






Hikvision video intercom SIP function Introduction

(2019-12-03)

Product involved:

Device Model	Firmware
DS-KH8350-WTE1	v2.1.2_build191014
DS-KH8350-TE1	v2.1.2_build191014
DS-KH6320-WTE1	v2.1.2_build191014
DS-KH6320-TE1	v2.1.2_build191014
DS-KH8520-WTE1	v2.1.2_build191014
DS-KH6320-WTE2	v2.1.2_build191014
DS-KD8003-IME1	v2.0.8_build191029
DS-KD8003-IME2	v2.0.8_build191029

List of supported SIP servers:

Logo-Company	SIP Server	Version	interoperability
	Asterisk	All	★
	Yeastar	All	★
	Minisip	v34/v36	★▲
	Pbxware	v. 4.1/v5.2/ v5.3	✓▲
	Brekeke	V3.4.9	★

★: Support Video and Audio ✓: Only support Audio ▲: Support alarm upload
 ✕: Not support now

Note:

1. Since standard SIP services involved DDNS, signaling forwarding, diverse audio and video formats, The function of existing Hikvision standard SIP is limited.
2. If you have any questions about SIP, please complete this excel sheet and contact Hikvision's technical support.



SIP
information.xlsx

3. In the public network environment, the video transmission of the device is limited by many factors. It will cause poor picture quality, inability to display pictures, and so on when congestion, long latency and packet loss.

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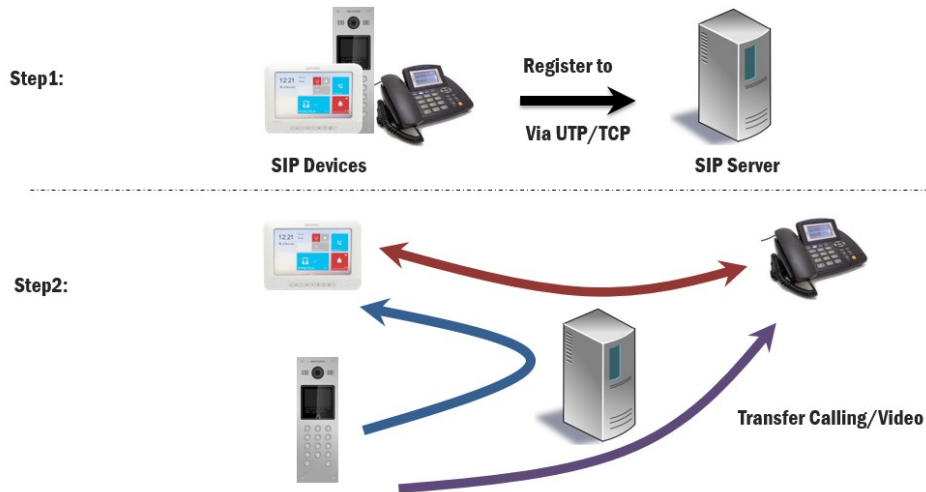
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If you still have questions about the Hikvision SIP service, please contact your local Hikvision technical support team.

<https://www.hikvision.com/en/Corporate/Contact-Us>

What' s SIP

The Session Initiation Protocol (SIP) is a signaling protocol used for initiating, maintaining, and terminating real-time sessions that include voice, video and messaging applications. The SIP system works flow as below figure.



Hikvision video intercom version 1.5.0 and above support private SIP and standard SIP switchable. Standard SIP is a common protocol which means device could be integrated with 3rd Party standard SIP devices. The Comparison of private protocol and standard SIP protocol as below table.

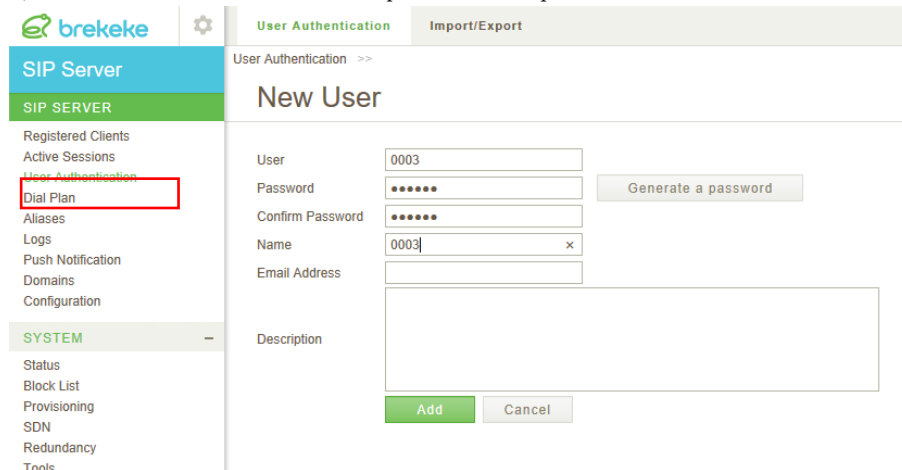
Indoor station	Private Protocol	SIP Protocol
HikConnect APP	✓	×
Indoor extension	✓	×
Live view	✓	×
Call to the door station	✓	×
Private password	✓	×
Automatic capture picture	✓	×

Door station	Private Protocol	SIP Protocol
Sub-door station	✓	×
Doorphone Mode	✓	×
Outer door station	✓	×
Public password	✓	✓

So we strongly suggest to use Hikvision private protocol when all intercom video equipment from Hikvision company. If need to interconnect with 3rd party SIP terminal, we have to change intercom protocol from private protocol to SIP Protocol on the related Hikvision intercom video equipment. This document will introduce how to configure SIP Protocol between Hikvision intercom video equipment and 3rd party' s.

How to add new user in brekeke SIP server

1. Login the SIP server via IE web and add the new users for indoor station / door station / 3rd party SIP phone / etc.
 - 1) User is unique in same SIP server.
 - 2) Name is local parameter for reference in SIP database.
 - 3) Email address and Description are option.

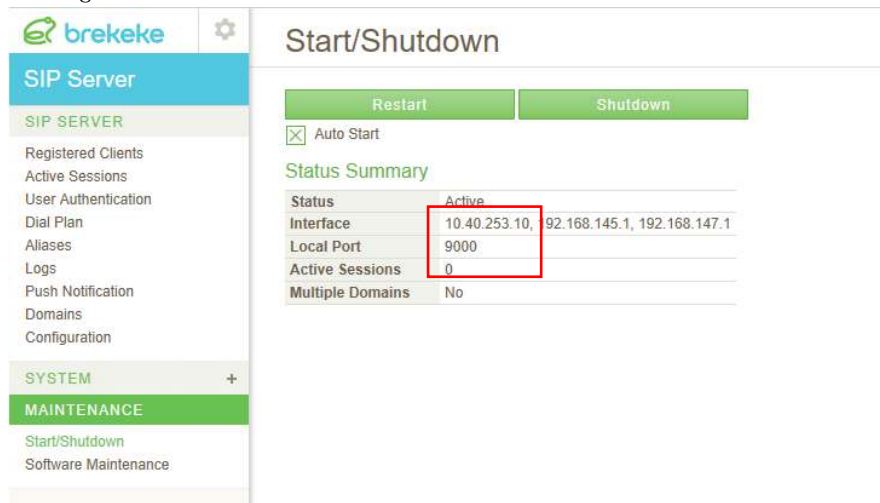


The screenshot shows the Brekeke SIP Server web interface. The left sidebar contains a menu with 'User Authentication' highlighted. The main content area is titled 'New User' and contains the following fields:

- User: 0003
- Password: [masked]
- Confirm Password: [masked]
- Name: 0003
- Email Address: [empty]
- Description: [empty]

Buttons for 'Add' and 'Cancel' are at the bottom. A 'Generate a password' button is next to the password field.

2. Click MAINTENANCE button and record SIP server IP & local port which will be used in SIP client (indoor station / door station / 3rd party SIP phone / etc) configuration.



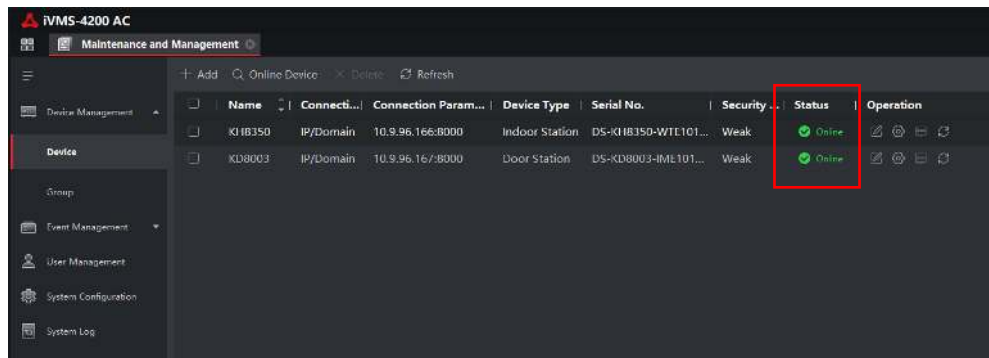
The screenshot shows the Brekeke SIP Server web interface. The left sidebar contains a menu with 'MAINTENANCE' highlighted. The main content area is titled 'Start/Shutdown' and contains the following information:

- Buttons: Restart, Shutdown
- Auto Start
- Status Summary table:

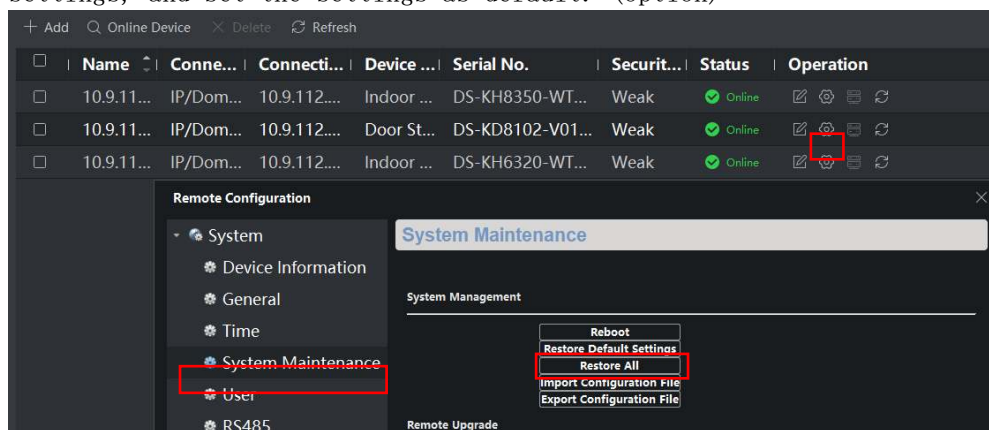
Property	Value
Status	Active
Interface	10.40.253.10, 92.168.145.1, 192.168.147.1
Local Port	9000
Active Sessions	0
Multiple Domains	No

How to configure device's SIP service through the client

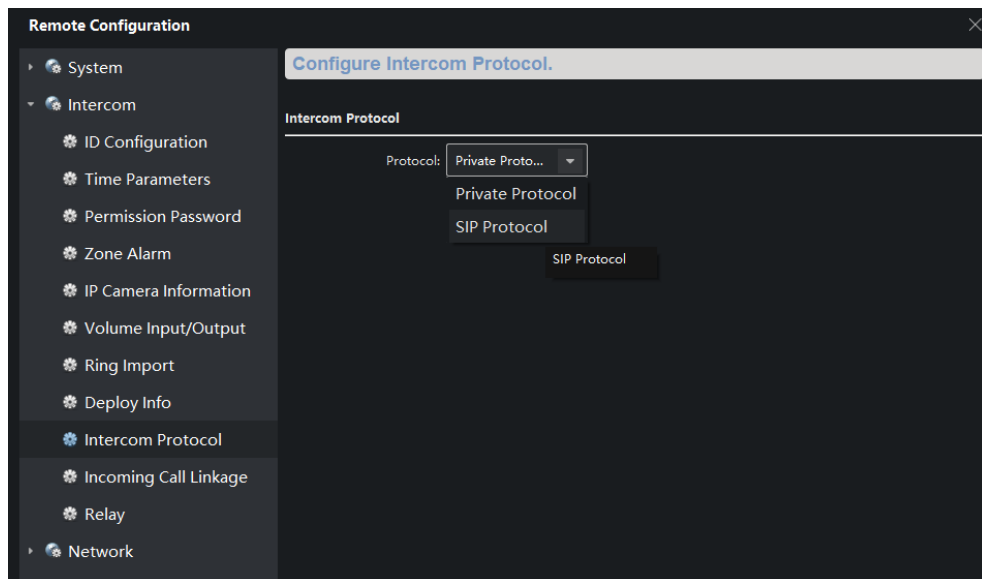
1. Add the device to the Client and status is online.



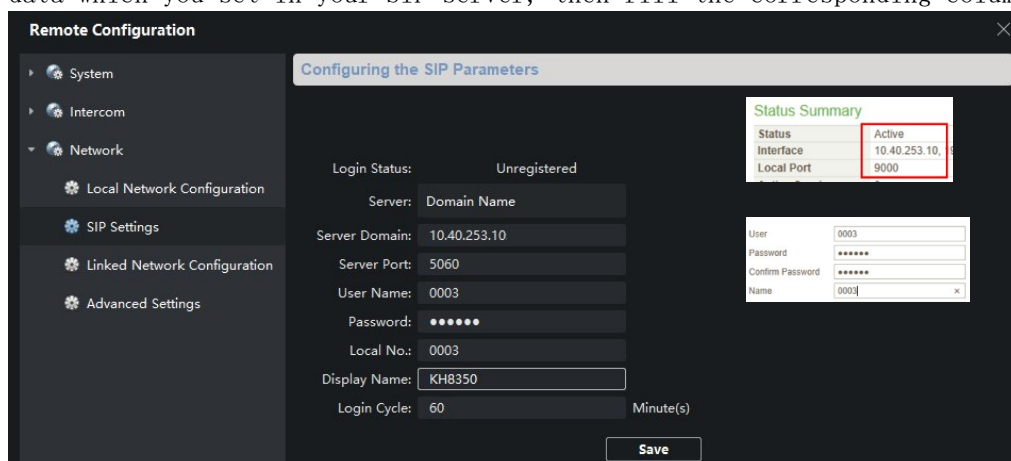
2. Click the remote configuration → System Maintenance → restore default settings, and set the settings as default. (option)



3. Click the remote configuration → Intercom → Intercom Protocol, and change the protocol to 'SIP protocol', then click reboot the device.



4. Click the remote configuration → Network → SIP settings, check the user data which you set in your SIP server, then fill the corresponding column.



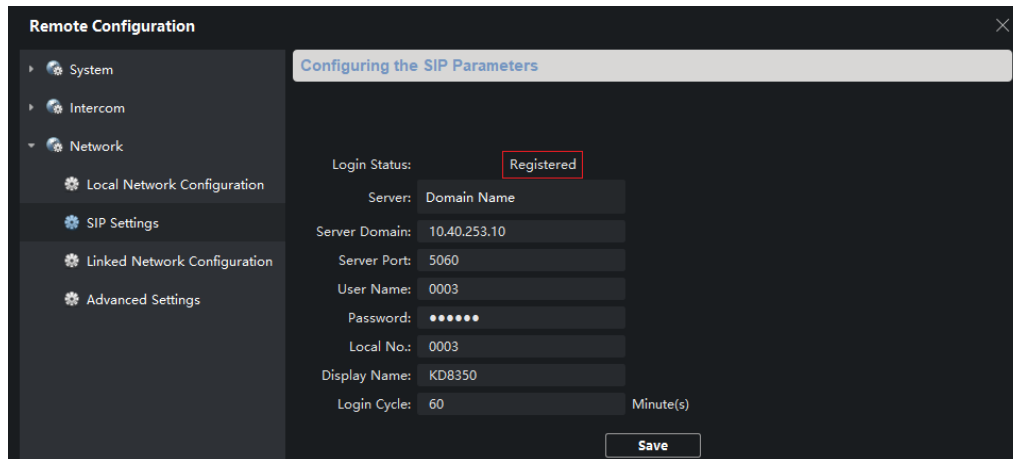
Server Domain: SIP server IP address

Server Port: SIP local port

User Name: SIP user

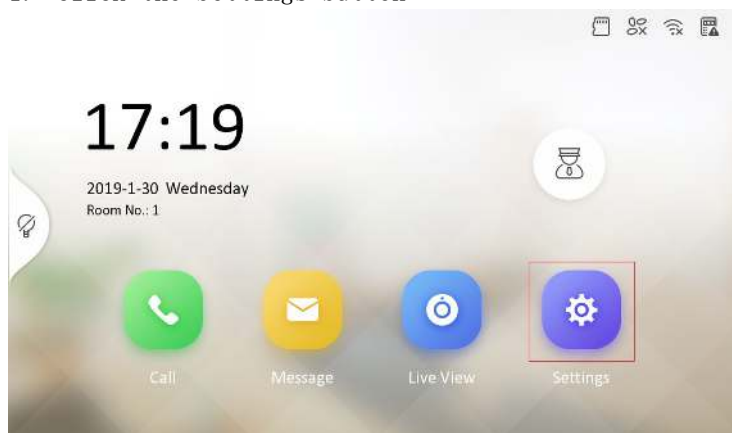
Local No.: If no No. in SIP server setting, re-use SIP user as local No.

5. Click save button to register device on SIP server. Refresh the window and check whether the device has been registered or not. If yes, login status will be updated as below.

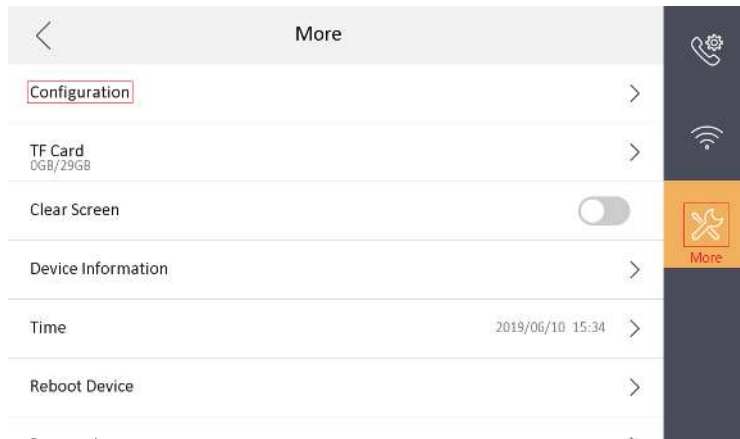


How to configure indoor station' s SIP service through local interface

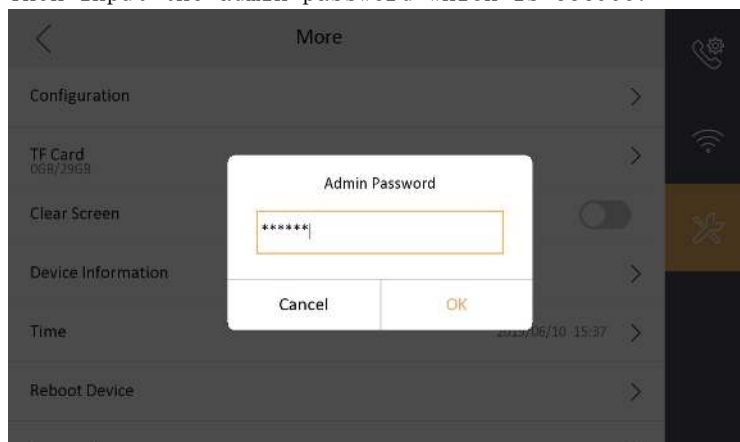
1. click the Settings button



2. Select 'More' interface then click the Configuration



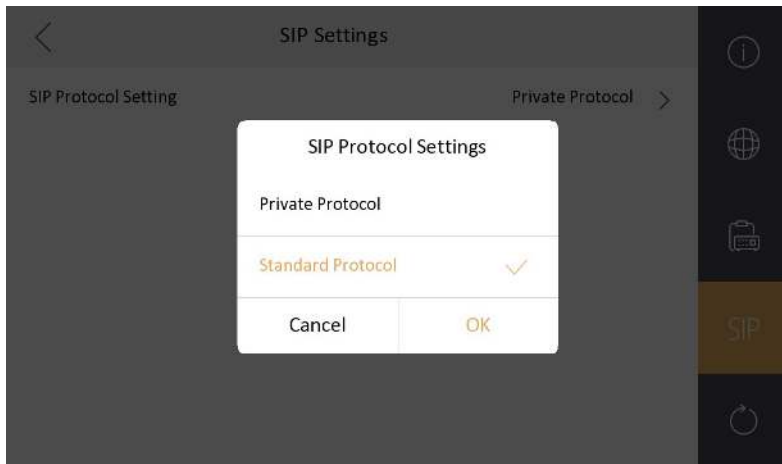
Then input the admin password which is 888999.



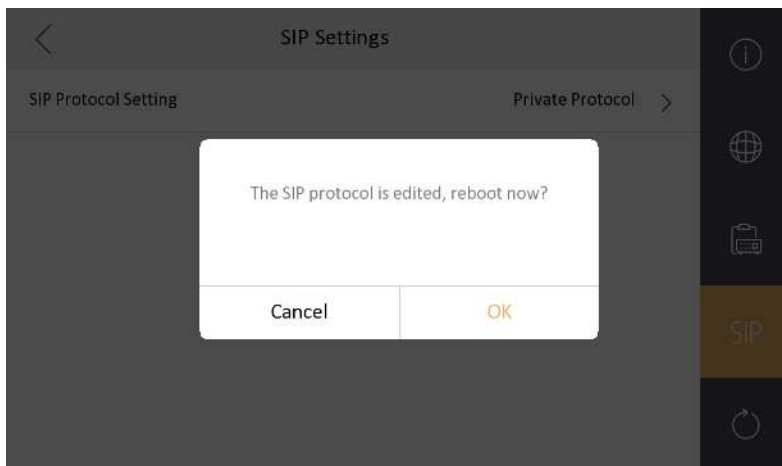
3. Select 'SIP Settings' interface and click the SIP Protocol Settings



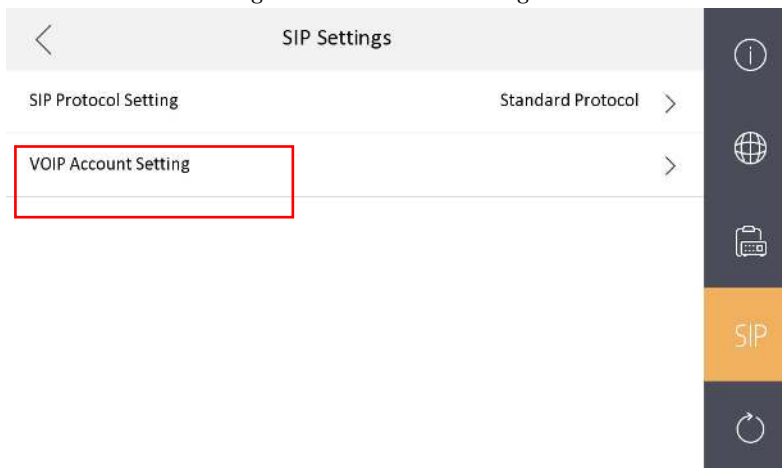
Select Standard Protocol



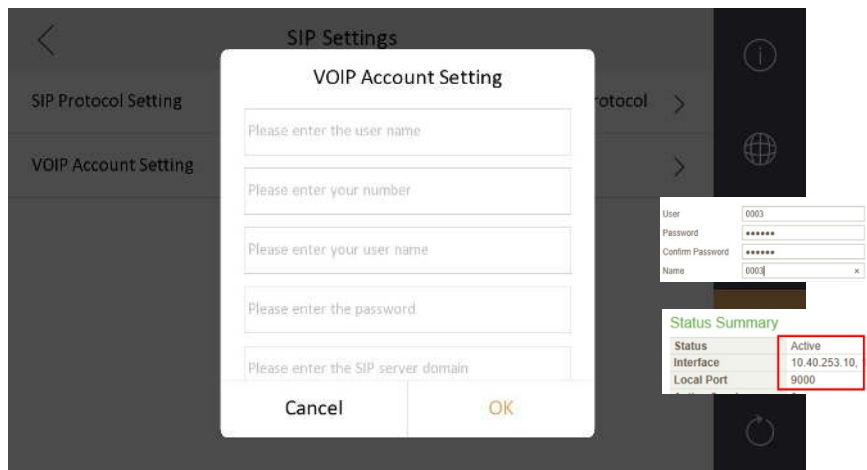
Then click OK to reboot the device.



4. The SIP Settings window will be changed like below picture. Click the VOIP Account Setting to set the SIP register information..



5. Input SIP user information, same from SIP server side.



Please enter the user name: local parameter for reference.

Please enter your number: If no No. in SIP server setting, re-use SIP user as your No.

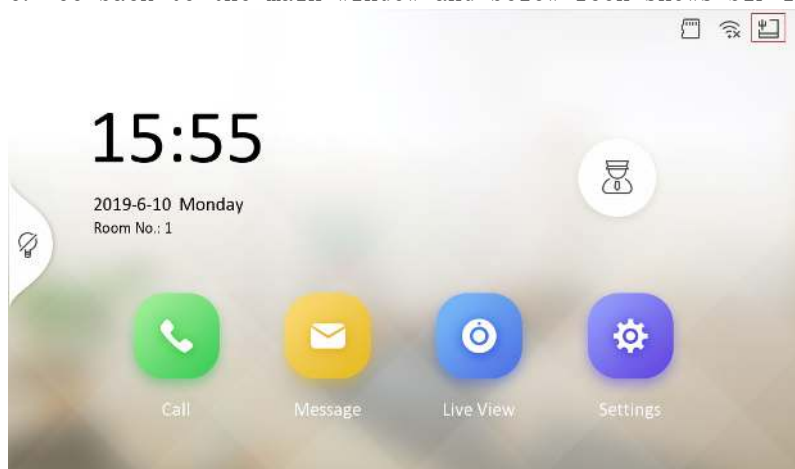
Please enter your User Name: SIP user

Please enter The SIP Server Domain: SIP server IP address

Please enter The SIP Server Port: SIP local port

Please enter the expiration date: as your system design

6. Go back to the main window and below icon shows SIP registered successes.



How to set the SIP phone and how to use the SIP phone to open the door

Note: Test example product is GXV3275 of Grand Stream. Firmware: 1.0.1.54



a. Configuring the GXV3275 Using Web Browser

The image shows the login screen for the GXV3275 Enterprise Multimedia Phone for Android. The background is a dark blue gradient with the text "GXV3275" in large white letters and "Enterprise Multimedia Phone for Android" below it. In the center, there is a light blue rectangular box containing the login form. The form has three fields: "Username" with the text "admin" entered, "Password" with six black dots, and "Language" with a dropdown menu showing "English". A green "Login" button is positioned to the right of the fields.

The default username and password for administrator are “admin” and “admin” ;

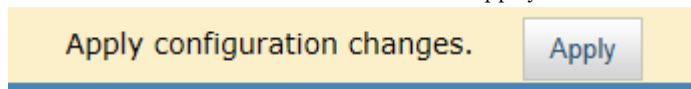
The default username and password for user are “user” and “123” .

Click the Account → Account1 (any Account 1~6 is ok) to set the SIP account. The interface is shown below and input SIP user information, same with server side.

The image shows the "Account 1" configuration screen in the GXV3275 Enterprise Phone Administration Interface. The interface has a blue header with the phone's name and "Enterprise Phone Administration Interface". Below the header are tabs for "Status", "Account", "Advanced Settings", and "Maintenance". The "Account" tab is active, and "Account 1" is selected. The main area contains various configuration fields for the SIP account. A "Status Summary" window is open on the right side, showing the current status of the account. The fields in the main area are: "Account Active" (checked "Yes"), "Account Name" (0005), "SIP Server" (10.40.253.10:9000), "SIP User ID" (0005), "SIP Authentication ID" (0005), "SIP Authentication Password" (masked with dots), "Voice Mail Access Number" (empty), "Name" (0005), "Show Account Name Only" (unchecked "Yes"), and "Tel URI" (Disable). The "Status Summary" window shows: "Status" (Active), "Interface" (10.40.253.10), and "Local Port" (9000). There are "Save" and "Cancel" buttons at the bottom.

Status Summary	
Status	Active
Interface	10.40.253.10
Local Port	9000

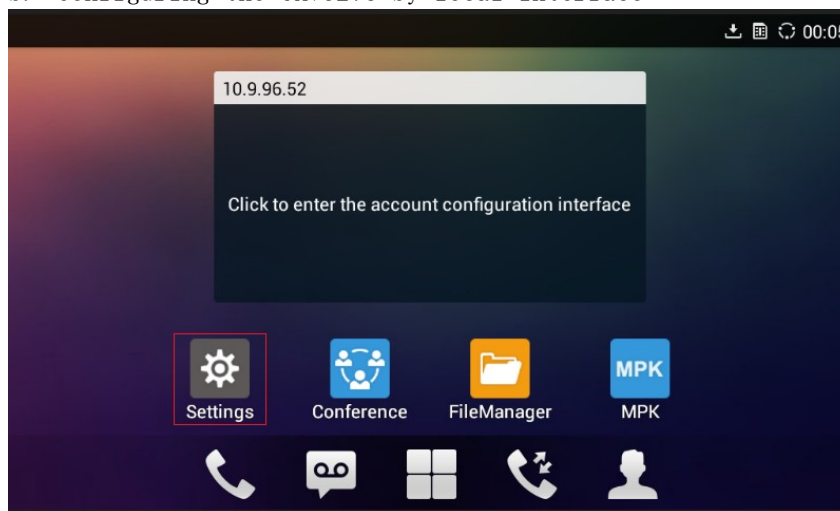
Click the Save icon and select 'Apply'



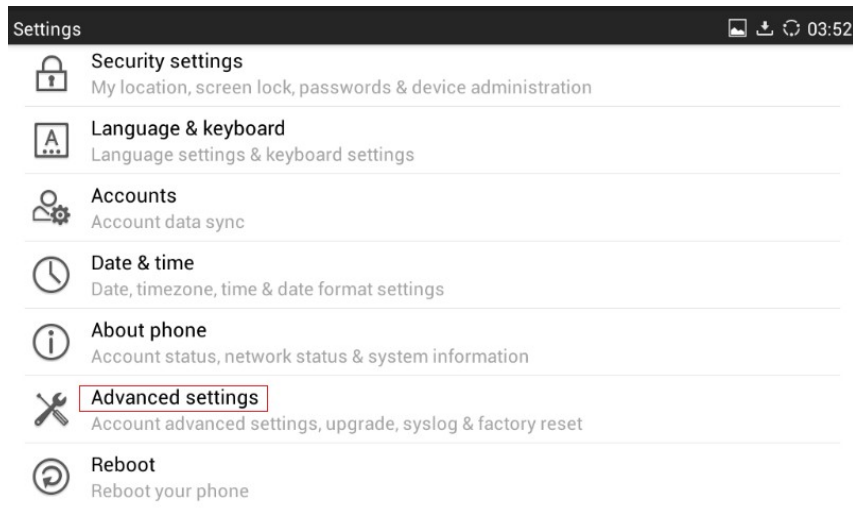
Then go back to the status interface to confirm that the device is registered to the sip server



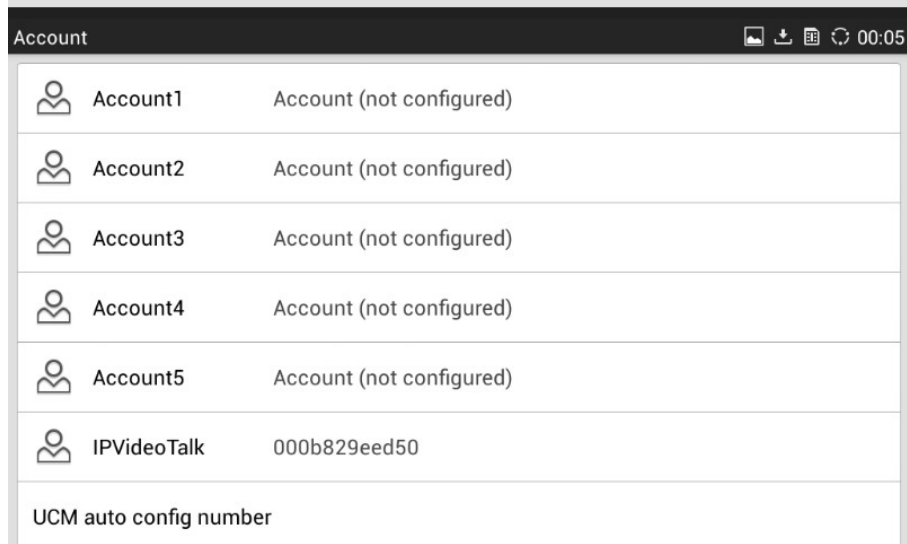
b. Configuring the GXV3275 by local interface



Click the Settings to enter settings interface



Click Account to enter the SIP account interface



We only use the Account1 (any Account 1~6 is ok), so enter the account1 interface

SIP server example and finished condition

Saving screenshot...

Cancel OK

Account activation ON

Account name: 0005

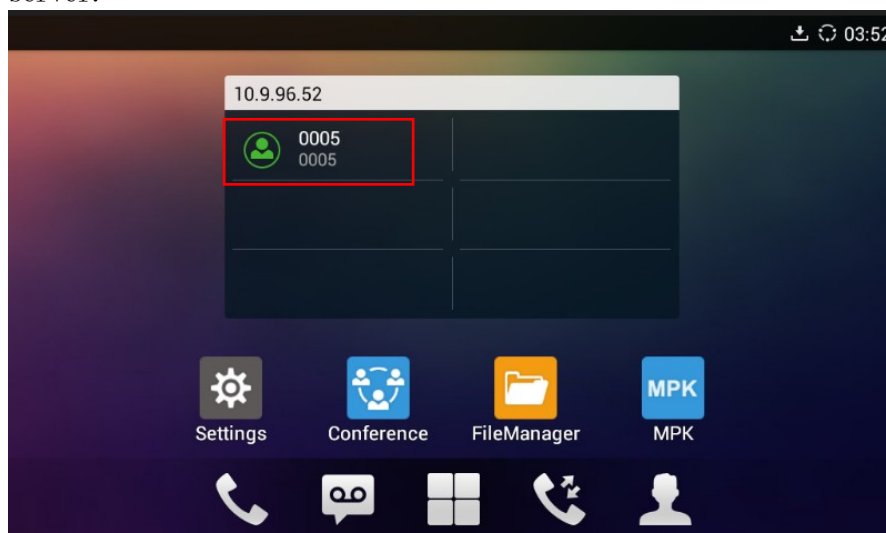
SIP server: 10.40.253.10:9000

SIP user ID: 0005

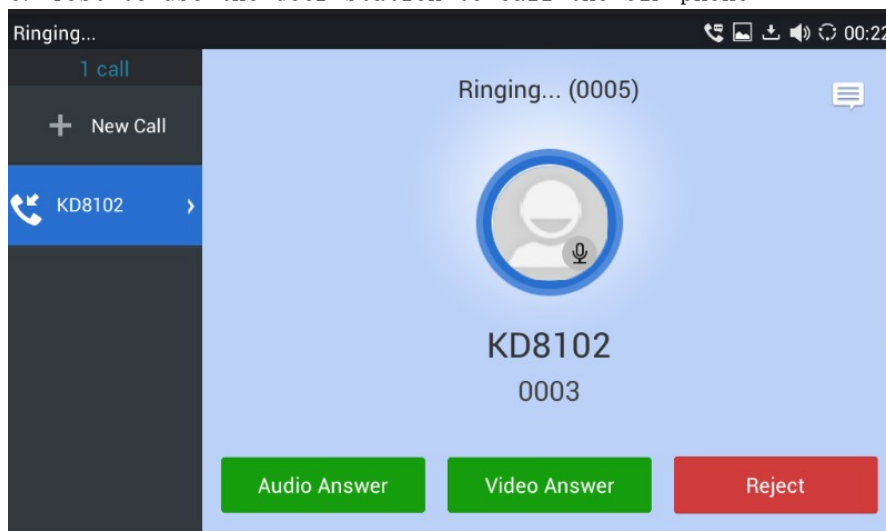
SIP authentication ID: 0005

SIP authentication password:

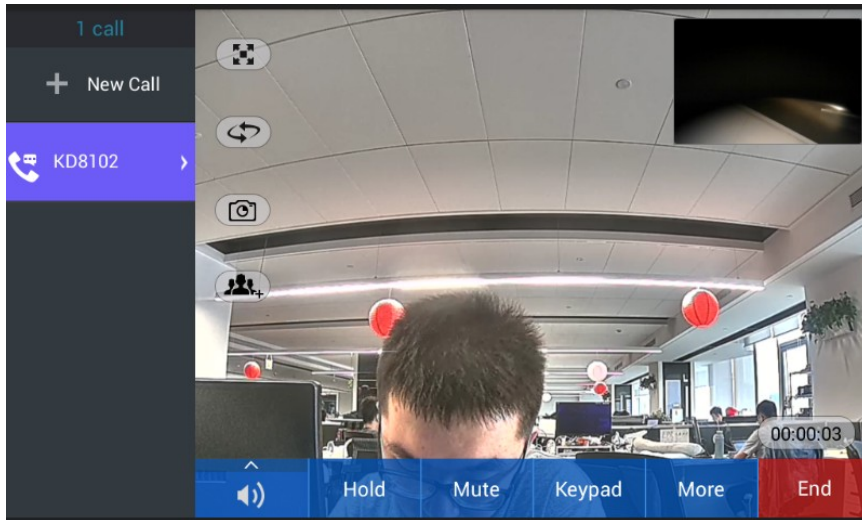
Go back to the main interface and below shows the SIP phone connected to SIP server.



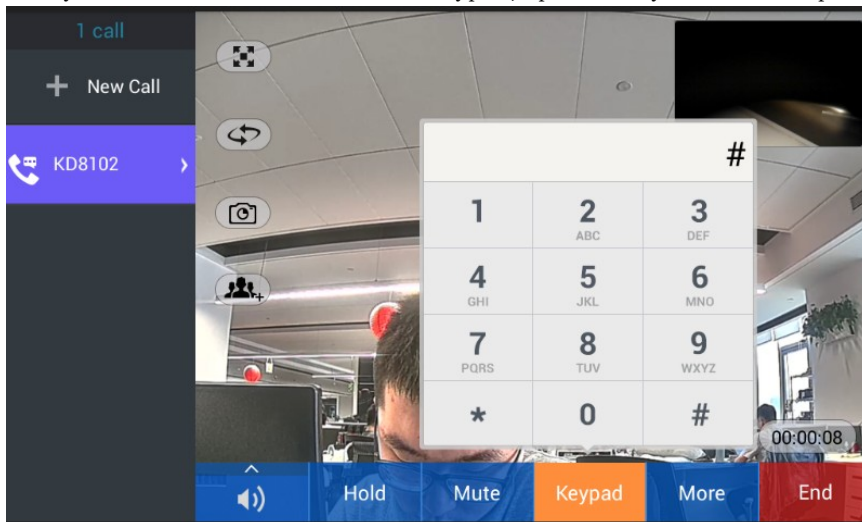
c. Test to use the door station to call the SIP phone



Click the Video Answer to answer the call



And you can choose to use the keypad, press key ‘#’ to open the door



Door is open.

List of supported SIP phone

GrandStream GXV3275

Yealink SIP-T46G

First Choice for Security Professionals

***HIKVISION* Technical Support**