

Hikvision Video Intercom SIP Function Introduction








(2023-04-07)

Product involved:

Device Model	Firmware
DS-KH6350-WTE1	V2.1.50_220720
DS-KH6350-TE1	V2.1.50_220720
DS-KH9310(B)-WTE1	V2.1.48_build220620
DS-KH9510(B)-WTE1	V2.1.48_build220620
DS-KD9633-WBE6	V2.3.7 build 220711
DS-KD9633-E6	V2.3.7 build 220711
DS-KD9403-E6	V2.3.7 build 220711
DS-KP8000-HE1	2.4.10.11.2
DS-KP8000-WHE1	2.4.10.11.2
DS-KP8200-HE1	2.4.8.2
DS-KP9301-WHE1	2.6.0.1089.7

Note : The SIP compatibility of other models will be gradually iterated to be consistent with this document, so please look forward to it.

List of supported SIP servers:

Logo-Company	SIP Server	Version	interoperability			
			registration	Support Audio	Support Video	Support Unlock
	Brekeke	V3.14.1.2	√	√	√	√
	Asterisk	18.13.0	√	√	√	√
	3CX(elastix)	18	√	√	√	√
	Kamailio	5.6.1	√	√	√	√
	Minisip	V39 (build 20220726)	√	√	√	√
	Opensips	3.3.0	√	√	√	√
	Pbxware	Pbxware6	√	√	√	√

Note:

1. If you have any questions about SIP, please complete this excel sheet and contact Hikvision's technical support.



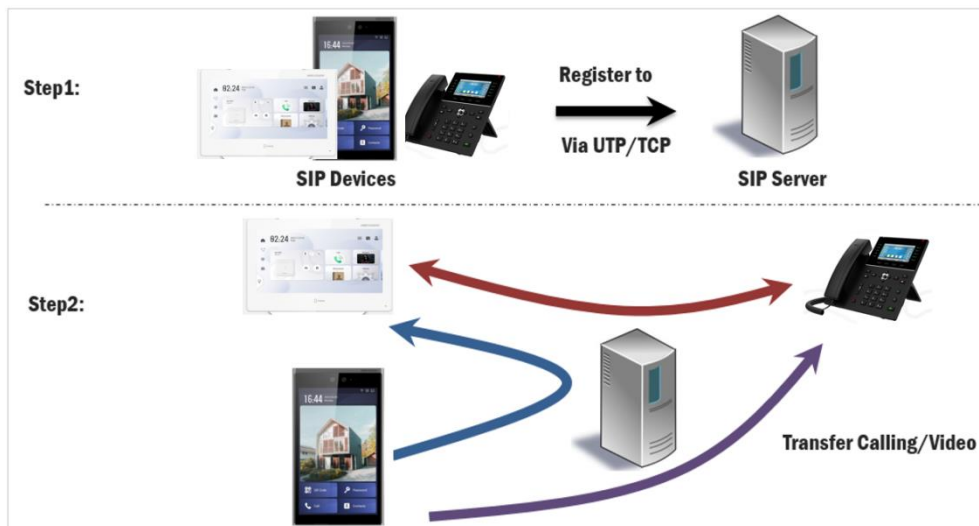
2. In the public network environment, the video transmission of the device is limited by many factors. It may cause poor picture quality, inability to display pictures, and so on when congestion, long latency and packet loss.

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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.



Please update firmware to the latest version to ensure the perfect user experience.
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 SIP server (Brekeke)

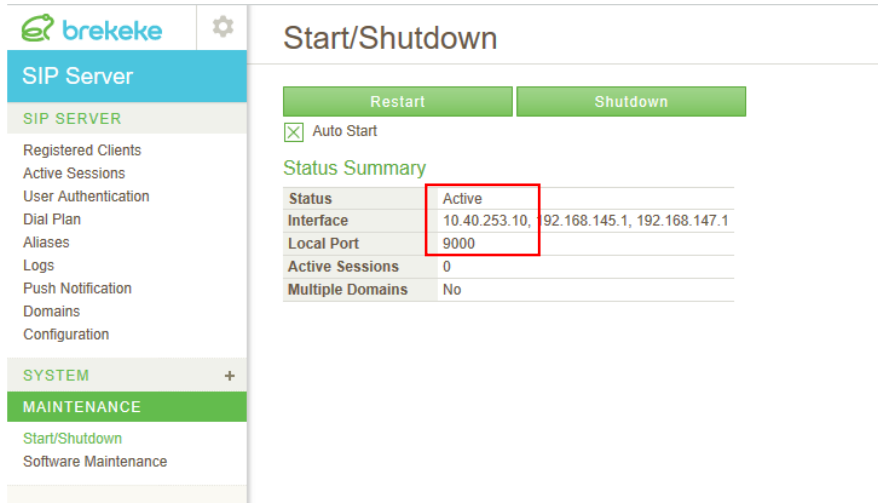
1. Login the SIP server via IE web and add the new users for indoor station / door station / 3rd party SIP phone / etc.
 - 1) User is unique in same SIP server.
 - 2) Name is local parameter for reference in SIP database.
 - 3) Email address and Description are option.

The screenshot shows the Brekeke SIP Server web interface. The left sidebar has 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]

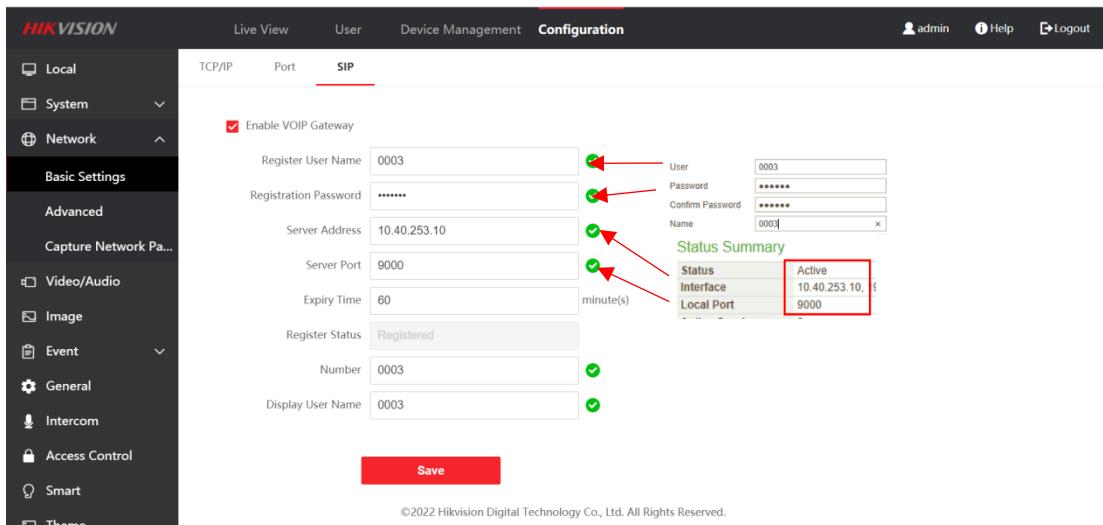
Buttons for 'Add' and 'Cancel' are located at the bottom of the form.

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.



How to configure Door Station's SIP service through the web

1. Login the door station's web
2. Setting the SIP Server
Configuration > Network > Basic Setting > SIP



Server Address: SIP server IP address

Server Port: SIP local port

User Name: SIP user

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

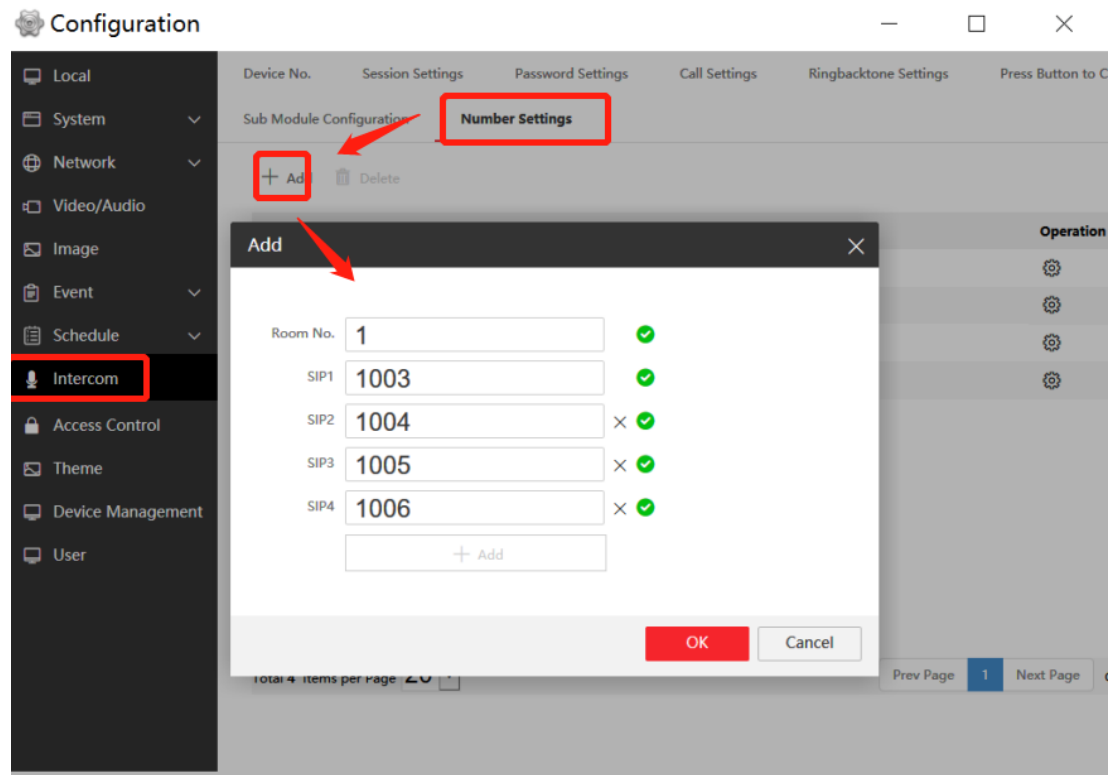
3. Click **save** button to device on SIP server. Refresh the window and check whether the device has been registered or not. If yes, login status will be showed **Registered**

Register Status Registered

4. Set Number setting

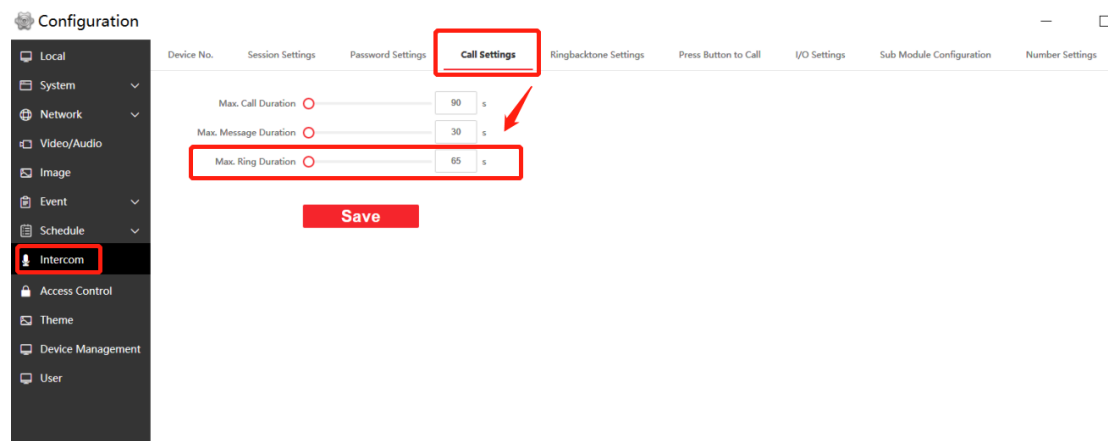
After the device has been registered to SIP server, you can set number setting to call the indoor station or SIP phone etc..

Door station's **Remote Configuration** > **Intercom** > **Number Setting** > **Add**, input the room.no and SIP number



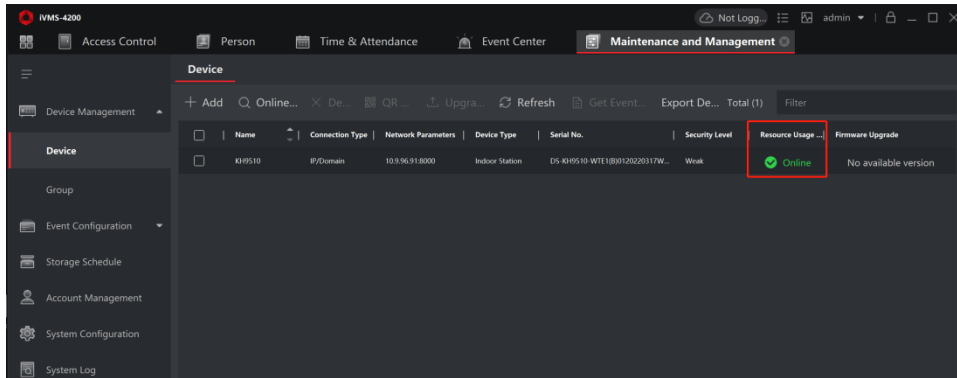
Note: The door station calls the private sip room number first, if the room number does not exist, then it will forward the SIP number.

You can fill in up to 4 forwarding numbers, and forward 4 SIP accounts in turn, with a default interval of 65s, which can be adjusted.

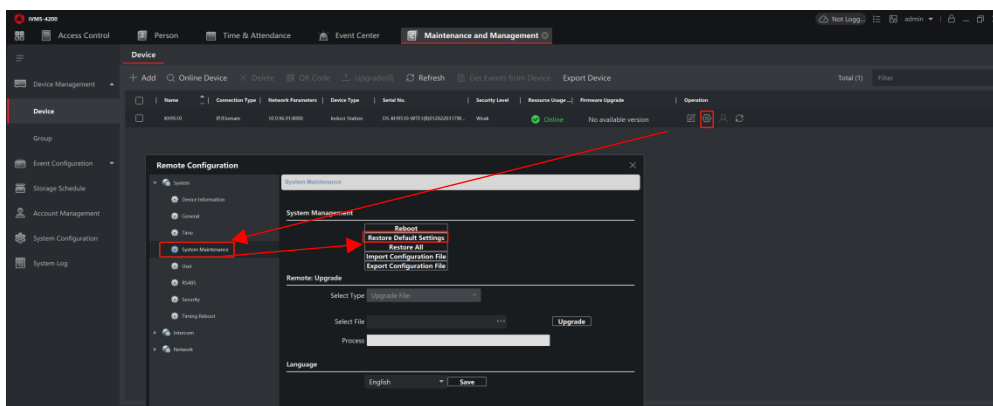


How to configure indoor station's SIP service through the client

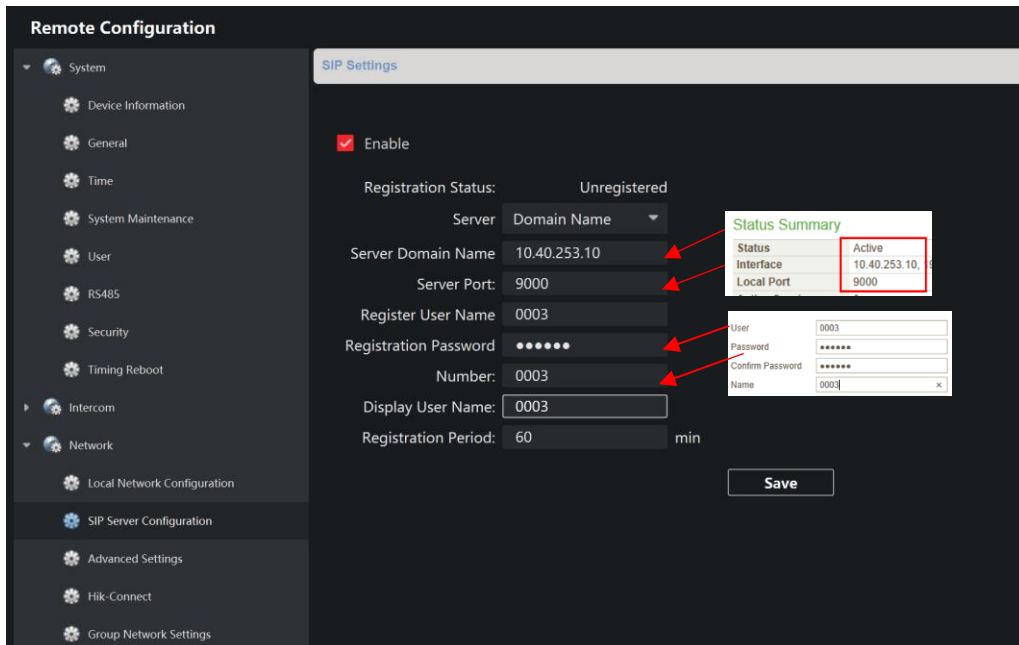
1. Add the device to the Client and status is online.



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



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



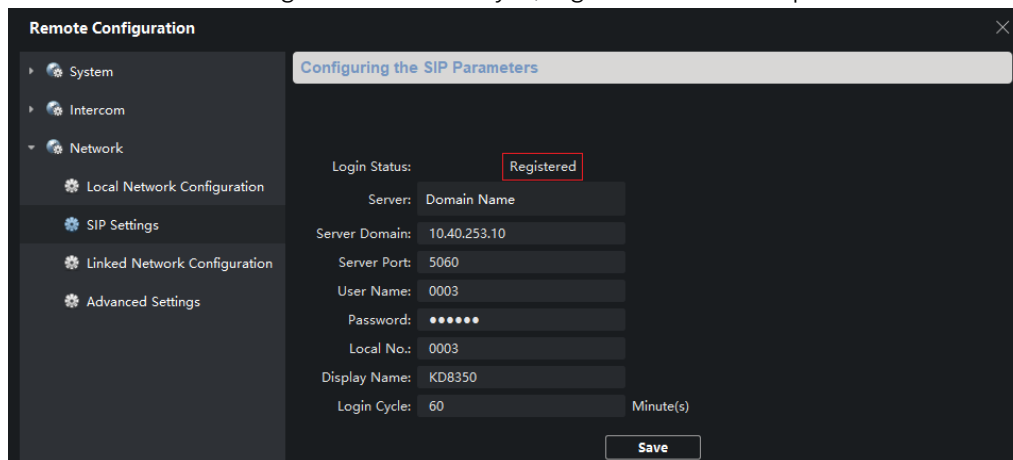
Server Domain: SIP server IP address

Server Port: SIP local port

User Name: SIP user

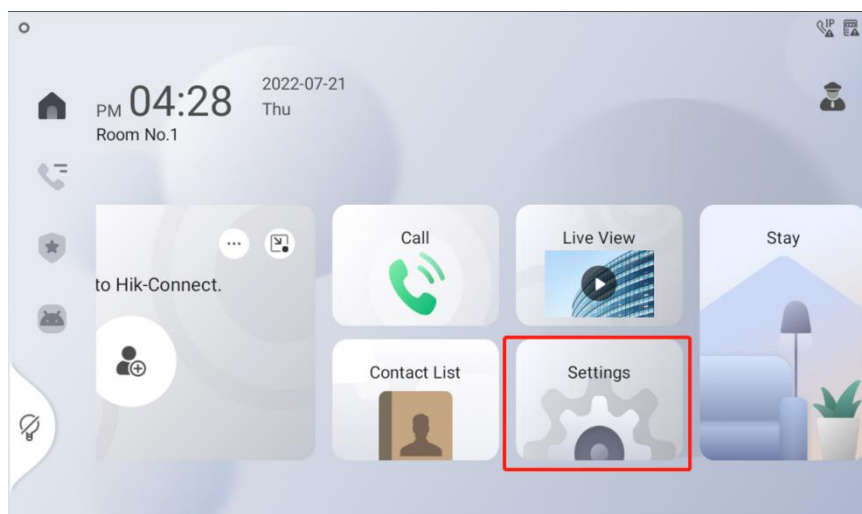
Local No.: If no No. in SIP server setting, re-use SIP user as local No.

4. 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.

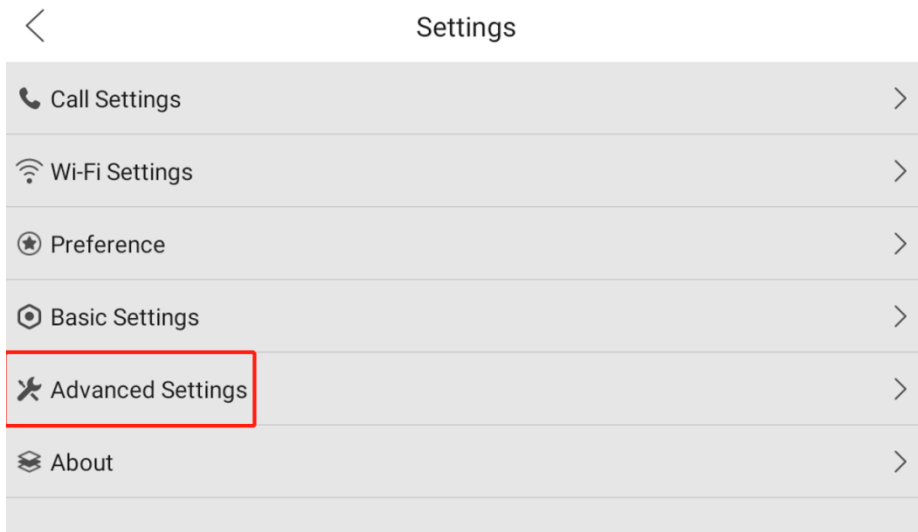


How to configure indoor station's SIP service through local interface

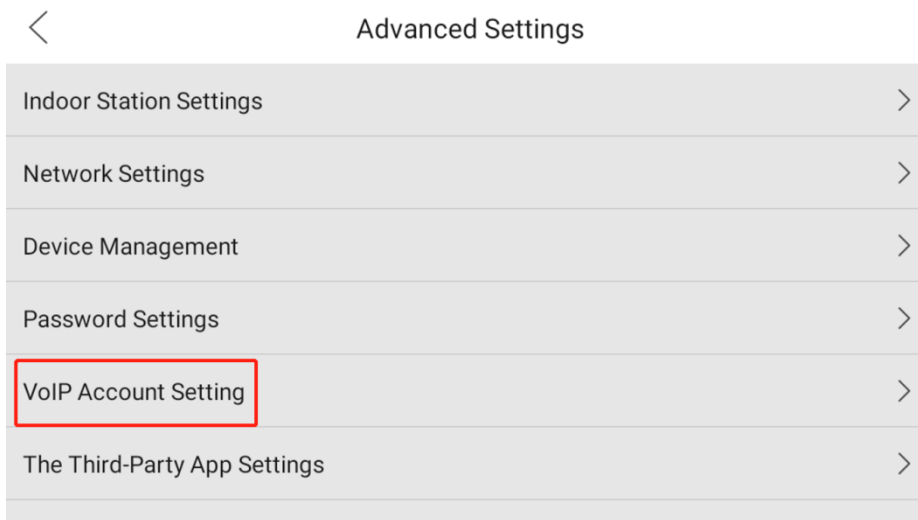
1. click the Settings button



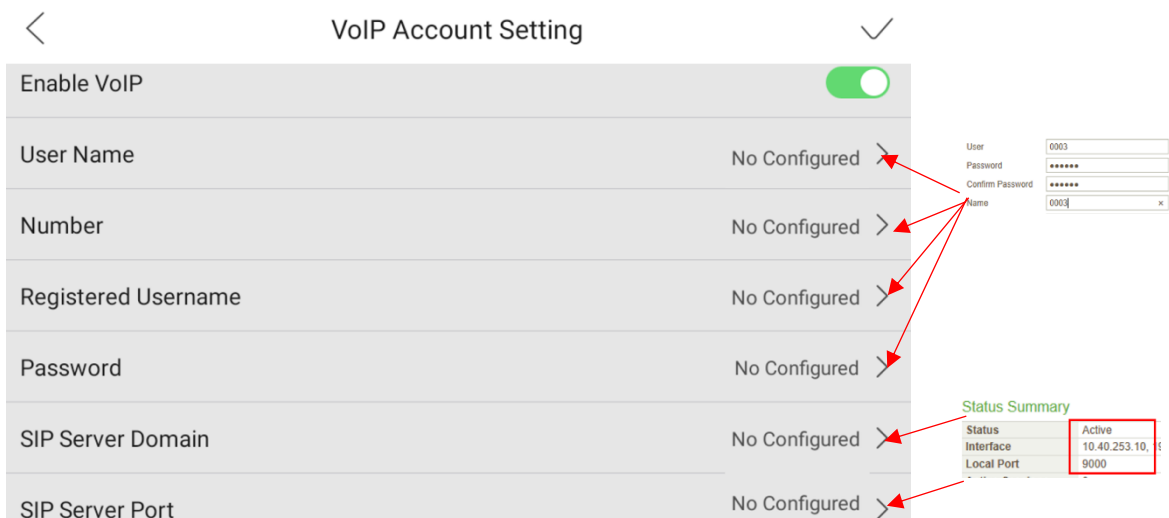
2. Select 'Advanced Settings' interface then input the admin password



3. Select 'VOIP Account Setting' interface



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

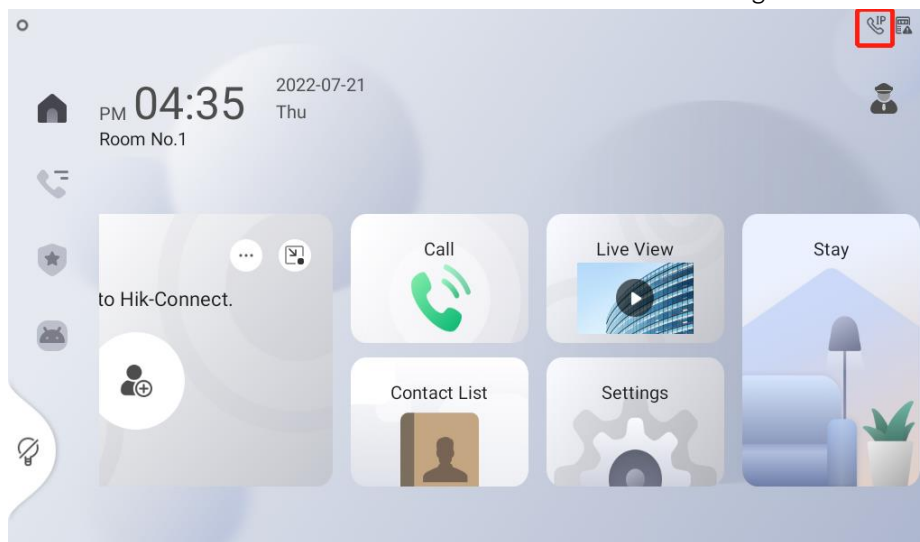


Please enter the user name: local parameter for reference.

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

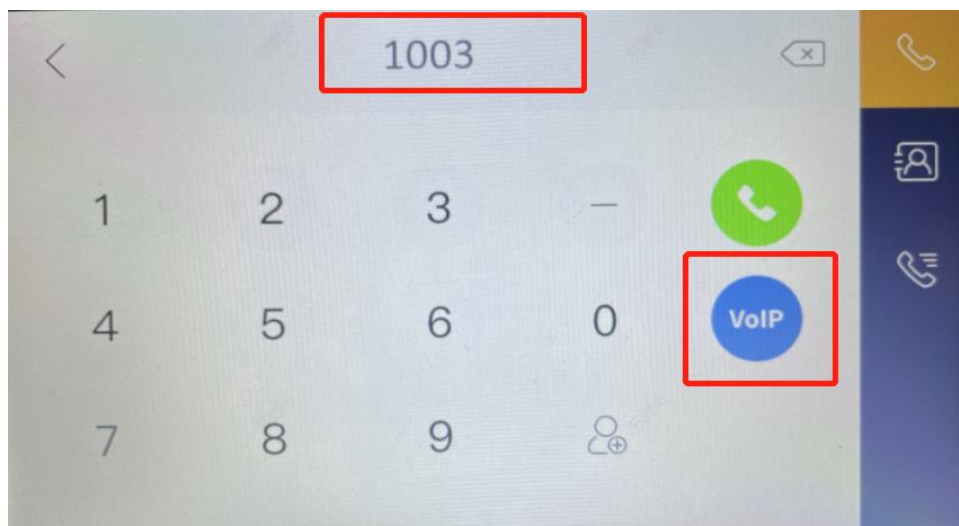
Please enter your User Name: SIP user
Please enter The SIP Server Domain: SIP server IP address
Please enter The SIP Server Port: SIP local port
Please enter the expiration date: as your system design

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



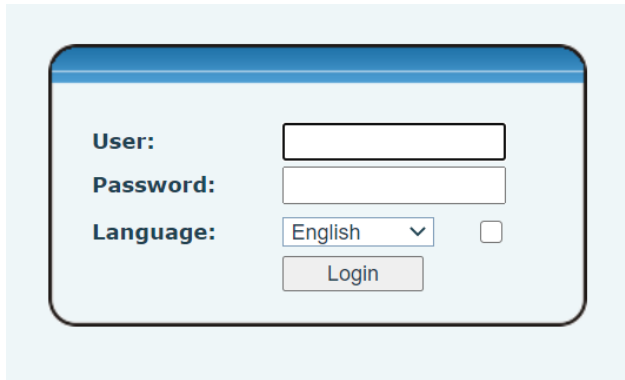
6. Make a call

When you want to call other device which has already registered to Standard SIP server, you just need to input the number then press the **VIOP** button.



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

1. Configure the KP8000 by login the Device's Web



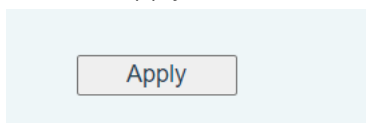
The default username and password are “admin” and “admin”;

2. Click the Line → SIP to set the SIP account.

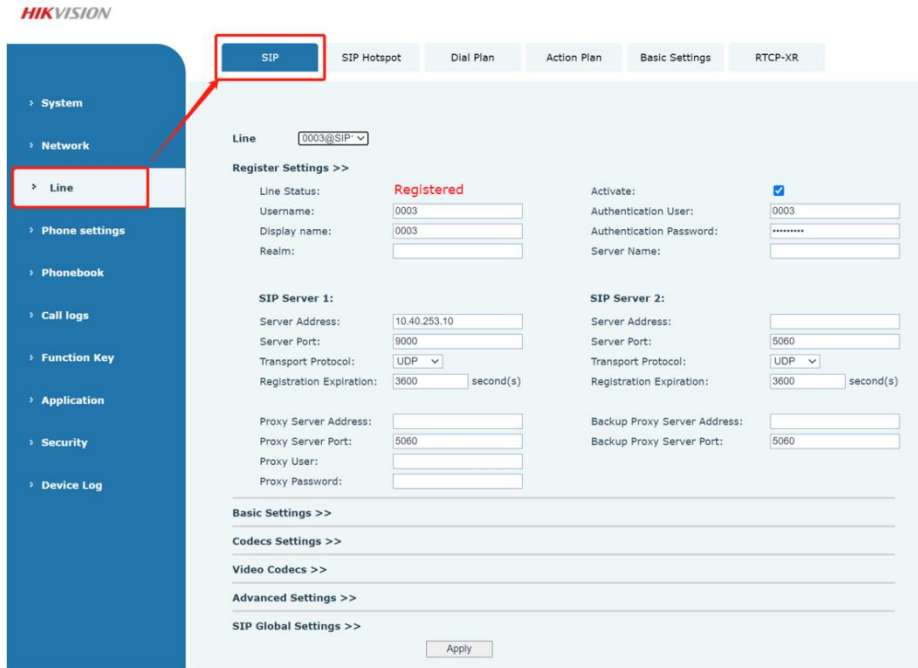
The interface is shown below and input SIP user information, same with server side.

The screenshot shows the HIKVISION SIP configuration interface. The 'SIP' tab is selected. The 'Line' dropdown is set to '0003@SIP'. The 'Register Settings' section shows 'Line Status: Trying', 'Username: 0003', 'Display name: 0003', and 'Realm:'. The 'SIP Server 1' section shows 'Server Address: 10.40.253.10', 'Server Port: 9000', and 'Transport Protocol: UDP'. The 'SIP Server 2' section shows 'Server Address:', 'Server Port: 5060', and 'Transport Protocol: UDP'. A 'Status Summary' table shows 'Status: Active', 'Interface: 10.40.253.10', and 'Local Port: 9000'. A red box highlights the 'Apply' button at the bottom.

Click the Apply icon



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

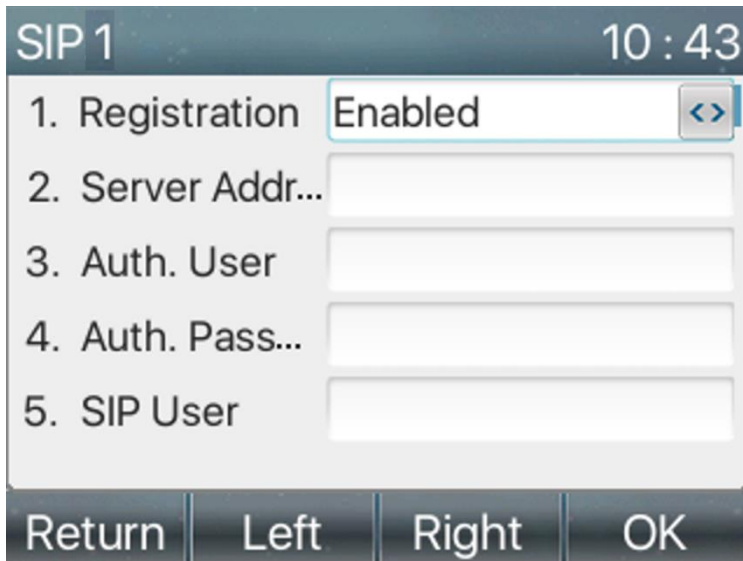


Note: We only use the SIP1 (any SIP1~6 is ok), so enter the SIP1 interface SIP server example and finished condition.

1. Configuring the KP8000 by local interface
Press the left button of the screen to enter the SIP settings interface



2. Input the SIP user information same with server side



Click OK to save the SIP setting, the corresponding light on the left side of the screen will turn green when device is registered to the sip server.



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



Click the **Answer** or pick up the handset to answer the call

4. And you can choose to use the keypad, press key '#' to open the door



Note: if the door station has two locks, and you have enabled the door 2, then you can press '1#' or '#' to unlock the door 1, press '2#' to unlock the door 2.

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