email Subject		
Email Content		
Email Test	Email Test	

Parameter Set-up:

- SMTP User Name: the SMTP user name is usually the same as the sender's email address.
- SMTP Password: the password of SMTP server is usually the same as the sender's email address.
- Email Test: click Email Test to check whether the feature functions normally.

## **FTP Notification Setting**

To get notifications through FTP server, you need to set up the FTP settings. The door phone will upload a screenshot to the specified FTP folder if it senses any unusual motion.

Navigate to the web Intercom > Action > FTP Notification interface.

#### 

	FTP Notification	
FTP Server		
FTP User Name		
FTP Password	*****	
FTP Test	FTP Test	

#### Parameter Set-up:

- FTP Server: the address(URL) of the FTP server.
- FTP Test: run the test to see if FTP notification can be sent and received by the FTP server.

## **SIP Call Notification Setting**

Navigate to the Intercom > Action > SIP Call Notification interface.

	SIP Call Notification	
SIP Call Number		
SIP Caller Name		

## **Security Action Configuration**

## **Configure Motion Action**

You can set up the action triggered by motion detection.

Navigate to the web Intercom > Motion interface.

		ACL		LACC	ute		
Action To Execute	FTP		Email		SIP Call	HTTP	
HTTP URL							

## **Configure Input Action**

When Input interface is working, it can also trigger an action.

Navigate to the web Intercom > Input interface.

Trigger Electrical Level	Low V
Action To Execute	FTP 🗆 Email 💭 HTTP 💭 SIP Call
HTTP URL	

## **Call Event Notification**

If you want to be notified of the call event (call receiving, answering, etc.), navigate to the web **Intercom > Basic > Call Event** interface.

	Call Event	
Action To Execute	FTP 🗌 Email 🗌 HTTP 🗌	
HTTP URL		

## **Action URL**

You can use the device to send specific HTTP URL commands to the HTTP server for certain actions. These actions will be triggered when the relay status, input status, PIN code, or RF card access changes.

**Akuvox Action URL:** 

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No	Event	Parameter format	Example
1	Make Call	\$remote	Http://server ip/ Callnumber=\$remote
2	Hang Up	\$remote	Http://server ip/ Callnumber=\$remote
3	Relay Triggered	\$relay1status	Http://server ip/ relaytrigger=\$relay1status
4	Relay Closed	\$relay1status	Http://server ip/
			relayclose=\$relay1status
5	Input Triggered	\$input1status	Http://server ip/
			inputtrigger=\$input1status
6	Input Closed	\$input1status	Http://server ip/
			inputclose=\$input1status
7	Valid Code Entered	\$code	Http://server ip/
			validcode=\$code
8	Invalid Code Entered	\$code	Http://server ip/
			invalidcode=\$code
9	Valid Card Entered	\$card_sn	Http://server ip/
			validcard=\$card_sn
10	Invalid Card Entered	\$card_sn	Http://server ip/
			invalidcard=\$card_sn

For example: http://192.168.16.118/help.xml?

mac=\$mac:ip=\$ip:model=\$model:firmware=\$firmware:card\_sn=\$card\_sn

Navigate to the web Phone > Action URL interface.

	Action URL
Active	
Make Call	
Hang Up	
RelayA Triggered	
RelayB Triggered	
RelayA Closed	
RelayB Closed	
InputA Triggered	
InputB Triggered	
InputA Closed	
InputB Closed	
Valid Card Entered	
Invalid Card Entered	

## **Voice Encryption**

Secure Real-time Transport Protocol (SRTP) is a protocol derived from the Real-time Transport Protocol (RTP). It enhances the security of data transmission by providing encryption, message authentication, integrity assurance, and replay protection.

Navigate to the web **Account > Advanced > Encryption** interface.

	Encryption
Voice Encryption(SRTP)	

Parameter Set-up:

 Voice Encryption(SRTP): choose Disabled, Optional or Compulsory for SRTP. If it is Optional or Compulsory, the voice during the call is encrypted, and you can grab the RTP packet to view.

## **User Agent**

User agent is used for identification purpose when you are analyzing the SIP data packet.

If user agent is set to a specific value, users can see the information from PCAP. If user agent is blank, by default, users can see the company name Akuvox, model number and firmware version from PCAP.

Navigate to the web Account > Advanced > User Agent interface.

	User Agent	
User Agent		

Parameter Set-up:

• User Agent: Akuvox is by default.

## Web Interface Automatic Log-out

You can set up the web interface's automatic log-out timing, requiring re-login by entering the user name and the passwords for security purposes or for the convenience of operation.

Navigate to the web **Security > Basic > Session Time Out** interface.

Se	ssion Time Out	
Session Time Out Value	900	(60~14400 Sec)

## **High Security Mode**

High security mode is designed to enhance the security. It employs encryption across various facets, including the communication process, door opening commands, password storage methods, and more.

Navigate to the web Security>Basic>High Security Mode interface.

	High Security Mode
Enabled	

#### **Important Notes**

#### 

1. The High Security mode is off by default when you upgrade the device from a version without the mode to one with it. But if you reset the device to its factory settings, the mode is on by default.

2. This mode makes the old version tools incompatible. You need to upgrade them to the following versions or higher to use them.

·PC Manager: 1.2.0.0

·IP Scanner: 2.2.0.0

·Upgrade Tool: 4.1.0.0

·SDMC: 6.0.0.34

3. The supported HTTP format for relay triggering varies depending on whether high secure mode is enabled or disabled.

If the mode is on, the device only accepts the new HTTP formats below for door opening.

- I http://username:password@deviceIP/fcgi/OpenDoor?action=OpenDoor&DoorNum=1
- I http://devicelP/fcgi/OpenDoor?action=OpenDoor&DoorNum=1

If the mode is off, the device can use both the new formats above and the old format below:

 I http://deviceIP/fcgi/do? action=OpenDoor&UserName=username&Password=password&DoorNum=1

4. It is not allowed to import/export configuration files in tgz. format between a device with the high security mode and another one without it. For assistance with file transfer, please contact Akuvox technical support.

## Logs

## **Call Logs**

If you want to check on the calls inclusive of the dial-out calls, received calls, and missed calls in a certain period of time, you can check and search the call log on the device web interface and export the call log from the device if needed.

Navigate to the web **Phone > Call Log** interface.

Call	Log						
Sav	ve Call L	og Enabled	1	<b>~</b>			
Cal	l History	,	[	All 🗸 Ha	ng Up		
Tin	ne		[	mm/dd/yyyy	🗂 - 🛛 mm/dd/yyyy		
Na	me/Num	ber	[		Search	Export	
Index	Туре	Date	Time	Local Identity	Name	Number	I
1	Dialed	2022-02- 11	08:37:43	192.168.31.6 @192.168.31. 6	192.168.0.4	<u>192.168.0.4@</u> <u>192.168.0.4</u>	
2	Dialed	2022-01- 19	07:34:06	192.168.31.6 @192.168.31. 6	192.168.1.119	<u>192.168.1.11</u> 9@192.168.1. <u>119</u>	
3	Dialed	2022-01-	07:34:06	192.168.31.6 @192.168.31.	192.168.1.119:5060	<u>192.168.1.11</u> <u>9:5060@192.1</u> 68.1.119:506	

#### Parameter Set-up:

• Name/Number: search the call log by the name or by the SIP or IP number.

## **Door Logs**

If you want to search and check on the various types of door access history, you can search and check the door logs on the device's web.

Navigate to the web **Phone > Door Log** interface.

Save Doo	r Log Enable	d		_			
Status			All	•			
Time		mm/dd/yyyy 🗂 -		mm/dd/yyyy			
Name/Co	de				Search	Export •	
Index	Name	Code	Туре	Date	Time	Status	IC
1	Security	1	DTMF	2022-02-11	08:38:50	Success	
2	Security	1	DTMF	2022-02-11	08:38:50	Success	
3	Security	1	DTMF	2022-02-11	08:38:50	Success	
4	Security	1	DTMF	2022-02-11	08:38:49	Success	C
5	Security	1	DTMF	2022-02-11	08:38:49	Success	
6	Security	1	DTMF	2022-02-11	08:38:49	Success	
7	Security	1	DTMF	2022-02-11	08:38:49	Success	
8	Security	1	DTMF	2022-02-11	08:38:48	Success	
9	Security	1	DTMF	2022-02-11	08:38:48	Success	
10	Security	1	DTMF	2022-02-11	08:38:48	Success	C
11	Security	1	DTMF	2022-02-11	08:38:48	Success	
12	Security	1	DTMF	2022-02-11	08:38:48	Success	
13	Security	1	DTMF	2022-02-11	08:38:47	Success	
14	Security	1	DTMF	2022-02-11	08:38:47	Success	C
15	Security	1	DTMF	2022-02-11	08:38:47	Success	C

#### Parameter Set-up:

- Name: if it is a locally added key or card, the corresponding added name will be displayed. If it is an unknown key or card, it will display Unknown.
- Code: if opening the door via PIN code, the corresponding PIN code will be displayed. If opening the door via RF cards, the corresponding card number will be displayed. If the door is opened by HTTP command, it will be empty.
- Export: you can export the door logs in .xml or .csv format.

## Firmware Upgrade

Akuvox devices can be upgraded on the device web interface.

Navigate to the web **Upgrade > Basic** interface.

Firmware Version	320.30.10.9
Hardware Version	320.0
Upgrade	Choose File No file chosen
	Reset:
	Upgrade Cancel
Reset To Factory Setting	Reset
Reboot	Reboot

#### Note

- The upgrade file is .rom format.
- Do not disconnect the device from internet and power supply when the firmware upgrade is in progress, otherwise, it might cause upgrade failure or system breakdown.

## Debug

## System Log

System logs can be used for debugging purposes.

Navigate to the web **Upgrade > Advanced > System Log** interface.

5)	/stem Log
LogLevel	3 🗸
Export Log	Export
Remote System Log Enabled	
Remote System Server	
Remote System Port	

#### Parameter Set-up:

- Log Level: select log levels from 1 to 7 levels. You will be instructed by Akuvox technical staff about the specific log level to be entered for debugging purpose. The default log level is 3. The higher the level is, the more complete the log is.
- Remote System Server: the remote server address to receive the device log. The remote server address will be provided by Akuvox technical support.

## **Remote Debug Server**

When the device is having a problem, you can use the remote debug server to access the device log remotely for debugging purposes.

Navigate to the web Upgrade > Advanced > Remote Debug Server interface.

#### 

Re	emote Debug Server	
Enabled		
Connect Status	DisConnected	
IP		
Port		(1024~65535)

## PCAP

PCAP is used to capture the data package going in and out of the devices for debugging and troubleshooting purposes.

Navigate to the web **Upgrade > Advanced > PCAP** interface.

	PCAP		
Specific Port		(1~6	5535)
PCAP	Start	Stop	Export
PCAP Auto Refresh			
New PCAP	Start		

Parameter Set-up:

- Specific Port: select the specific port from 1-65535 so that only the data packet from the specific port can be captured. You can leave the field blank by default.
- PCAP: click Start tab and Stop tab to capture a certain range of data packets before clicking Export tab to export the data packets to your Local PC.
- PCAP Auto Refresh: when enabled, the PCAP will continue to capture data packets even after the data packets reached their 1M maximum in capacity. When disabled, the PCAP will stop data packet capturing when the data packet captured reached the maximum capturing capacity of 1MB.
- New PCAP: click Start to capture bigger data package.

# Backup

You can import or export encrypted configuration files to your Local PC.

Navigate to the web **Upgrade > Advanced > Others** interface.

	Others	
Config File(.tgz/.conf/.cfg)	Choose File	] No file chosen
	Export	(Encrypted)
	Import	Cancel

## Auto-provisioning

You can configure and upgrade the door phone on the web interface via one-time auto- provisioning and scheduled auto-provisioning via configuration files, thus saving you from setting up configurations needed one by one manually on the door phone.

## **Provisioning Principle**

Auto-provisioning is a feature used to configure or upgrade devices in batch via third-party servers. DHCP, PNP, TFTP, FTP, and HTTPS are the protocols used by the Akuvox devices to access the URL of the address of the third-party server which stores configuration files and firmware, which will then be used to update the firmware and the corresponding parameters on the device.

#### Please see the flow chart below:



## **Configuration Files for Auto-provisioning**

Configuration files have two formats for auto-provisioning. One is the general configuration files used for the general provisioning and the other one is the MAC-based configuration provisioning.

The difference between the two types of configuration files is shown below:

- General configuration provisioning: a general file is stored in a server from which all the related devices will be able to download the same configuration file to update parameters on the devices, such as cfg.
- MAC-based configuration provisioning: MAC-based configuration files are used for auto-provisioning on a specific device, as distinguished by its unique MAC number. The configuration files named with the device MAC number will be matched automatically with the device MAC number before being downloaded for provisioning on the specific device.

#### Note

- The configuration file should be in CFG format.
- The general configuration file for the in-batch provisioning varies by model.
- The MAC-based configuration file for the specific device provisioning is named by its MAC address.
- If a server has these two types of configuration files, devices will first access the general configuration files before accessing the MAC-based configuration files.

You may click here to see the detailed format and steps.

To get the Autop configuration file template on the **Upgrade > Advanced > Automatic Autop** interface.

Au	tomatic Autop	
Mode	Power On	~
Schedule	Sunday	~
	22	(0~23 hour)
	0	(0~59 min)
Clear MD5	Clear	
Export Autop Template	Expor	t

## **AutoP Schedule**

Akuvox provides you with different Autop methods that enable the device to perform provisioning for itself according to the schedule.

Navigate to the web **Upgrade > Advanced > Automatic Autop** interface.

Au	tomatic Autop	
Mode	Power On	~
Schedule	Sunday	~
	22	(0~23 hour)
	0	(0~59 min)
Clear MD5	Cle	ar
Export Autop Template	Exp	ort

#### Parameter Set-up:

- Mode:
  - Power on allows the device to perform Autop every time it boots up.
  - Repeatedly allows the device to perform autop according to the schedule that is set up.
  - Power On + Repeatedly combines Power On mode and Repeatedly mode that will enable the device to perform Autop every time it boots up or according to the schedule.
  - Hourly Repeat allows the device to perform Autop every hour.
- Schedule: when Repeatedly is selected, you can set up the Autop schedule.

## **DHCP** Provisioning Configuration

Auto-provisioning URL can also be obtained using the DHCP option which allows the device to send a request to a DHCP server for a specific DHCP option code. If you want to use **Custom Option** as defined by users with option codes ranging from 128-255), you are required to configure DHCP Custom Option on the web interface.

#### Akuvox



#### Note

• The Custom Option type must be a string. The value is the URL of TFTP server.

To set up DHCP Autop with Power On mode and export Autop Template to edit the configuration. Navigate to the web **Upgrade > Advanced > Automatic Autop** interface.

Au	itomatic Autop	
Mode	Power On	~
Schedule	Sunday	~
	22	(0~23 hour)
	0	(0~59 min)
Clear MD5	Clea	ar
Export Autop Template	Expo	ort

Then set up DHCP Option on **Upgrade > Advanced > DHCP Option** interface.

#### **DHCP** Option

 $(128 \sim 254)$ 

Custom Option (DHCP Option 66/43 is Enabled by Default)

#### Parameter Set-up:

- **Custom Option**: enter the DHCP code that matched the corresponding URL so that the device will find the configuration file server for the configuration or upgrading.
- DHCP Option 66: if none of the above is set, the device will automatically use DHCP Option 66 for getting the upgrade server URL. This is done within the software and the user does not need to specify this. To make it work, you need to configure the DHCP server for option 66 with the updated server URL in it.
- DHCP Option 43: if the device does not get an URL from DHCP Option 66, it will automatically use DHCP Option 43. This is done within the software and the user does not need to specify this. To make it work, you need to configure the DHCP server for option 43 with the updated server URL in it.

#### Note

- The general configuration file for the in-batch provisioning is in the format r00000000xx.cfg. Taking X915 as an example r00000000915.cfg (10 zeros in total while the MAC-based configuration file for the specific device provisioning is with the format MAC Address of the device.cfg, for example, 0C110504AE5B.cfg).
- You can upload the screen saver by Auto-provisioning.

## **Static Provisioning Configuration**

You can manually set up a specific server URL for downloading the firmware or configuration file. If an auto-provision schedule is set up, the device will perform the auto-provisioning at a specific time according to the auto provision schedule you set up. In addition, TFTP, FTP, HTTP, and HTTPS are the protocols that can be used for upgrading the device firmware and configuration.

Navigate to the web Upgrade > Advanced > Manual Autop interface.

#### 

IRL	
Jser Name	
Password	*****
Common AES Key	*****
AES Key(MAC)	*****

#### Parameter Set-up:

- URL: set up the TFTP, HTTP, HTTPS, FTP server address for the provisioning
- User Name: set up a user name if the server needs a user name to be accessed.
- **Password**: set up a password if the server needs a password to be accessed.
- **Common AES Key**: set up AES code for the intercom to decipher the general Auto Provisioning configuration file.
- AES Key (MAC): set up AES code for the intercom to decipher the MAC-based auto provisioning configuration file.

#### Note

- AES as one type of encryption should be configured only when the config file is encrypted with AES.
- Server Address Format:
  - TFTP: tftp://192.168.0.19/
  - FTP: ftp://192.168.0.19/(allows anonymous login) ftp://username:password@192.168.0.19/(requires a user name and password)
  - HTTP: http://192.168.0.19/(use the default port 80)
     http://192.168.0.19:8080/(use other ports, such as 8080)
  - HTTPS: https://192.168.0.19/(use the default port 443)

#### Tip

• Akuvox do not provide user specified server. Please prepare TFTP/FTP/HTTP/HTTPS server by yourself.

## **PNP Configuration**

Plug and Play (PNP) is a combination of hardware and software support that enables a computer system to recognize and adapt to hardware configuration changes with little or no intervention by a user.

Navigate to the web **Upgrade > Advanced > PNP Option** interface.

	PNP Option	
PNP Config Enabled		

## **Integration with Third Party Device**

## Integration via Wiegand

The Wiegand feature enables Akuvox door phone to act as a controller or a card reader.

Navigate to the web Intercom > Wiegand interface.

	Wiegand
Wiegand Display Mode	8HN ~
Wiegand Card Reader Mode	Wiegand-26 🗸
Wiegand Transfer Mode	Input 🗸
Wiegand Input Data Order	Normal 🗸
Wiegand Output Basic Data Order	Normal 🗸
Wiegand Output Data Order	Normal 🗸
Wiegand Output CRC	Enabled V

#### Parameter Set-up:

- Wiegand Display Mode: select Wiegand Card code format among 8H10D; 6H3D5D(W26); 6H8D; 8HN; 8HR; 6H3D5D-R(W26); 8HR10D; RAW.
- Wiegand Card Reader Mode: set the wiegand data transmission format among three options: Wiegand 26, Wiegand 34, and Wiegand 58. The transmission format should be identical between the door phone and the device to be integrated.
- Wiegand Transfer Mode:
  - **Input**: when the door phone acts as a controller, users can swipe the RF card on the third-party card reader to open the door.
  - **Output**: users can only open the door by entering a PIN code or swiping an RF card.
  - Convert To Card No. Output: when users are assigned by multiple dooropening methods, data needs to be converted to the card number that the third-

party device can verify.

- Wiegand Input Data Order: when Normal is selected, the card number is displayed as received. When Reversed is selected, the order of the card number is reversed.
- Wiegand Output Data Order: determines the sequence of the Wiegand output data. When Normal is selected, the data is displayed as received. When Reversed is selected, the order of the data bits is reversed.
- Wiegand Output CRC: it is enabled by default for Wiegand data inspection. Disabling it may lead to integration failure with third-party devices.

When the door phone is in Wiegand output mode, you can configure the Wiegand PIN code output format that determines how data are transmitted. The format should be the same as that of the third-party device.

Convert To Wiegand Output		
PIN	Disabled ~	

### Parameter Set-up:

- PIN:
- 8 bits per digit: when users press "1" on the keypad, the binary data will be transmitted in 8 bits "11100001".
- **4 bits per digit**: when users press "1" on the keypad, the binary data will be transmitted in 4 bits "0001".
- All at once: after users enter the whole PIN code, the data will be transmitted according to the Wiegand card reader mode.

## Integration via HTTP API

HTTP API is designed to achieve a network-based integration between the third-party device and the Akuvox device.

Navigate to the web Intercom > HTTP API interface.

P API	
	HTTP API
Enabled	
Authorization Mode	Digest 🗸
User Name	admin
Password	*****
1st IP	
2nd IP	
3rd IP	
4th IP	
5th IP	

#### Parameter Set-up:

- Enabled: if the function is disabled, any request to initiate the integration will be denied and be returned HTTP 403 forbidden status.
- Authorization Mode: select from None, Normal, Allowlist, Basic, Digest and Token for authorization type, which will be explained in the following chart.
- User Name: enter the user name when Basic and Digest authorization mode is selected. The default is admin.
- **Password**: enter the password when **Basic** and **Digest** authorization mode is selected. The default is **admin**.
- 1st IP-5th IP: enter the IP address of the third party devices when the Allowlist authorization is selected for the integration.

Please refer to the following description for the Authentication mode:

NO.	Authorization Mode	Description
1	None	No authentication is required for HTTP API as it is only used for demo testing.
2	Normal	This mode is used by Akuvox developers only.
3	Allowlist	If this mode is selected, you are only required to fill in the IP address of the third party device for the authentication. The whitelist is suitable for operation in the LAN.
4	Basic	If this mode is selected, you are required to fill in the User name and the password for the authentication. In Authorization field of HTTP request header, use Base64 encode method to encode of username and password.
5	Digest	Password encryption method only supports MD5. MD5( Message- Digest Algorithm) In Authorization field of Http request header:WWW- Authenticate:Digest realm="HTTPAPI",qop="auth,auth-int",nonce="xx", opaque="xx".
6	Token	This mode is used by Akuvox developers only.

## Lift Control Configuration

The door phones can be connected to the Akuvox lift controller for the lift control. Users can summon the lift to go down to the ground floor when they are granted access through various types of access methods on the door phone.

Navigate to the web Intercom > Lift Control interface.



Lift Control List	Akuvox	<b>€ EC32</b> ✓
ŀ	kuvox EC	C32 & ZKT Advance Setting
Server IP		
Port	80	(1~65535)
Timeout(Sec)	60	(1~60)
	Ak	kuvox EC32 Action
User Name		
Password		*****
	er	\$floor
Floor No. Paramete		
Floor No. Paramete URL To Trigger Spe	ecific Floor	/cdor.cgi?open=0&door=\$floor
Floor No. Paramete URL To Trigger Spe URL To Trigger All	ecific Floor Floors	/cdor.cgi?open=0&door=\$floor /cdor.cgi?open=8

### Parameter Set-up:

• Life Control List : select the lift controller brand.

NO.	header	header
1	None	If you select None, then the RS485 integration will be disabled.
2	Akuvox EC32	Select <b>Akuvox EC32</b> if you want to connect the device with Akuvox EC33 lift controller.
3	KEKING	Select KEYKING if you want to integrate with KEYKING lift controller.
4	ZKT	Select ZKT if you want to integrate with ZKTeco lift controller
5	Chiyu	Select Chiyu if you want to integrate with Chiyu lift controller

#### Note

• Please consult with Akuvox technical support if you have any inquiries on the integration mode of any OEM lift controller integration project.

## **KeyKing Setting**

To integrate KeyKing lift controller, you are required to set up the KeyKing address obtained from your solution provider.

Navigate to the web Intercom > Lift Control interface and select KeyKing.

	Lif	t Control	
ift Control List	KeyKing	~	
	KeyKing	Advance Setting	
KeyKing Address	1	~	

Parameter Set-up:

• KeyKing Address: enter the KeyKing address provided by your solution provider. The address number must be identical with the address number on the lift controller board.

## Akuvox EC32 Lift Controller

Navigate to the web Intercom > Lift Control interface and select Akuvox EC32.

		Lift Co	ontrol	
Lift Control List	Akuvox	EC32	~	
A	kuvox EC	32 & ZK	T Advance Setting	
Server IP				
Port	80		(1~65535)	
Timeout(Sec)	60		(1~60)	
	A	kuvox EC	32 Action	
User Name				
Password		******	:*	
Floor No. Paramete	er	\$floor		
URL To Trigger Spe	ecific Floor	/cdor.cgi	?open=0&door=\$floor	
URL To Trigger All	Floors	/cdor.cgi	?open=8	

#### Parameter Set-up:

- **Timeout (Sec)**: enter the lift controller timeout. For example, if you set the timeout as 30 seconds, users have to press the lift button corresponding to the floor they are going to within 30 seconds, otherwise, the button will be locked again, and users have to go out of the lift and do it all over again.
- User Name: enter the user name of the lift controller for the authentication.
- **Password**: enter the password of the lift controller for the authentication.
- Floor NO. Parameter: enter the Floor number parameter provided by Akuvox. The default parameter string is "**\$floor**". You can define your own parameter string if needed.

• URL To Trigger Specific Floor: enter the Akuvox life control URL for triggering a specific floor.

The URL is "/cdor.cgi?open=0&door=\$floor", but the string " \$floor " at the end must be identical with the parameter string you defined.

## **ZKT Lift Controller**

Navigate to the web Intercom > Lift Control interface and select ZKT.

	Li	ft Control
Lift Control List	ZKT	~
ŀ	kuvox EC32 8	& ZKT Advance Setting
Server IP		
Port	80	(1~65535)
Timeout(Sec)	60	(1~60)

Parameter Set-up:

• Timeout (Sec): enter the lift controller timeout. For example, if you set the timeout as 30 seconds, users have to press the lift button corresponding to the floor they are going to within 30 seconds, otherwise, the button will be locked again, and users have to go out of the lift and do it all over again.

### **Chiyu Lift Controller**

Navigate to Intercom > Lift Control and select Chiyu.

	Lift Control	
Lift Control List	Chiyu 🗸	

### **Power Output Control**

#### 

The device can serve as a power supply for the external relays.

Navigate to the web Intercom >	> Relay > 12V	Power Output interface.
--------------------------------	---------------	-------------------------

Relay ID	RelayA	
12V Power Output	Disabled	~

Parameter Set-up:

 12V Power Output: select Disabled to disable the power output function; select Always to enable the access controller to provide continuous power to the third-party device. Select Triggered By Open Relay if you want the door phone to provide power to the third-party device via 12 output and GND interface during the timeout when the status of relays is shifted from low to high. Select Security Relay A to power security relay.

## **Password Modification**

## Modify Device Web Interface Password

Select admin for the administrator account and User for the User Account. Click the Change Password tab to change the password.

Navigate to the web **Security > Basic** interface.

Security-Basic	
v	Veb Password Modify
User Name	admin  Change Password
	Account Status
admin	
user	

#### Change Password

The password must be at least eight characters long containing one uppercase letter, one lowercase letter and one digit at least

U	ser Name	user		
0	ld Password			
N	ew Password			
C	onfirm Password			
	Ignore		Change	

×

## System Reboot&Reset

## Reboot

If you want to reboot the device system, you can operate it on the device web interface. Moreover, you can set up a schedule for the device to be restarted.

Navigate to the web **Upgrade > Basic** interface.

Reboot	Reboot
iteboot	Reboor

To set up the schedule, navigate to the web **Upgrade > Advanced > Reboot Schedule** interface.

	Reboot Schedule	
Mode		
Schedule	Every Day 🗸	
	0	(0~23 hour)

## Reset

You can select **Reset To Factory Setting** if you want to reset the device (deleting both configuration data and user data such as RF cards, face data, and so on). Or, select **Reset Configuration to Default State (Except Data) Reset**, if you want to reset the device (retaining the user data).

Navigate to the web **Upgrade > Basic** interface.

Reset To Factory Setting	Reset