# **About This Manual**



WWW.AKUVOX.COM



# AKUVOX R27 SERIES DOOR PHONE

**Administrator Guide** 

Thank you for choosing Akuvox R27 series door phones. This manual is intended for the administrators who need to properly configure the door phone. This manual applies to the 227.30.10.2 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 latest firmware.

# **Product Overview**

The security that comes with being able to control who comes into your building along with the ability to verbally and visually confirm their identity is immeasurable. Akuvox R27 is a SIP-compliant, hands-free, and video(optional) door phone. It can be connected with Akuvox indoor monitors for remote access controlling and monitoring. Users can communicate with visitors via audio and video calls, and unlock the door if they need. The door phone enables you to easily monitor an entrance door or gate and gives you peace of mind knowing that your facility is more secure.

# **Change Log**

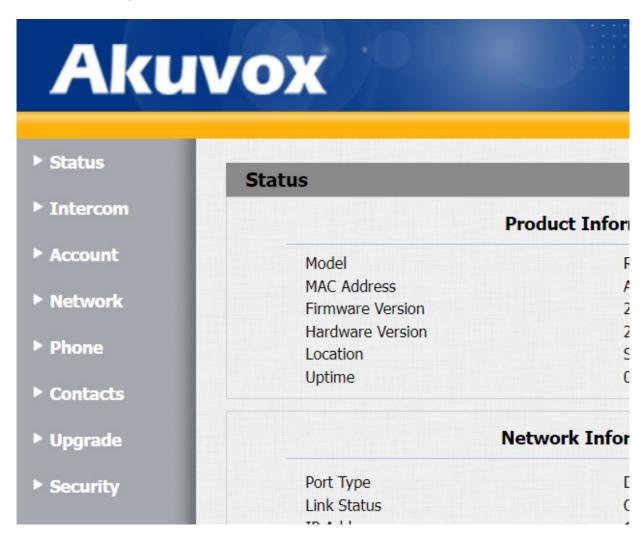
Add High Security Mode.

# **Model Specification**

Model	R27
Camera	2 Megapixels, automatic lighting
Relay In	2
Relay Out	3
RS485	<b>✓</b>
Card Reader	<b>✓</b>

# **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 Logs, etc.
- Account: this section concerns the 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 involves contacts management.
- Upgrade: this section covers Firmware upgrade, device reset & reboot, configuration file auto-provisioning, fault Diagnosis.
- Security: this section is for password modification.



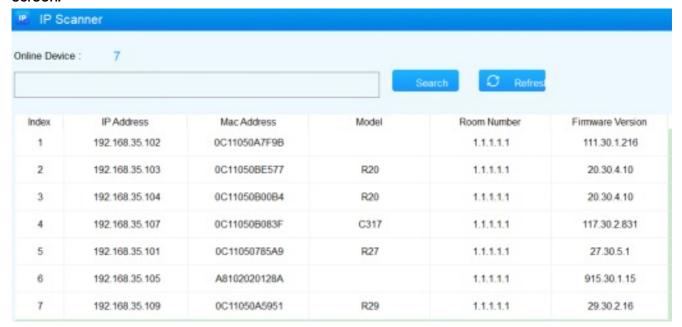
## **Access the Device**

## **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.



# Access the Device Setting on the Device

To access the device setting, press \*2396# to enter the advanced setting screen. It provides some advanced permissions like editing network, reset, and admin password modification to administrators, including System Information, Admin Settings, and System Settings.

# Access the Device Setting on the Web Interface

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 both **admin**, and please be case-sensitive to the user names and passwords entered.

User Name	admin
Password	••••
	☐ Remember Username/Password

## Note:

- You can obtain the device IP address using the Akuvox IP scanner to log in to the device web interface.
- Download IP scanner: <a href="https://knowledge.akuvox.com/docs/akuvox-ip-scanner?highlight=IP">https://knowledge.akuvox.com/docs/akuvox-ip-scanner?highlight=IP</a>
- See detailed guide: <a href="https://knowledge.akuvox.com/v1/docs/en/how-to-obtain-ip-address-via-ip-scanner?highlight=IP%20Scanner">https://knowledge.akuvox.com/v1/docs/en/how-to-obtain-ip-address-via-ip-scanner?highlight=IP%20Scanner</a>
- Google Chrome browser is strongly recommended.

# Language and Time Setting

# **Language Setting**

To set up the language you need, go to Phone > Time/Lang.

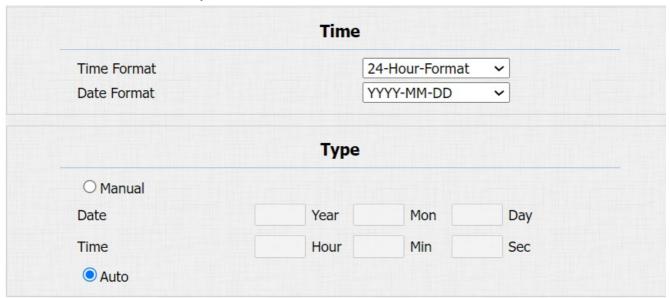


## Parameter Set-up:

• Type: choose a suitable web language. Normally, English is the default language of web.

# **Time Setting**

To set up the device time, go to **Phone > Time/ Lang**. You can also set up time manually, select the **Manual** checkbox, and input time data.



# Screen Display and LED Setting

# **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.

To do this configuration, go to Intercom > LED Setting > LED Control.



## Parameter Set-up:

• Time (H): set the time interval for the light to stay on. enter the time interval for the LED light to be turned on, e.g., if the time interval is set from 8-0 (Start time- End time) it means the LED light will stay on during the time span from 8:00 am to 12:00 pm during one day (24 hours). This setting cannot be set up when you disable the LED light.

## **LED Settings on Keypad**

You can enable or disable the LED lighting of the keypad as needed on the web interface. Meanwhile, if you prefer not to have the LED light of the keypad stay on, you can also set the timing for the exact time span during which the LED light can be enabled in order to reduce the electrical power consumption, etc. To do this configuration, go to Intercom > LED Setting > LED Control interface.



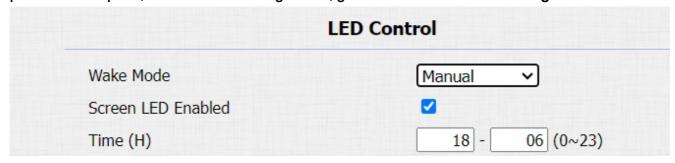
## Parameter Set-up:

 Time (H): enter the time span for the LED lighting to be valid. E.g. If the time span is from 18-22 it means LED light will stay on during the time span from 6:00 pm to 22:00 pm during a day.

# **LED Settings on Screen**

You can enable or disable the LED lighting of the screen as needed on the web interface.

Meanwhile, if you prefer not to have the LED light on the screen stay on, you can also set the timing for the exact time span during which the LED light can be enabled in order to reduce the electrical power consumption, etc. To do this configuration, go to Intercom > LED Setting > LED Control.



## Parameter Set-up:

- Wake Mode: there are two modes: Auto and Manual for waking up the device when idle.
   If you select Auto mode, then the screen will be awakened when someone approaches,
   and the IR sensor will be triggered. And if Manual mode is selected, then you have to
   press the keypad.
- Time(H): enter the time span for the LED lighting to be valid. For example, if the time span is from 18-22, it means LED light will stay on during the time span from 6:00 pm to 22:00 pm during a day.

# **Volume and Tone Configuration**

Volume and tone configuration include microphone volume, the AD volume, keypad volume, speaker volume, tamper alarm volume, and open-door tone configuration. Moreover, you can upload the tone you like to enrich your personalized user experience.

# **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.

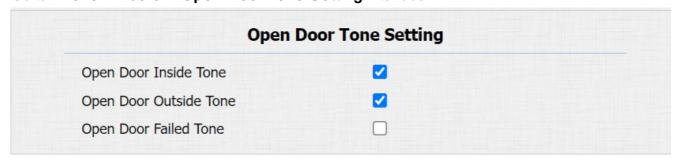
You can set them up on the device web Phone > Voice interface.



# **Open Door Tone Configuration**

You can enable the open door warning tone.

Go to Phone > Audio > Open Door Tone Setting interface.



## Parameter Set-up:

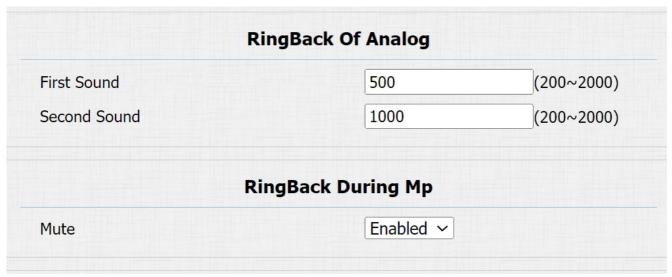
- Open Door Inside Tone: enable it so that you can hear the open door tone when you open the door by pressing the exit button.
- Open Door Outside Tone: enable it so that you can hear the open door tone when you open the door using the access method on the door phone.

# **Upload Tone Files**

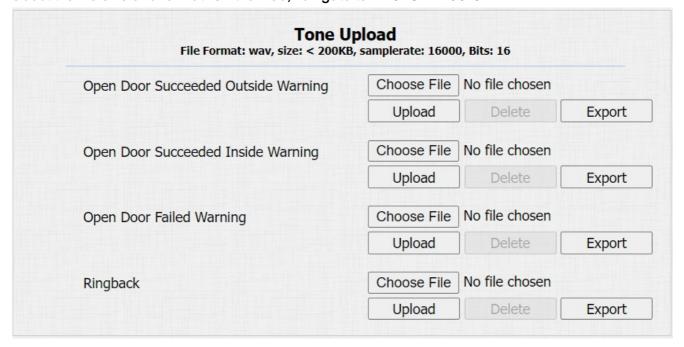
You can configure the door phone ringback tone and other tones related to the door opening.

# **Ringback Tone Configuration**

You can configure the ringback tone volume and its status during Mp on the web **Phone > Voice** interface.



You can customize the tone of door open successful/failed if you need. Please follow the prompt about the file size and format. On the web, navigate to **Phone > Audio**.



## Parameter Set-up:

- Open Door Succeeded Outside Warning: upload the open door success tone which you can hear when you open the door using the access method on the door phone.
- Open Door Succeeded Inside Warning: upload the open door when you open the door by pressing the exit button.
- Open Door Failed Warning: upload the open door failure tone.
- Ringback: upload the ringback tone.

# **Network Setting**

## **Network Status**

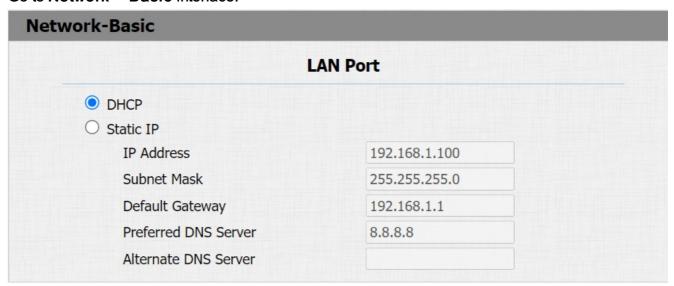
To check the network status on the web **Status > Network Information** interface.

Network Information				
Port Type	DHCP Auto			
Link Status	Connected			
IP Address	192.168.88.2			
Subnet Mask	255.255.255.0			
Gateway	192.168.88.1			
Preferred DNS Server	192.168.88.1			
Alternate DNS Server				

# **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.

Go to Network > Basic interface.



## Parameter Set-up:

• DHCP: DHCP mode is the default network connection. If the DHCP mode is turned on, then 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, then the IP address, subnet mask, default gateway, and DNS server address have to be manually configured according to your actual network environment.
- IP Address: set up the IP Address if the Static IP mode is selected.
- Subnet Mask: set up the subnet Mask according to your actual network environment.
- Default Gateway: set up the correct gateway according to the IP address.
- LAN DNS1/2: set up a preferred or alternate DNS Server (Domain Name Server)
  according to your actual network environment. Preferred DNS server is the primary DNS
  server address while the alternate DNS server is the secondary server address and the
  door phone will connect to the alternate server when the primary DNS server 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.

So, you can do it on web **Network > Advanced > Connect Setting** interface.

	Connect Set	ting		
Server Mode	SDMC	~		
Discovery Mode	<b>~</b>			
Device Address			<b></b>	
Device Extension				
Device Location	Stair Phone			

## Parameter Set-up:

- Server Type: it is automatically set up according to the actual device connection with a
  specific server in the network such as SDMC or 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, SMDC in discovery mode.
- **Discovery Mode**: click **Enable** to turn on the discovery mode of the device so that it can be discovered by other devices in the network, and click Disable if you want to conceal the device so as not to be discovered by other devices.
- **Device Address**: specify the device address by entering device location information from the left to the right: **Community, Unit, Stair, Floor, Room** in sequence.

- Device Extension: enter the device extension number for the device you installed.
- Device Location: enter 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.

Path: Network > Advanced > Local RTP interface.

Network-Advanced					
	Local R	ГР			
	Starting RTP Port	11800	(1024~65535)		
	Max RTP Port	12000	(1024~65535)		

## Parameter Set-up:

- Starting RTP Port: enter the Port value in order to establish the start point for the
  exclusive data transmission range.
- Max RTP port: enter the Port value in order to establish the endpoint 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 do this configuration on 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 Messages Interval: set the message sending time interval from 5-60 seconds, the default is 30 seconds.
- RPort: enable the RPort when the SIP server is in WAN (Wide Area Network).

# **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).

To do the configuration on the web **Network > Advanced > SNMP** interface.

SI	NMP	
Enabled		
Port		(1024~65535)
Trusted IP		

## Parameter Set-up:

- Port: to configure the SNMP server's port.
- Trusted IP: to configure allowed SNMP server address. It could 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.

To do the configuration on the web **Network > Advanced > VLAN** interface.

	VI	_AN		
LAN Port	Enabled			
	VID	1		(1~4094)
	Priority	0	~	

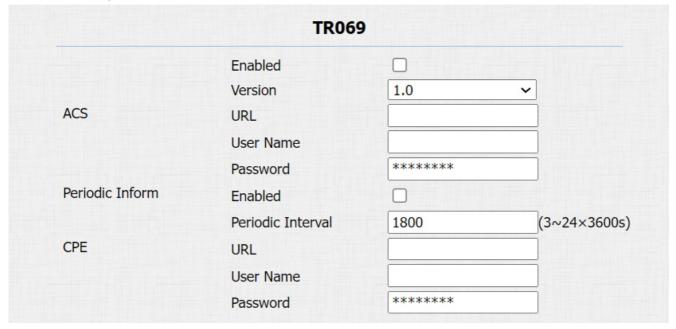
## Parameter Set-up:

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

To do the configuration on the web **Network > Advanced > TR069** interface.



## Parameter Set-up:

Version: select supported TR069 version (version 1.0 or 1.1).

- ACS/CPE: ACS is short for auto-configuration servers on the server side, and CPE is short for customer-premise equipment as client-side devices.
- URL: to configure URL address for ACS or CPE.
- Periodic Interval: to configure the interval for periodic notifications.

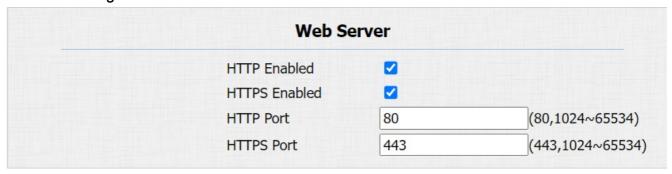
## Note:

 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).

To do this configuration on the web **Network > Advanced > Web Server** interface.



## Parameters Set-up:

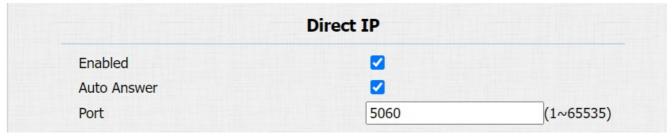
- HTTP Port: set up the port for HTTP access method. 80 is the default port.
- HTTPS Port: set up the port for HTTPS access method. 443 is the default port.

# **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.

To do this configuration on web Phone > Call Feature > Direct IP interface.



## Parameters Set-up:

• Direct IP port: set up the IP direct call port, 5060 is the default port.

# **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.

# **Configure SIP Account Configuration**

To perform the SIP account setting on the Web Account > Basic > SIP Account Interface.

Register Name, User Name, and Password are provided by the SIP account administrator.

	SIP Account
Status	UnRegistered
Account	Account 1 ~
Account Enabled	
Display Label	400400400
Display Name	400400400
Register Name	400400400
User Name	400400400
Password	*****

## Parameter Set-up:

- Status: check to see if the SIP account is registered or not.
- Account: select the exact account (Account 1&2) to be configured.
- Display Name: configure the name, for example, the device's name to be shown on the device being called to.
- Display Label: configure the device label to be shown on the device screen.

# **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.

To do this configuration on web **Account > Basic > SIP Server** interface.

	Preferred SIP Ser	
Server IP	pbx-staging.key.rt.ru	Port 5060 (1024~65535)
Registration Period	3600	(30~65535s)
	Alternate SIP Ser	ver
Server IP	Alternate SIP Ser	<b>ver</b> Port 5060 (1024~65535)

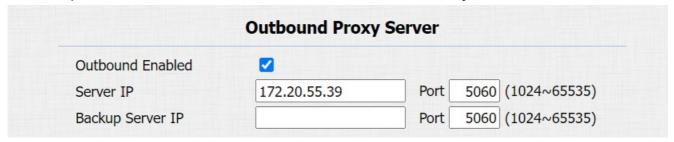
## Parameter Set-up:

- Server IP: enter the primary server IP address number or its URL.
- Server IP: enter the backup SIP server IP address or its URL.
- Port: set up SIP server port for data transmission.
- Registration Period: set up SIP account registration time pan. SIP re-registration will start automatically if the account registration fails during the registration time span. The default registration period is 1800, ranging from 30-65535s.

## **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.

To set it up on the device web **Account > Basic > Outbound Proxy Server** Interface.



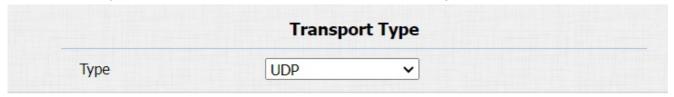
## Parameter Set-up:

- Server IP: enter the SIP address of the primary outbound proxy server.
- Port: enter the Port number to establish a call session via the primary outbound proxy server.
- Backup Server IP: set up backup server IP for the backup outbound proxy server.
- Port: enter the port number for establishing call sessions via the backup 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.

To do this configuration on web **Account > Basic > Transport Type** interface.



## Parameter Set-up:

- UDP: select UDP for unreliable but very efficient transport layer protocol. UDP is the default transport protocol.
- TCP: select TCP for a reliable but less-efficient transport layer protocol.
- TLS: select TLS for secured and Reliable transport layer protocol.
- DNS-SRV: select DNS-SRV to obtain a DNS record for specifying the location of servers. And 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.

# **Configure Calling Feature**

## **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.

Go to Phone > Call Feature > DND interface.



## Parameter Set-up:

 Return Code When DND: select what code should be sent to the calling device via the SIP server. 404 for not found; 480 for temporary unavailable; 486 for busy here; 606 for decline.

# **Enable 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.

You can enable **Prevent SIP Hacking** if you only want to receive the calls made by the callers in your contact list. To enable it, go to **Account > Advanced > Call**.

	Call	
Max Local SIP Port	5062	(1024~65535)
Min Local SIP Port	5062	(1024~65535)
Auto Answer	<b>☑</b>	
Prevent SIP Hacking		

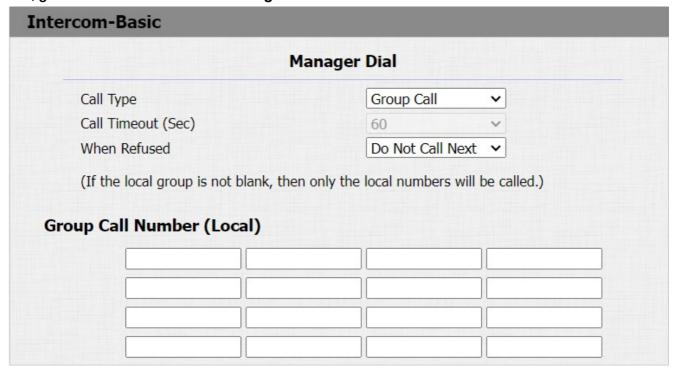
# **Speed Dial Call**

Speed Dial is used to quickly initiate the pre-configured numbers by pressing the **Dial** key. You can create up to 16-speed dial numbers. To do the configuration on the web **Intercom > Basic > Speed Dial** interface.

Speed Dial			

# **Group Call**

You can make calls to a group of numbers by pressing the on the device dial pad. To set the group call, go to Intercom > Basic > Manager Dial.



## Parameter Set-up:

- Call type: select Group Call.
- Group Call Number (Local): enter the group call number. If you fill in the local group call
  number, then the local group number will be called instead of the SmartPlus group call
  number.

# **Sequence Call**

Sequence Call is a feature that allows you to dial a group of numbers in a predefined order until one of them answers. This feature is supported by Akuvox SmartPlus, which provides a set of sequence call numbers for the application.

To do the configuration on the web **Intercom > Basic > Manager Dial** interface.

ercom-Basic Manager Dial		
Call Timeout (Sec)	60 🗸	
When Refused	Do Not Call Next 🕶	
(If the local group is not blank, then	only the local numbers will be called.)	
quence Call Number(Local)		
equence can Number (Local)		
1st Call		
2nd Call		
3rd Call		
4th Call		
5th Call		
6th Call		
7th Call		
8th Call		
9th Call		
10th Call		

## Parameters Set-up:

- Call Type: select Sequence Call.
- Call Timeout (Sec): set the call timeout before calling the next called party when the first called party does not receive the call within the timeout.
- When Refused: if you select Do Not Call Next, then the sequence call will be terminated
  if the call is rejected by the called party. If you select Call Next, then the sequence call will
  be continued to the next called party if it is rejected by the first called party.

## **Web Call**

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

To do the configuration on the web **Intercom > Basic > Web Call** interface.



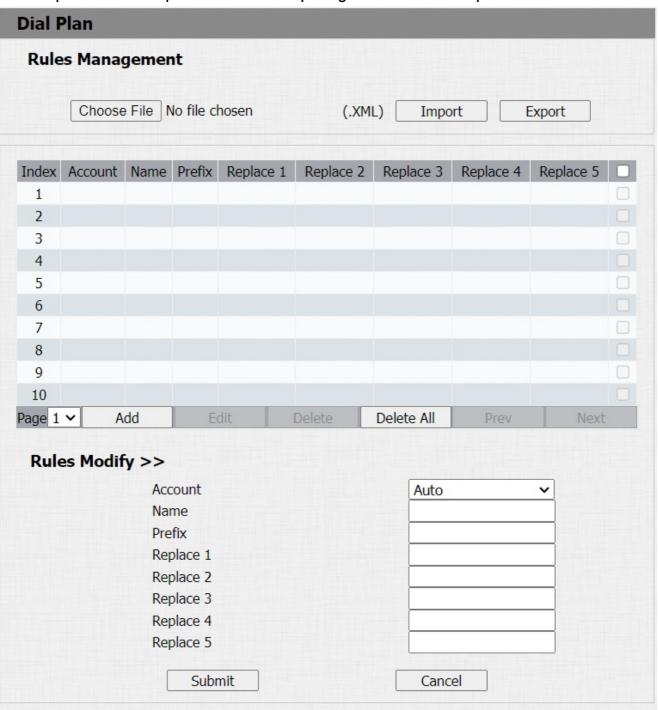
## Parameters Set-up:

Auto/Account1/Account2: to choose a suitable SIP account to make a web call. If you
call using an IP address, account selection is not needed here.

## **Dial Plan**

The dial number replacement feature simplifies long and complex dial numbers of the device, providing shorter and more user-friendly alternatives for making calls. It allows the substitution of multiple dial numbers, such as IP addresses or SIP numbers, with a single, simplified number.

To configure the number replacement on the device, navigate to **Phone > Dial Plan**, then click **Add**. To replace the number in batch, you can import the .xml file to the door phone. And the file from the door phone can be exported out before importing them to other door phones.



## **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 web Account > Advanced > Call interface, you can set up the related parameters on web Phone > Call Feature > Auto Answer.



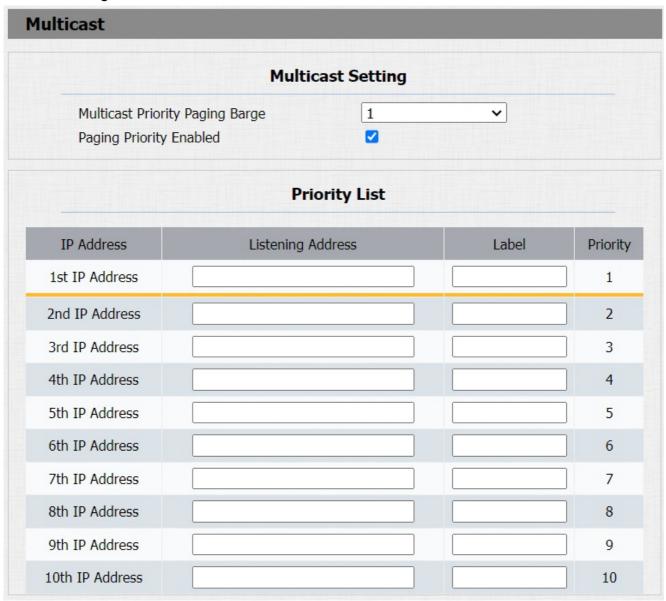
## Parameters Set-up:

- Auto Answer Delay: set up the delay time (from 0-5 sec.) 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: set up the video or audio mode you preferred 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.

To do the configuration on the web Phone > Multicast interface.



## Parameters Set-up:

- Multicast Priority Paging Barge: multicast or how many multicast calls are higher priority than SIP calls, if you disable paging priority, SIP calls will have high priority.
- Paging Priority Enabled: multicast calls are called in order of priority or not.
- Listening Address: enter the multicast IP address you want to listen to. 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.

# **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.

To do this configuration on the web **Intercom > Basic > Max Call Time** interface.



## Parameters Set-up:

Max Call Time: enter the call time duration according to your need (ranging from 0-120 min). The default call time duration is 5 min.

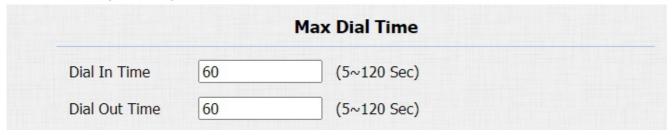
## Note:

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

To do this configuration, go to Intercom > Basic > Max Dial Time interface.



## Parameters Set-up:

• **Dial in Time**: enter the dial-in time duration for your door phone (ranging from 5-120 sec). For example, if you set the dial-in time duration as 60 seconds on your door phone, then the door phone will hang up the incoming call automatically if the call is not answered by the

- door phone in 60 seconds. 60 seconds is the dial-in time duration by default.
- Dial out Time: enter the dial-in time duration for your door phone (ranging from 5-120 sec). For example, if you set the dial-out time duration as 60 seconds on your door phone, then the door phone will hang out the call it dialed out automatically if the call is not answered by the device being called.

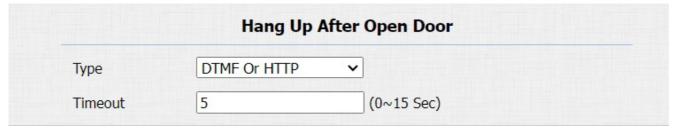
#### Note:

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.

To do this configuration on the web Intercom > Basic> Hang Up After Open Door.



## Parameter Set-up:

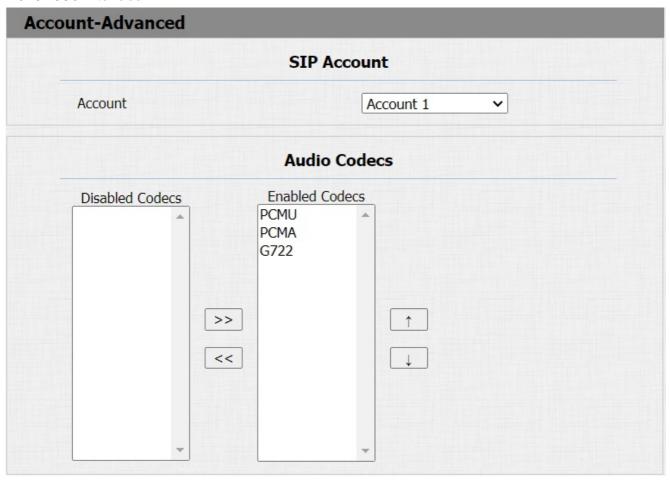
- Type: select the open door type. The door can be unlocked via the DTMF, HTTP, DTMF or HTTP, and Input, DTMF, or HTTP.
- Timeout: set up from 1 second to 15 seconds. 5 seconds is the default. If you set it 5 seconds, then the call will be hung up 5 seconds after the door is opened. If you want to disable the feature, set the timeout as 0.

# **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 type of 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.

It is only available for SIP calls. To do the configuration on device web **Account > Advanced** interface.



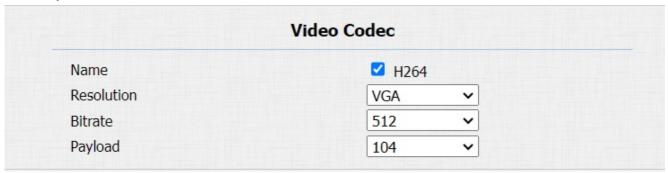
Please refer to the bandwidth consumption and sample rate for the four codecs types below:

Codec Type	<b>Bandwidth Consumption</b>	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.

To set up video codec on web **Account > Advanced** interface.



## 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: select the code resolution for the video quality among four options: CIF,
   VGA, 4CIF, and 720P according to your actual network environment.
- **Bitrate**: select the video stream bit rate (ranging from 320-2048). The greater the bit rate is, the larger the data transmitted every second in amount. Therefore the video will be clearer. While the default code bit rate is **512**.
- Payload: select the payload type (ranging from 90-118) to configure 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.

Go to Account > Advanced > DTMF interface.



### Parameter Set-up:

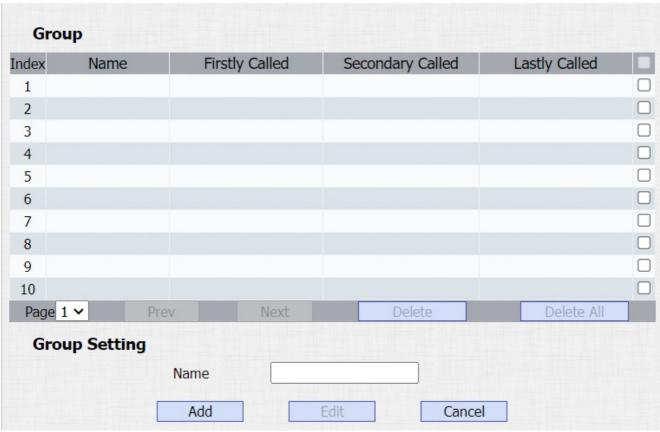
- Type: select DTMF mode among six options: Inband, RFC2833, Info, Info+Inband, Info+Inband+RFC2833, and Info+RFC2833 based on the specific DTMF transmission type of the third party device to be matched with as the party for receiving signal data.
- How to Notify DTMF: select among four types: Disable, 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.
- DTMF Payload: set the payload according to the specific data transmission payload agreed on between the sender and receiver during the data transmission.

# **Contact List Configuration**

# **Managing Contact Group**

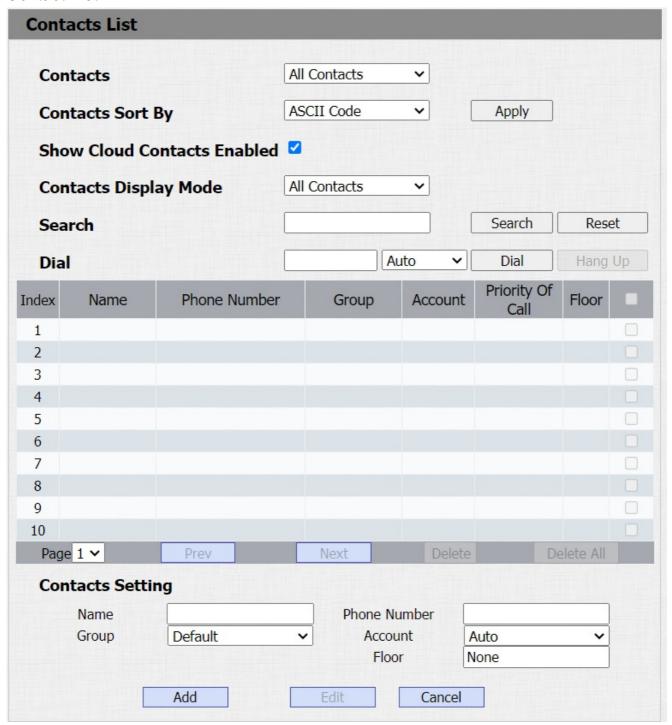
You can create and edit a contact group for the contacts. The contact group will be used when you are adding a user.

Navigate to Contacts > Contacts List > Group.



# **Managing Contacts**

You can search, create, display, edit and delete the contacts in your phone book. **Contacts > Contact List**.



### Parameters Set-up:

- Contact: you can choose to show all contact information or one group's contact information.
- Contacts Short By: there are three options ASCII Code, Room Number, and Import.
   If ASCII Code is selected, sort in ascending ASCII order, for example, 0-9, a-z, numbers take precedence over letters. Not case sensitive, but the same letter, lowercase is sorted

before uppercase. If **Room Number** is selected, sort by room name. If there is no room name, the room number is taken as the room name by default. The room number is available after enabling Cloud contact. If **Import** is selected, sort by contacts in the imported file.

- Search: enter the key number or key letter of the name to quickly search the contact.
- **Dial**: enter a phone number, then click **Dial** to initiate the call from the web.
- **Group**: click the green tab to select the group name you have created. You cannot select the group name if no group name has been created.
- Account: select which SIP account will be used to call out. If using IP direct call, it is not
  available.
- **Priority of Call**: up to 3 numbers in one group and set up the call sequence for these numbers.

# **Export/Import Contacts**

When the contact becomes so many that you cannot afford to manage each contact one by one manually, you can import and export the contacts in batch on the device web.

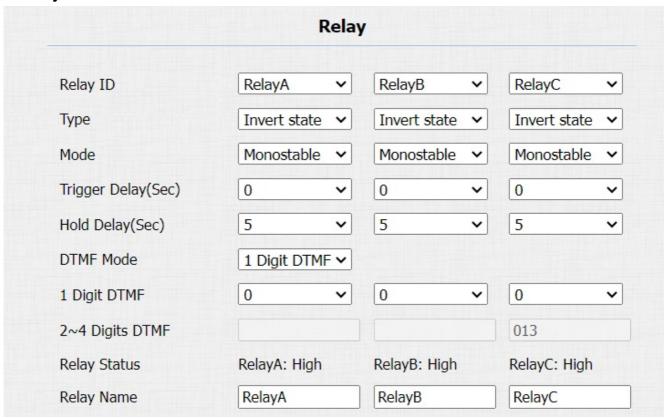
You can go to Contacts > Contacts List.



# **Relay Setting**

## **Relay Switch Setting**

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



#### Parameter Set-up:

Type: if Default State is selected, Low in the Relay Status field means the door is closed,
High means the door is opened. If Invert State is selected, High in the Relay Status field
means the door is closed. 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): set the relay trigger delay timing (Ranging from 1-10 Sec). For example, if you set the delay time as 5 Sec. Then the relay will not be triggered until 5 seconds after you press unlock tab.

- Hold Delay (Sec): set the relay hold delay timing (Ranging from 1-10 Sec). For example, if you set the hold delay time as 5 Sec. Then the relay will be delayed for 5 seconds after the door is unlocked.
- DTMF Mode: select the number of DTMF digits for the door access control (Ranging from 1-4 digits) For example, you can select a 1-digit DTMF code or a 2-digit DTMF code, etc., according to your need.
- 1 Digit DTMF: set the 1-digit DTMF code within range from (0-9, \*, and #).
- 2~4 Digits DTMF: set the DTMF code according to the DMTP Option. For example, you are required to set the 3-digit DTMF code if DTMF Mode is set as 3 digits.
- 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 according to your need. For example, you can name
  the relay switch according to where the relay switch is located for convenience.

#### **Note**

- Only the external devices connected to the relay switch need to be powered by powered adapters as the relay switch does not supply power.
- If DTMF mode is set as 1 Digit DTMF, you cannot edit the DTMF code in 2~4
   Digits DTMF. And if you set DTMF mode from 2-4 in 2~4 Digits DTMF field, you cannot edit the DTMF code in the 1 Digit DTMF field.

## Select Speed Dial and Manager Dial Triggered Relay

This function is used to trigger a relay when you initiate the speed dial numbers or manager dial numbers. To do this configuration, you can go to Intercom > Basic > Public Key.



## **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.



To set up the security relay, navigate to Intercom > Relay > Security Relay.

	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

### Parameter Set-up:

- Connect Type: select the connection type between the security relay and the door phone. You can select connection via the door phone Relay A Power Output or RS485.
- Trigger Delay (Sec): set the relay trigger delay timing (ranging from 1-10 Sec.) For
  example, if you set the delay time as 5 sec. then the relay will not be triggered until 5
  seconds after you press Unlock tab. The default is 0 meaning triggering relay right after you
  press the unlock tab.
- Hold Delay (Sec): set the relay hold delay timing (ranging from 1-10 Sec.) For example, if you set the hold delay time as 5 Sec. then the relay will be delayed for 5 after the door is unlocked.
- 1 Digit DTMF: set the 1 digit DTMF code within range 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: give a name to the relay if needed. And relay name 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.



Web relay needs to be set up on the web **Phone > WebRelay** interface.

eb Relay			
	Web	Relay	
Type IP Address User Name Password		Disabled V	
	Web Relay A	ction Setting	
Action ID	Web Relay Action	Web Relay Key	Web Relay Extension
Action ID 01			
Action ID 02			
Action ID 03			
Action ID 04			
Action ID 05			
Action ID 06			
Action ID 07			
Action ID 08			
Action ID 09			
Action ID 10			

### Parameter Set-up:

- Type: select among three options Disabled, WebRelay, and Both. Select Web relay to
  enable the web relay. Select Disable to disable the web relay. Select Both to enable both
  local relay and web relay.
- IP Address: the web relay IP address provided by the web relay manufacturer.
- User Name: the user name provided by the web relay manufacturer.
- Password: the password provided by the web relay manufacturer. The passwords are authenticated via HTTP and you can define the passwords using http get in Action.
- Web Relay Action: the specific web relay action command provided by the web
  manufacturer for different actions by the web relay. Without adding IP address, username,
  password, you can fill in the HTTP command in the web relay action. You can configure
  multiple web relays. See the HTTP command example below:

   a.lf you do not fill in 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 filled in the IP address above, fill in the omitted HTTP command, eg. state.xml?relayState=2.
- Web Relay Key: it can be null or enter the configured DTMF code, when the door is unlocked via the DTMF code, the action command will be sent to the web relay automatically.
- Web Relay Extension: it can be null or enter the relay extension information, which can
  be a SIP account username of an intercom device such as an indoor monitor, so that the
  specific action command will be sent when unlock is performed on the intercom device.

## **Configure White List for Door Relay**

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.



#### Parameter Set-up:

 Assigned The Authority For: select All numbers to allow all numbers for the DTMF door unlock; select None to deny all numbers for the DTMF door unlock; select Only Contacts List to only allow the contact number in your door phone.

# **Door Access Schedule Management**

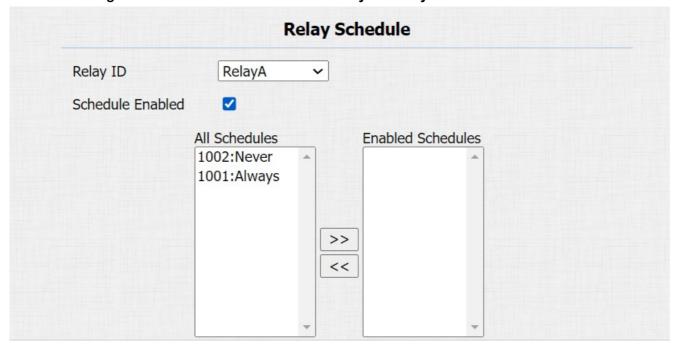
# **Configure Door Access Schedule**

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.

### Manage 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.

To do the configuration on the web Intercom > Relay > Relay Schedule interface.



### Parameter Set-up:

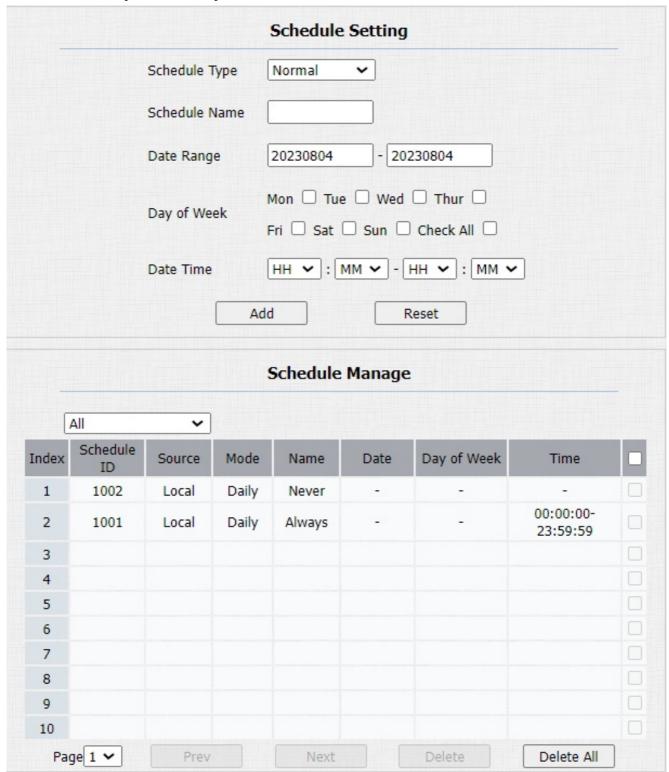
• Relay ID: choose the relay you need to set up.

### **Create Door Access Schedule**

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

To do this configuration on web **Intercom > Schedule** interface.

To create a daily schedule, you can do as follows:



### Parameters Set-up:

- Schedule Type: set the type of time period. There are three types to choose from: Daily,
   Weekly, and Normal. The default is Daily.
- Day of Week: select the corresponding day of the week. This field will only be displayed

when the Week and Normal types are selected.

 Date Range: set the corresponding date. 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.

Path: Intercom > Schedule > Import/Export Schedule(.xml).



#### Note:

• It only supports .xml format files for importing and exporting the schedule.

# **Door Unlock Configuration**

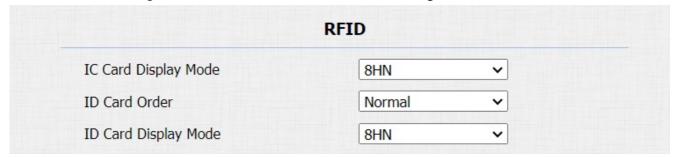
## **Door Unlock Configuration**

Akuvox door phone offers you two types of door access via PIN code and RF card. You can configure them on the device and web interface. Moreover, you can import or export the configured files to maximize your RF card configuration efficiency.

# **Configure Access Card 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.

You can do this configuration on web Intercom > Card Setting interface.



### Parameters Set-up:

- IC Card Display Mode: select the card code format for the IC card for the door access among five format options: 8H10D; 6H3D5D(W26); 6H8D; 8HN; 8HR. The card code format is 8HN by default in the door phone.
- ID Card Order: select normal or reversed display of ID card.
- ID Card Display Mode: select the card format for the ID Card for the door access among five format options: 8H10D; 6H3D5D(W26); 6H8D; 8HN; 8HR. The card code format is 8HN by default in the door phone.

### IC/ID Card Control

You can enable or disable the IC and ID card function if needed. You can navigate to **Intercom** > **Card Setting**.



## 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.

To do so, you can navigate to Intercom > Card setting > Mifare Card Encryption.

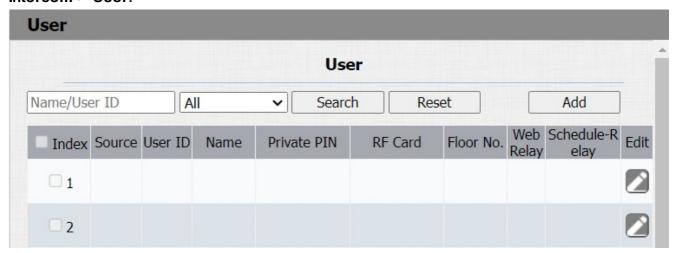


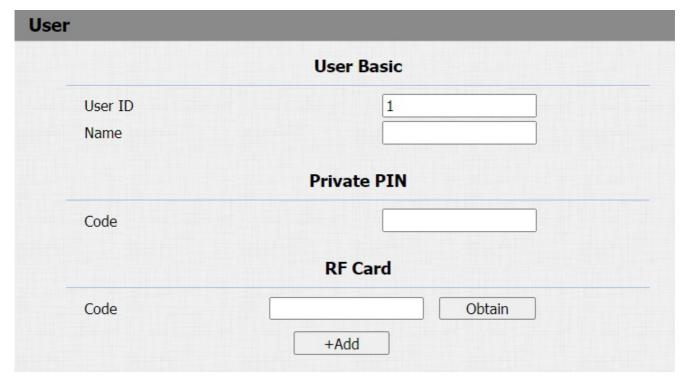
### Parameter Set-up:

- Sector/Block: enter the sector and block in which the card number is located in the Mifare Card. For example, the card number can be in sector 3 and block 3 in the card.
- Block Key: enter the block password for access.

# **Configure RF Card for Door Unlock**

You can tap the RF card on the reader and click obtain to add an RF card for the user. Path: Intercom > User.





### Parameter Set-up:

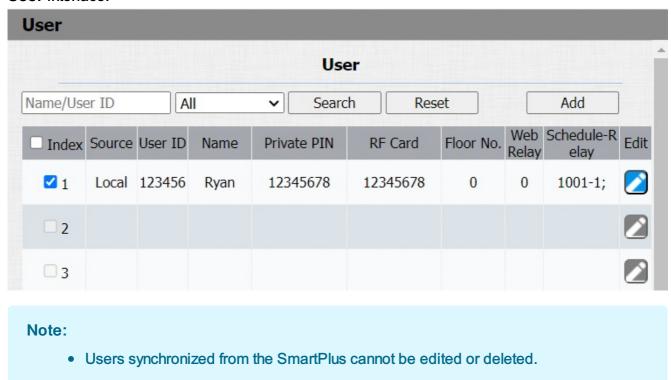
- User ID: enter the user ID. The user ID is 11 digits maximum in length and can not be reused for other users. The User ID can be generated automatically or manually.
- Code: place the card on the device card reader area and click Obtain.

#### Note:

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

## **Edit the User-specific Door Access Data**

You can search user(s)-specific door access and edit the door access data on the web **Intercom** > **User** interface.



## Import and Export User Data of Access Control

The door phone supports User Data of access control to be shared among Akuvox door phones through import and export while you can also export the facial data out of the door phone and then import it to a third-party device.

To configure the configuration on the web Intercom > User > Import/Export User interface.



### Parameter Set-up:

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

## 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.

To configure it, go to Intercom > Relay > Open Relay Via HTTP.

Open Relay Via HTTP				
Enabled				
Session Check				
User Name				
Password	*****			

### Parameter Set-up:

- Session Check: this feature is for some network security limitations, if you enable it, the
  door may not be unlocked in this way.
- User Name: enter the user name of the device's web interface, for example, admin.
- Password: enter the password for 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.

## **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.

### Go to Intercom > Input interface.

Input	
	Input A
Enabled	
Trigger Electrical Level	Low
Action To Execute	FTP   Email   SIP Call   HTTP   Manager Dial
HTTP URL	
Action Delay	0 (0~300 Sec)
Execute Relay	RelayA V
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 on the exit button.
- Action to Execute: select the method to carry out the action: FTP, Email, HTTP, TFTP, Manager Dial.
- 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 you press the button.
- Execute Relay: set up relays to be triggered by the input.
- Door Status: display the status of the input signal.

### **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.

To do this configuration on the web Intercom > PIN Setting > Public PIN interface.



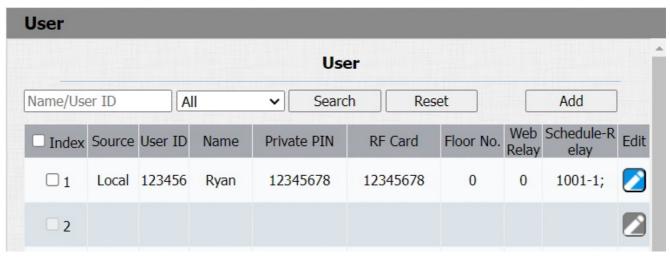
### Parameter Set-up:

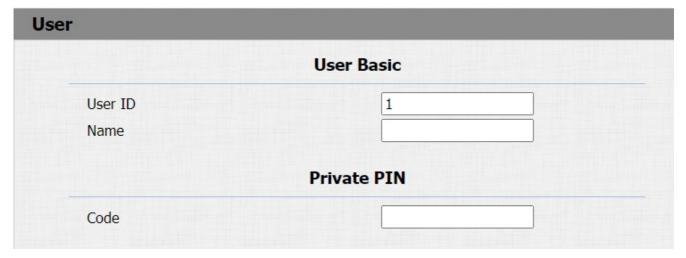
• PIN Code: customize 3-8 digit numbers for the public key value.

## Configure Private PIN Code on the Web Interface

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.

Path: Intercom > User.

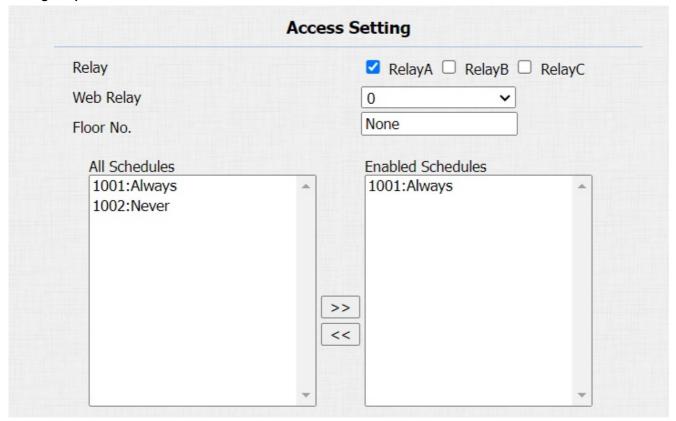




### Parameter Set-up:

• 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.



### Parameter Set-up:

- 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 left box and move the one to be applied to the user(s)-specific PIN code door access to the box on the right side.

You are required to enable the PIN code before you can get door access via private PIN code, you can navigate to Intercom > PIN setting > Private PIN.



# **Configure NFC for Unlock**

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 the NFC feature, go to Intercom > Card Setting > Contactless Smart Card.

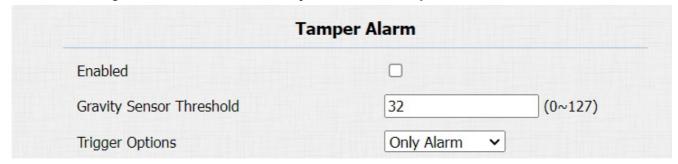


# Security

## **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.

To do this configuration on the web **Security > Basic > Tamper Alarm**.



### Parameter Set-up:

- **Gravity Sensor Threshold**: set the threshold for the gravity sensory sensitivity. The lower the value is, the higher the value will be. The gravity sensor value is 32 by default.
- Trigger Options: select 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.

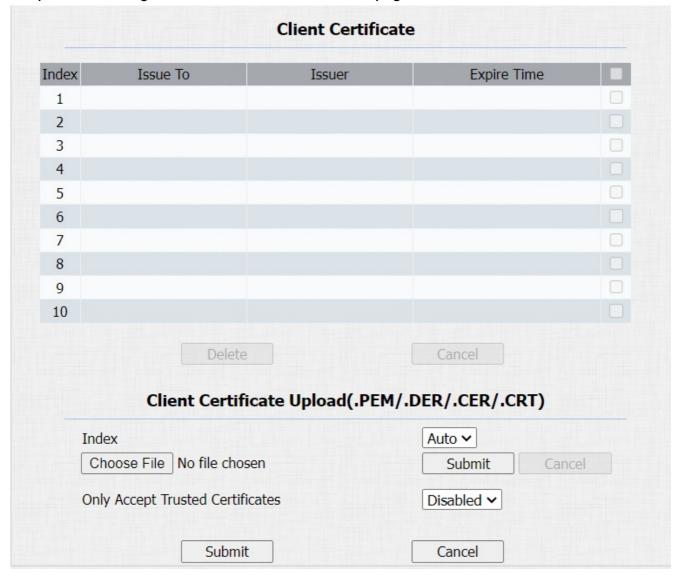
To upload Web Server certificate on the device web interface Security > Advanced > Web Server Certificate.



### **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.

To upload and configure client certificates on the same page.



### Parameter Set-up:

- Index: select the desired value from the drop-down list of Index. If you select Auto value, the uploaded certificate will be displayed in numeric order. If you select values from 1 to 10, the uploaded certificate will be displayed according to the value that the user selected.
- Select File: click Choose File browse the local drive, and locate the desired certificate (\*.pem only).
- Only Accept Trusted certificates: if you select Enabled, as long as the authentication success, the phone will verify the server certificate based on the client certificate list. If you 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.

To upload the TLS certificate, go to Security > Advanced > SIP Server Certificate.



#### Parameter Set-up:

Choose file: upload the certificate file. You can only upload the certificate file in .PEM,
 .DER, and CER format.

### **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**

You can turn on the motion detection and set up the motion detection interval on the web **Intercom** > **Motion** interface.

Motion		
Motion De	tection Option	s
Suspicious Moving Object Detection	Disabled ~	
Timing Interval	10	(0~120 Sec)

### Parameter Set-up:

• Suspicious Moving Object Detection: select Disable to disable the motion detection.

Select IR Detection to enable the IR sensor-based motion detection for suspicious

- moving objects. And select **Video Detection** to enable the video-based motion detection during the monitoring of the suspicious moving object.
- Timing Interval: the absolute triggering interval is 3 seconds. If you select a number greater than 3 seconds, then it requires a second triggering interval to trigger the alarm. For example, if you select 3 seconds, then the alarm will be triggered when a moving object is detected one time from 0 to 3 seconds (triggered any time from 0 to 3 seconds). However, for example, if you select 5 seconds (greater than 3), then the alarm will not be triggered until a moving object is detected for the second time from 3 to 5 seconds (triggered any time from 3 to 5 seconds). The default interval is 10 seconds.

## **Security Notification Setting**

### **Email Notification Setting**

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

Go to Intercom > Action > Email Notification interface.

	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 Server Address: enter the SMTP server address of the sender.
- SMTP User Name: enter the SMTP user name, which is usually the same as the sender's email address.

- SMTP Password: configure the password of the SMTP service, which is the same as the sender's email address.
- Email Test: click to test if the email can be sent and received.

## **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.

Go to web Intercom > Action > FTP Notification interface.

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

### Parameter Set-up:

- FTP Server: enter the address (URL) of the FTP server for the FTP notification.
- FTP Test: click FTP Test, then a triggered event snapshot will be sent to the FTP server for testing purposes.

### **SIP Call Notification Setting**

In addition to FTP and Email notification, the door phone can also make a SIP call when some feature action is triggered. To configure a SIP call notification on web **Intercom > Action > SIP Call Notification** interface.

	SIP Call Notification	
SIP Call Number		
SIP Caller Name		

### **Call Event Notification**

Enable this feature if you want to be notified when any outgoing calls from the door phone are not answered. The notification is made via FTP, Email, and HTTP. On the web, navigate to **Intercom** > **Basic** > **Call Event**.

	Call Event
No Answer Action	
Action To Execute	FTP   Email   HTTP
HTTP URL	

### Parameter Set-up:

- Action To Execute: select FTP, Email or HTTP method for the notification. If FTP is selected, a screenshot of the caller will be sent via as notification. If Email is selected, the Emails containing a screenshot of the caller will be sent. If HTTP is selected, you can add the event message to the HTTP URL before sending.
- HTTP URL: enter the HTTP URL that will be sent to the Http server. For example:http//192.168.31.6/door phone#1. HTTP URL format: http://http server IP address/any information

# **Security Action Configuration**

## **Configure Action of Input**

When the Input interface is working, it can also trigger an action. You can do this configuration on web Intercom > Input interface.

Action To Execute	FTP   Email   SIP Call   HTTP   Manager Dial
HTTP URL	

#### Parameter Set-up:

Action To Execute: to choose which action to execute after triggering.

## **Configure Action of Call**

When pressing the push button, the door phone will trigger the pre-configured action type, the notification can be sent out by Email, FTP notification, or SIP call. To do this configuration on web Intercom > Basic interface.

	Call Event
No Answer Action	
Action To Execute	FTP   Email   HTTP
HTTP URL	

### Parameter Set-up:

- No Answer Action: if the call will not be answered, it still triggers the action event after enabling this feature.
- Action to execute: to choose which action to be executed after triggering.

### **Configure Action of Motion**

When the Motion Detection feature is working, you can make it trigger an action. To do this configuration on web **Intercom > Motion** interface.

Action To Execute						
Action To Execute	FTP 🗆	Email		SIP Call	НТТР	0
HTTP URL						

### Parameter Set-up:

• Action to execute: to choose which action to be executed after triggering.

### **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:**

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
11	Tamper Alarm Triggered	\$alarm status	Http://server ip/tampertrigger=\$alarm status

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

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

Path: Phone > Action URL.

Action URL				
	Action URL			
Active				
Make Call				
Hang Up				
RelayA Triggered				
RelayB Triggered				
RelayC Triggered				
RelayA Closed				
RelayB Closed				
RelayC Closed				
InputA Triggered				
InputB Triggered				
InputC Triggered				
InputA Closed				
InputB Closed				
InputC Closed				
Valid Code Entered				
Invalid Code Entered				
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.

To configure this feature on web **Account > Advanced > Encryption** interface.

Encryption				
oice Encryption(SRTP)	Disabled ✓			

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.

To do this configuration on the web **Account > Advanced > User Agent** interface.

	User Agent	
User Agent		

### Parameter Set-up:

• User Agent: support to enter another specific value, it is Akuvox by default.

### **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.

To configure this feature on the web: **Security > Basic > High Security Mode**.



### **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@devicelP/fcgi/OpenDoor?action=OpenDoor&DoorNum=1
- I http://deviceIP/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://devicelP/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.

# 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 <a href="rtsp://Device's IP/live/ch00\_0">rtsp://Device's IP/live/ch00\_0</a>

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**

You are required to set up the RTSP function on the device web **Intercom** > RTSP > RTSP **Basic** interface in terms of RTSP authorization, authentication, and password, etc. before you are able to use the function.

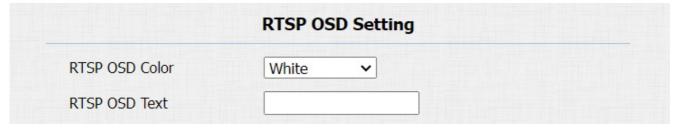


#### Parameter Set-up:

- RTSP Authorization Enabled: enable or disable the RTSP authorization. If you enable
  the RTSP Authorization, you are required to enter RTSP Authentication Type, RTSP
  Username, and RTSP Password on the intercom device such as an indoor monitor for
  authorization.
- Authentication Mode: select RTSP authentication type between Basic and Digest.
   Basic is the default authentication type.

### 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. To do this configuration on the web Intercom > RTSP > RTSP OSD Setting interface.



#### Parameter Set-up:

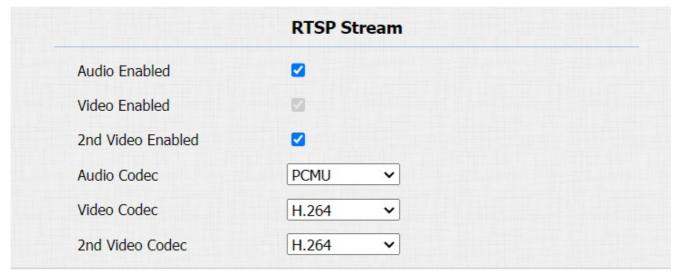
• RTSP OSD Color: there are five color options - White, Black, Red, Green, and Blue for RTSP watermark text.

• RTSP OSD Text: enter the customized text you want to show for the watermark.

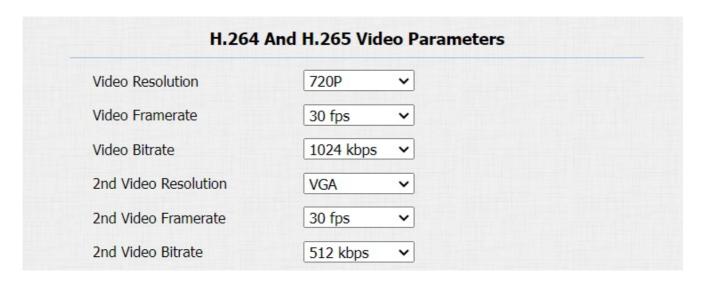
### **RTSP Stream Setting**

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.

Go to Intercom > RTSP > RTSP Stream interface.



- Audio Enabled: tick to enable RTSP audio which means, the door phone can also send audio information to the monitor by RTSP.
- Video Enabled: the door phone can send video information to the monitor. After enabling the RTSP feature, the video RTSP is enabled by default and cannot be modified.
- 2nd Video2 Enabled: Akuvox door phones support 2 RTSP streams, you can enable the second one.
- Audio Codec: choose a suitable audio codec for RTSP audio.
- Video/2nd Video Codec: choose a suitable video codec for RTSP video.



#### Parameter Set-up:

- Video Resolution: select video resolutions among six options: QCIF, QVGA, CIF,
   VGA, 4CIF, and 720P. The default video resolution is 4CIF. and the video from the door phone might not be able to be shown on the indoor monitor if the resolution is set higher than 4CIF.
- Video Framerate: 30fps is the video frame rate by default.
- Video Bitrate: select video bit-rate among six options: 128 kbps, 256kbps, 512 kbps, 1024 kbps, 2048 kbps, and 4096 kbps according to your network environment.
   The default video bit rate is 2048 kpbs.
- 2nd Video Resolution: select video resolution for the second video stream channel.
   While the default video solution is VGA.
- 2nd Video Framerate: select the video framerate for the second video stream channel.
   25fps is the video frame rate by default for the second video stream channel.
- 2nd Video Bitrate: select the video bit rate for the second video stream channel. While the second video stream channel is 512 kbps by default.

## **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.

Go to Intercom > RTSP > RTSP Basic and Intercom > RTSP > MJPEG Video Parameters interface.





#### Parameter Set-up:

- MJPEG Authorization: tick it to access device video or real-time screenshots through a
  browser (http address such as: http://device IP:8080/video.cgi (dynamic
  video), http://device IP:8080/jpeg.cgi (static screenshot)).
- Video Resolution: select video resolutions among six options: QCIF, QVGA, CIF,
   VGA, 4CIF, and 720P. The default video resolution is 4CIF. And the video from the door phone might not be able to be shown on the indoor monitor if the resolution is set higher than 4CIF.
- Video Framerate: 30fps is the video frame rate by default.
- Video Quality: the video bit rate is from 50 to 90.

#### **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 Phone > Call Feature > Others.



#### Parameter Set-up:

 NACK Enabled: enable the NACK. It can be used to prevent losing data packets in the weak network environment when discontinued and mosaic video images occurred.

### **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 Intercom > ONVIF interface.

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

#### Parameter Set-up:

- Discoverable: tick the check box to enable the Discoverable ONVIF mode. If you select
  Discoverable then the video from the door phone camera can be searched by other
  devices.
- User Name: enter the user name. It is admin by default.
- Password: enter the password. It is admin by default.
   After the setting is complete, you can enter the ONVIF URL on the third-party device to view the video stream.

For example: http://IP address:80/onvif/device\_service

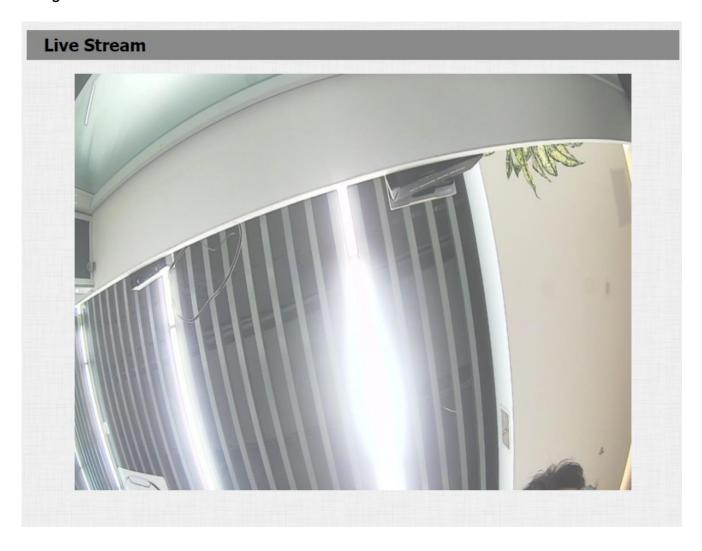
#### Note:

• Fill in the specific IP address of the door phone in the URL.

## **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 Intercom > Live Stream interface.

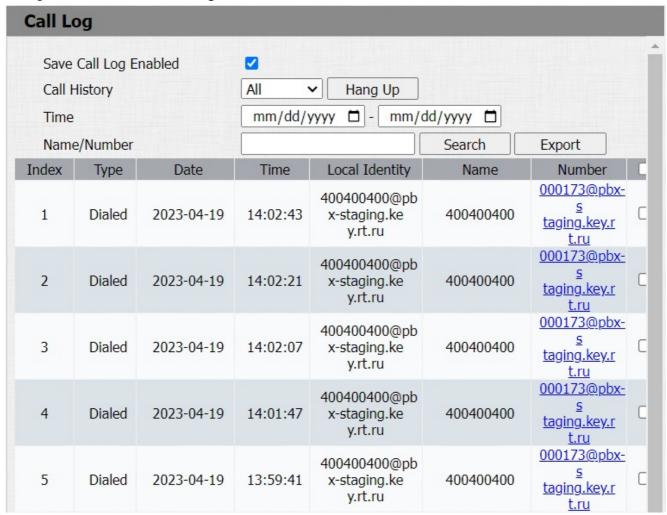


# Logs

### 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 Phone > Call Log interface.



- Call History: select call history among four options: All, Dialed, Received, and
   Missed for the specific type of call log to be displayed.
- Time: select the specific time span of the call logs you want to search, check, or export.
- Local Identity: displays the door phone's SIP account or IP number that receives

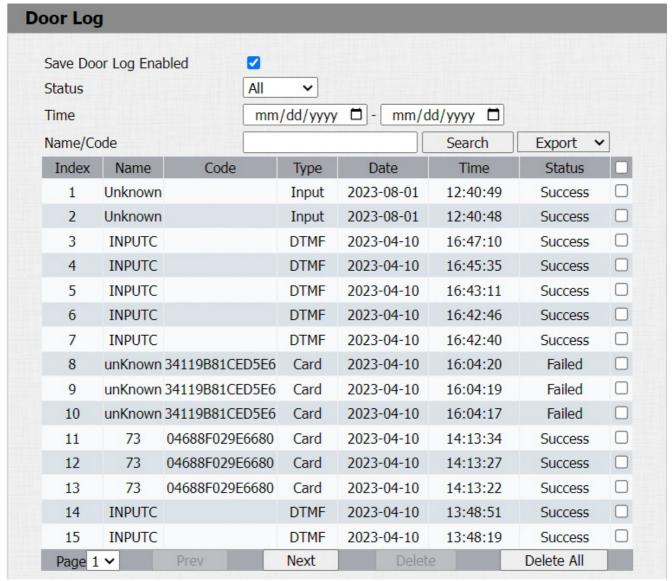
incoming calls.

 Name/Number: select the Name and Number options to search 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.

Go to Phone > Door Log interface.



- Status: select between Success and Failed options to search for successful door accesses or failed door accesses.
- Time: select the specific time span of the door logs you want to search, check, or export.

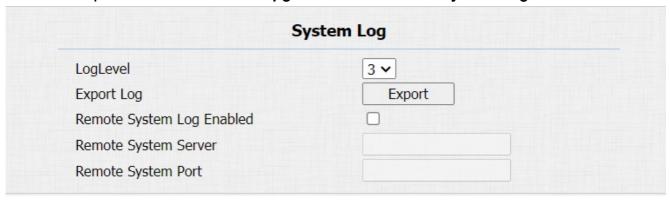
- Name/Code: select the Name and Code options to search door log by the name or by the PIN code.
- Index: the order of the call logs.
- Name: if it is a locally added key or card, the corresponding added name will be displayed. If it is an unknown key or card, it will display Unknown.
- Code: if opening 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, and if the door is opened by an HTTP command, it will be empty.
- Type: if opening the door via PIN code, Password will be displayed. If opening the door via RF cards, Card will be displayed, and if the door is opened by HTTP command, Http will be displayed.

# **Debug**

## **System Log**

System logs can be used for debugging purposes.

You can set up the function on the web **Upgrade > Advanced > System Log** interface.



#### 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 purposes. The default log level is 3, the higher level is 5, and the more complete log is 7.
- Export Log: click the Export tab to export a temporary debug log file to a local PC.
- Remote System Server: enter the remote server address to receive the device log. And the remote server address will be provided by Akuvox technical support.
- Remote System Port: enter the remote system server port for the data transmission.

## **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.

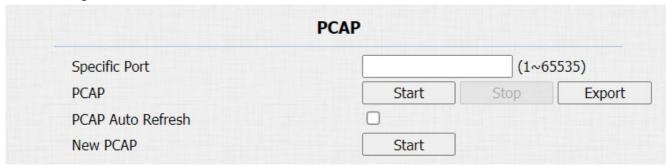
On the web, navigate to **Upgrade > Advanced > Remote Debug Server**.

Remote Debug Server		
Enabled		
Connect Status	DisConnected	
IP		
Port	9500	(1024~65535)

### **PCAP**

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

You can set up the PCAP on the device web **Upgrade > Advanced > PCAP** interface properly before using it.



- Specific Port: select the specific ports 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 the Start tab and Stop tab to capture a certain range of data packets before clicking the Export tab to export the data packets to your Local PC.
- PCAP Auto Refresh: select Enable or Disable to turn on or turn off the PCAP auto
  fresh function. If you set it as Enable then the PCAP will continue to capture data packets
  even after the data packets reached their 1M maximum in capacity. If you set it as
  Disable 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 a bigger data package.

# Firmware Upgrade

Akuvox devices can be upgraded on the device web interface.

Go to **Upgrade > Basic** interface.

Upgrade-Basic			
Firmware Version Hardware Version	227.30.10.2 227.0		
Upgrade	Choose File	No file chosen	
	Reset: Upgrade	Cancel	
Reset To Factory Setting		Reset	
Reset Configuration to Default State (Except Data)		Reset	
Reboot		Reboot	

#### Parameter Set-up:

 Upgrade: choose .rom firmware from your PC, then click Submit to update. If you want to upgrade the firmware and reset the device to the factory setting, click Reset To Factory Setting.

# **Backup**

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

Go to **Upgrade > Advanced > Others** interface if needed.

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

### Parameter Set-up:

• Export/Import: to export the current config file (Encrypted) or import a new config file.

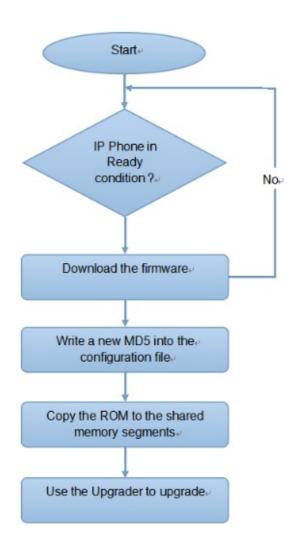
# **Auto-provisioning**

Configurations and upgrading on the device can be done on the web interface via one-time autoprovisioning and scheduled auto-provisioning via configuration files, thus saving you from setting up configurations needed one by one manually on the access control terminal.

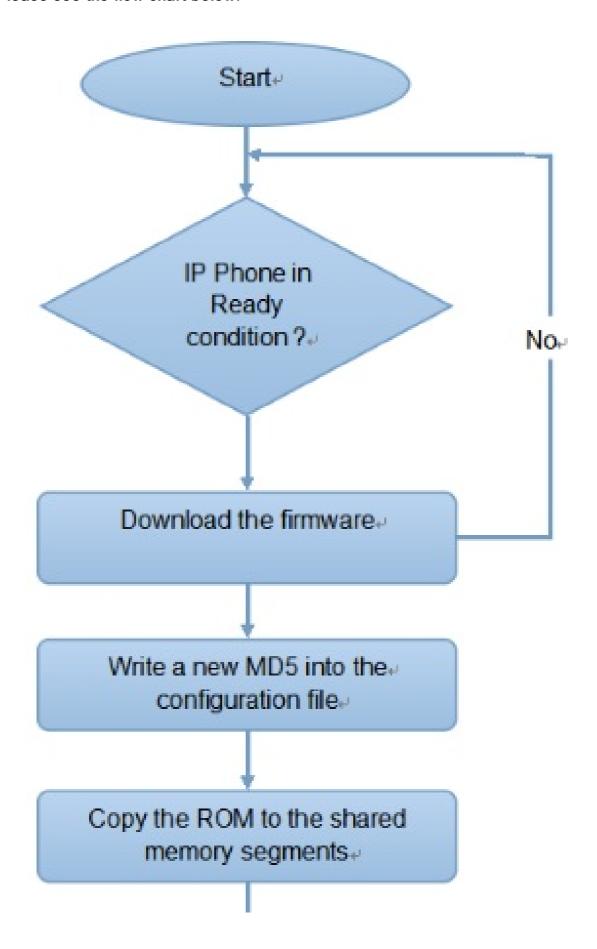
### **Provisioning Principle**

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:



#### 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 **Upgrade > Advanced > Automatic Autop** interface.



### **AutoP Schedule**

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



- Mode: select Power on, Repeatedly, Power On + Repeatedly, Hourly Repeat as your Autop schedule.
  - Select Power on, if you want the device to perform Autop every time it boots up.
  - Select Repeatedly, if you want the device to perform Autop according to the schedule you set up.
  - Select Power On + Repeatedly, if you want to combine Power On mode and Repeatedly mode that will enable the device to perform Autop every time it boots up or according to the schedule you set up.
  - Select Hourly Repeat, if you want the device to perform Autop every hour.

### **PNP Configuration**

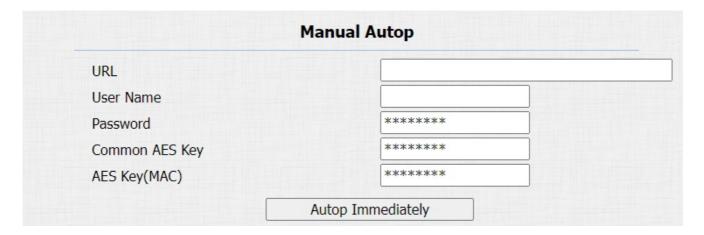
Plug and Play (PNP) is a combination of hardware and software support that enables a computer system to recognize and adapt to hardware configuration changes with little or no intervention by a user.

To do this configuration on web **Upgrade > Advanced > PNP Option** interface.



## **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.



- URL: set up TFTP, HTTP, HTTPS, and FTP server addresses for the provisioning.
- User Name: set up a user name if the server needs a user name to be accessed, otherwise leave it blank.
- Password: set up a password if the server needs a password to be accessed, otherwise leave it blank.
- Common AES Key: set up AES code for the intercom to decipher the general Auto Provisioning configuration files.
- 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

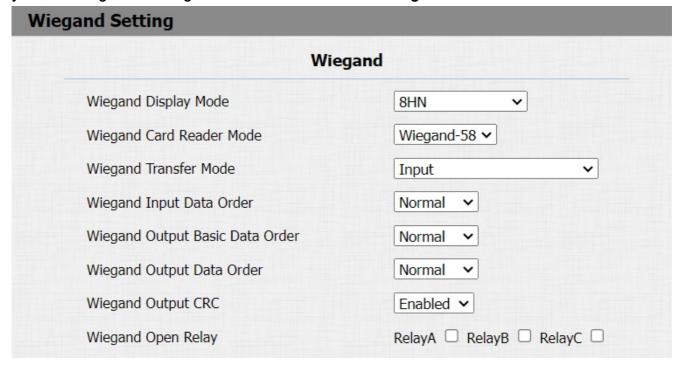
• Akuvox do not provide user specified server. Please prepare TFTP/FTP/HTTPS server by yourself.

# **Integration with Third Party Device**

### Integration via Wiegand

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

you can configure the Wiegand on the web Intercom > Wiegand interface.



- 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, Wiegand 58. The transmission format should be
  identical between the door phone and the device to be integrated.
- Wiegand Transfer Mode: select Input, Output, Convert to Card No. Output
  Wiegand. If the door phone is used as a receiver, then set it as Input for the door phone.
  Select Output if you want Wiegand output to be converted to a card number before
  sending it from the door phone to a receiver.
- Wiegand Input Data Order: set the Wiegand input data sequence between Normal and Reversed. If you select Reversed then the input card number will be reversed and vice versa.

- Wiegand Output Data Order: set the Wiegand output data sequence between
   Normal and Reversed. If you select Reversed then the input card number will be reversed and vice versa.
- Wiegand Output CRC: tick to enable the parity check function to ensure that signalbased data can be transmitted correctly according to the established data transmission format.

When integrating with third-party devices, you need to set up the Wiegand PIN code output based on the Wiegand output format of the third-party device.



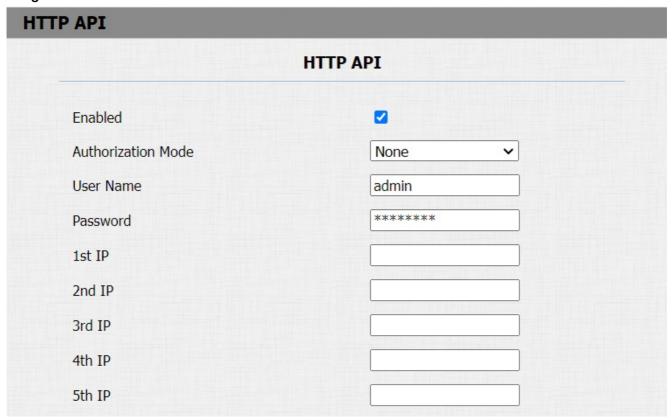
#### Parameter Set-up:

- PIN: enable or disable the Wiegand PIN code output based on your need. Select the Wiegand PIN code output format when you enable it.
- 8 bits per digit: select it if the third-party device adopts 8 bits per digit format. The PIN code is transferred separately by a digit (one digit consists of 8 bits).
- 4 bits per digit: select it if the third-party device adopts 4 bits per digit format. The PIN code is transferred separately by a digit (one digit consists of 4 bits).
- All at once: select it if the third-party device adopts All at once format. When it is selected, the PIN code will not be transferred until you enter the whole PIN code.

## **Integration via HTTP API**

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

You can configure the HTTP API function on the web **Intercom > HTTP API** interface for the integration.



#### Parameter Set-up:

- HTTP API: select Enable or Disable to enable or disable the HTTP API function for the
  third-party integration. For example, if the function is disabled, any request to initiate the
  integration will be denied and HTTP 403 forbidden status will be returned.
- Auth Mode: select among four options: None, Whitelist, Basic, and Digest for authorization type, which will be explained in detail in the following chart.
- User Name: enter the user name when Basic and Digest authorization mode is selected. The default user name is Admin.
- Password: enter the password when Basic and Digest authorization mode is selected.

  The default user name is Admin.
- IP01-IP05: enter the IP address of the third-party devices when the WhiteList 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	Whitelist	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 the Authorization field of the HTTP request header, use the Base64 encoding method to encode the username and password.
5	Digest	The password encryption method only supports MD5. MD5( Message-Digest Algorithm)In the Authorization field of the HTTP request header:WWW-Authenticate: Digest realm="HTTP API",qop="auth,auth-int",nonce="xx", opaque="xx".
6	Token	This mode is used by Akuvox developers only.

# **Integration with Milestone**

If you want the door phone to be monitored by Milestone or any third-party devices that have been integrated with Milestone, you need to enable the feature.

To do so, go to Intercom > ONVIF.



# **Power Output Control**

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

Path: Intercom > Advanced >12V Power Output.

Intercom-Advanced			
	12V Power Output		
Mode	Always	~	
Timeout (Sec)	3 🕶		

#### 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 R27 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.
- Time Out (Sec): select the power supply time duration after the relay is triggered. Three options: 3, 5, 10. It is 3 seconds by default. The power output is 12V, and the maximum output amperage is 0.8A.

## **Integration with Lift Control**

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.

To set up the lift control, go to Intercom > Lift Control interface.



#### Parameter Set-up:

Lift Control List: select integration mode among seven Options: None, Chiyu,
 KeyKing, ZKT, Akuvox EC32. The detail for the options will be provided in the following chart.

NO.	Integration Mode	Description
1	None	If you select None, then the RS485 integration will be disabled.
2	Chiyu	Select Chiyu if you want to integrate with the Chiyu lift controller.
3	KeyKing	Select Keyking if you want to integrate with the KeKing lift controller.
4	ZKT	Select ZKT if you want to integrate with the ZKTeco lift controller.
5	Akuvox EC32	Select Akuvox EC32 if you want to connect the device with the Akuvox EC32 lift controller.

### **Password Modification**

## **Modifying Device Web Interface Password**

To change the default web password on web **Security > Basic** interface.

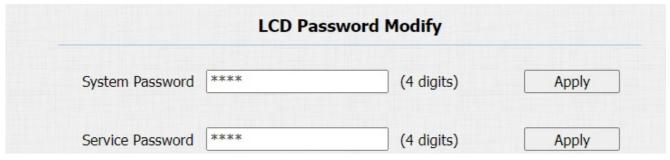
Select admin for the administrator account and User for the User Account. Click the Change Password tab to change the password.

You can also disable User account permission to log in on the web.



### **Modifying Device System Password**

You can modify both device system password and service (setting) password on the web or on the device. On the web, navigate to **Security > Basic > LCD Password Modify**, and change the passwords if needed. The default system password is \*2396#, and the default service (setting) password is 3888.



To set or modify the system and service passwords on the device, press the system password (which is \*2396# by default), select **Admin Access**, and select **Set Admin Password**, then set the system password. Select **Set Service Password**, then set the service password. You can delete the passwords if needed.

## **Configure Web Interface Automatic Logout**

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.

To do the configuration on the web **Security > Basic > Session Time Out** interface.

Ses	ssion Time Out	
Session Time Out Value	600	(60~14400 Sec)

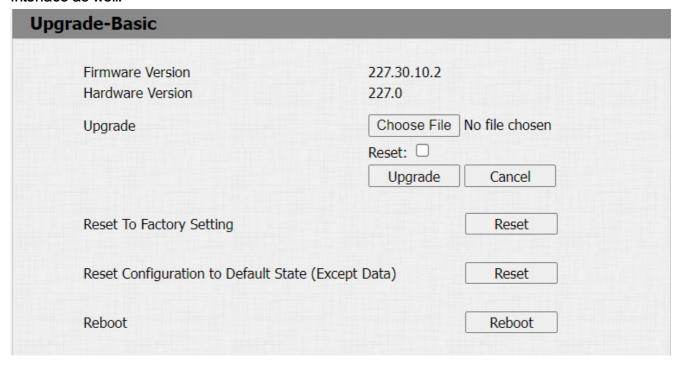
#### Parameters Set-up:

• Session Time Out Value: the range is from 60 to 14400 sec. If there is no operation over time, you need to log in to the website again.

# System Reboot & Reset

### Reboot

If you want to restart the device system, you can operate it on the device **Upgrade > Basic** web interface as well.



### 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).

To reset the device, go to **Upgrade > Basic**.

Reset To Factory Setting	Reset
Reset Configuration to Default State (Except Data)	Reset