



Grandstream Networks, Inc.

GSC3570 - HD Intercom & Facility Control Station

GSC361x Series - FHD Infrared Weatherproof, IP Dome/Box Camera

Doorbell / Door Opener & Video Monitoring Guide



Table of Content

INTRODUCTION.....	4
SUPPORTED DEVICES	5
CONNECTION & WIRING DIAGRAM	6
GSC3570 AS A DIGITAL DOORBELL & DOOR OPENER.....	7
Example Use Cases	7
GSC3570 Doorbell & Door Open Configuration Settings.....	8
CONNECTING GSC361X WITH GSC3570 FOR VIDEO MONITOR.....	12
GSC361x Configuration Settings.....	12
<i>SIP Account Settings</i>	12
<i>Video Settings</i>	12
GSC3570 Configuration Settings	13
<i>SIP Account Settings</i>	13
<i>Adding GSC361x IP Camera</i>	14
Video Monitor.....	16
<i>Video Monitor by SIP Call</i>	16
<i>Video Monitor by RTSP Streaming</i>	18



Table of Figures

Figure 1: GSC3570 Digital Doorbell & Door Opener wiring example	6
Figure 2: GSC3570 as a Digital Doorbell	7
Figure 3: GSC3570 as a Door Opener	8
Figure 4: GSC3570 LCD - DO Settings	9
Figure 5: GSC3570 LCD - Zone Settings for Doorbell.....	10
Figure 6: Arming Mode.....	10
Figure 7: Doorbell notification and OpenDoor icon.....	11
Figure 8: GSC3615 - SIP Account Settings	12
Figure 9: GSC361x - Video Settings	13
Figure 10: GS3570 - SIP Account Settings.....	14
Figure 11: Adding GSC361x from GSC3570 Web GUI.....	15
Figure 12: Adding GSC361x from GSC3570 LCD Configuration	16
Figure 13: GSC3570 LCD Menu - Monitor Tab.....	17
Figure 14: GSC3570 LCD – Video calling GSC361x by SIP	17
Figure 15: GSC3570 LCD screen - SIP video call to GSC361x	18
Figure 16: GSC3570 LCD screen - Video stream from GSC361x by RTSP	18

Table of Tables

Table 1: Supported devices.....	5
---------------------------------	---



INTRODUCTION

In this guide we will cover the integration of GSC361x Full HD IP camera with the GSC3570 intercom and facility control station in a doorbell and OpenDoor scenario.

The GSC3570 intercom and facility control station can be used as a digital doorbell and door opener when the door strike is wired directly to the GSC3570.

This scenario can be used alongside GSC361x IP cameras for video monitoring of doors when performing the remote OpenDoor function from GSC3570.



SUPPORTED DEVICES

The following table below shows the supported devices:

Table 1: Supported devices

Model	Minimum firmware
GSC3610 / GSC3615	1.0.3.5 or higher
GSC3570	1.0.5.9 or higher



CONNECTION & WIRING DIAGRAM

Below diagram is representing the wiring needed for GSC3570 to be used as a digital doorbell and / or a door opener.

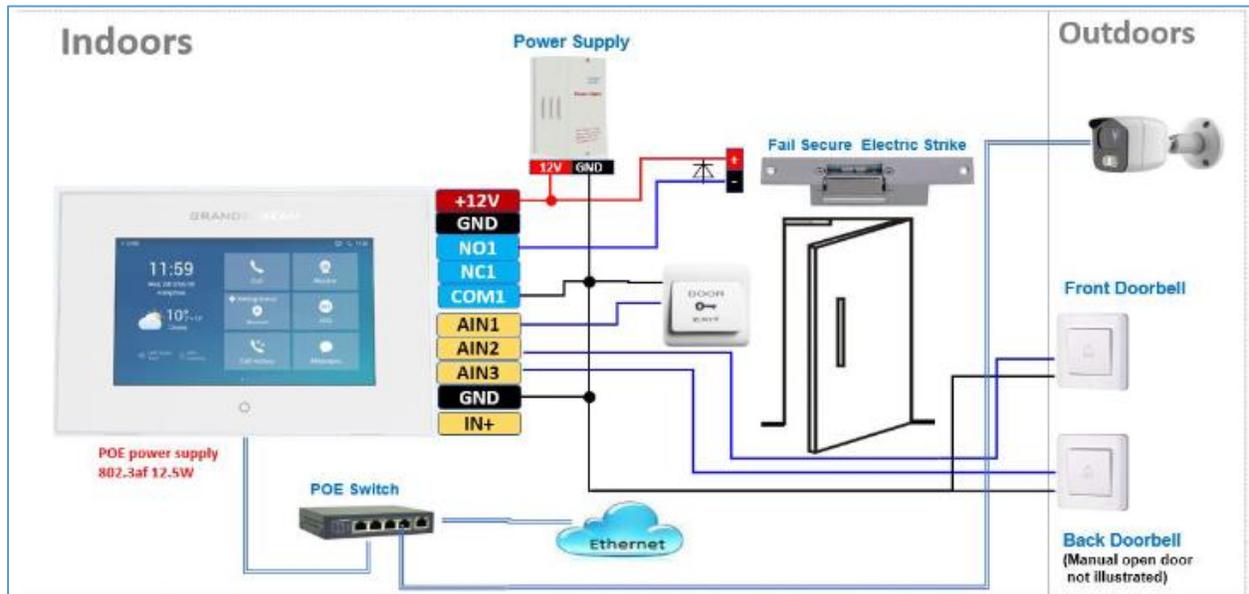


Figure 1: GSC3570 Digital Doorbell & Door Opener wiring example

Notes:

- A switch (doorbell button) needs to be wired to AIN1 (Blue), AIN2 (Brown) or AIN3 (Grey) and Ground (Black).
- The label is printed in the back of GSC3570 and a cable with color code is provided with the package. Maximum 3 switch/button can be connected (example: Front Door, Back Door, Garage Door) but ONLY 1 electrical lock or strike can be controlled because GSC3570 only has 1 relay control port (COM1, NO1/NC1).



GSC3570 AS A DIGITAL DOORBELL & DOOR OPENER

The GSC3570 can behave like a doorbell and door opener if the door strike is wired directly to the relay control port of GSC3570. Refer to the previous section CONNECTION & WIRING DIAGRAM for further details about the connection and wiring needed.

This is a perfect digital upgrade solution for users with broken traditional analog doorbell system. The existing wiring and switch can be connected to GSC3570 so visitors pressing the door switch the GSC3570 will play DING-DONG doorbell tone. If connecting the electrical strike directly to the GSC3570 relay control port, then user can press the Open-door softkey icon on the GSC3570 to open door directly.

Example Use Cases

The figures below illustrate use case examples for Digital Doorbell and Open Door using GSC3570.

GSC3570 as Digital Doorbell

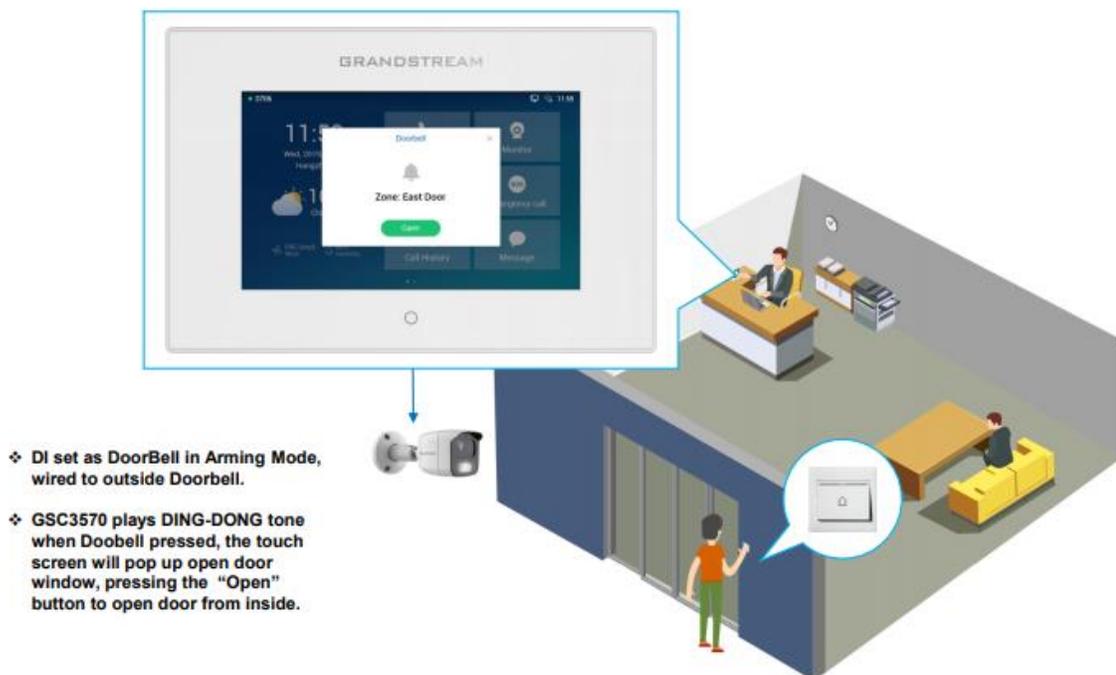


Figure 2: GSC3570 as a Digital Doorbell

GSC3570 as Door Opener



Figure 3: GSC3570 as a Door Opener

GSC3570 Doorbell & Door Open Configuration Settings

The configuration can be done from the GSC3570 LCD touch screen by following the 3 steps as described below:

I. “DO mode” set to “Alarm out” OR “Open door”:

1. Press “Settings” on the touch panel and go to “DO settings”
2. Choose “DO mode”, select “Alarm out” if no door strike connected and only want to use the Ding-Dong doorbell tone. No virtual OpenDoor button will be displayed in Alarm Message.
3. Choose “Open door” if COM1, NO1/NC1 are connected to strike to control door opening. Green virtual OpenDoor button when be displayed in Alarm Message when the doorbell switch is pressed.
4. Press ✓ sign to save the changes.

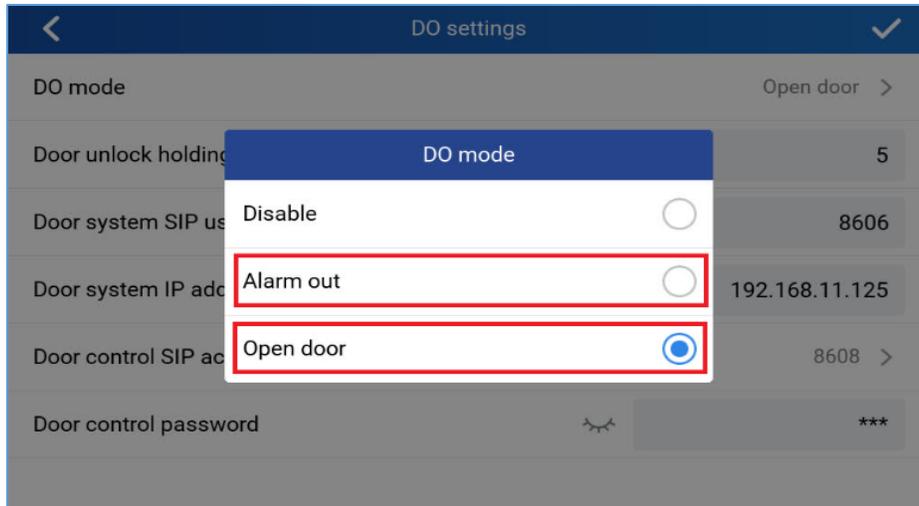


Figure 4: GSC3570 LCD - DO Settings

II. Edit Zone settings for Doorbell:

1. Press "Settings" on the touch panel.
2. Press "Zone settings", by default there are 4 zones. Only Zone 2, Zone 3 and Zone 4 can be used for Doorbell switch (Zone 1 requires power input).
3. Press related Zone (2 to 4) to edit. In the screenshot below, Zone 2 name is changed to Front as "Front Door" and "Zone type" is changed to "Doorbell".
4. Press ✓ sign to save the changes.

Zone settings			
Zone name	Zone type	NO/NC	Alarm type
Zone 1	Infrared	NO	Delay alarm 30s / 0s
Front	Doorbell	NO	----
Zone3	Doorbell	NO	----
Zone 4	Doorbell	NO	----



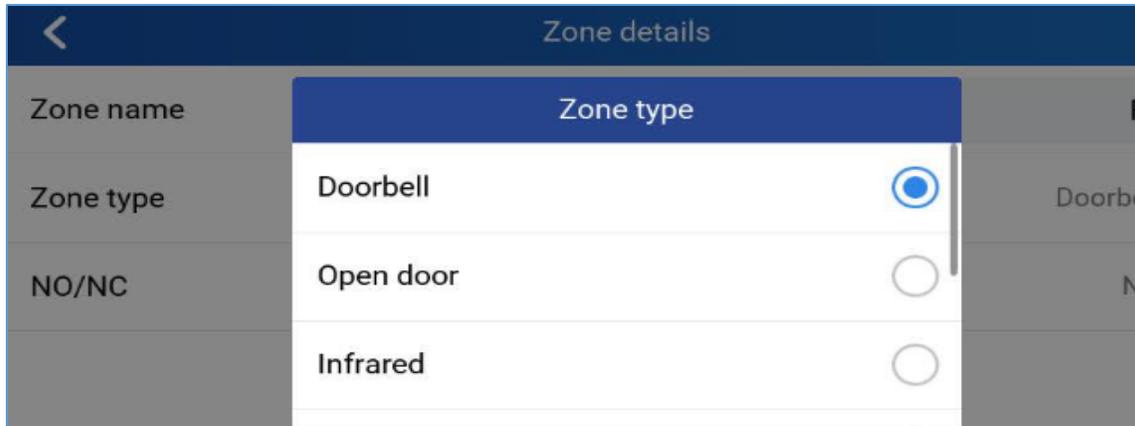


Figure 5: GSC3570 LCD - Zone Settings for Doorbell

III. Enable the Arming mode to enable the doorbell:

1. Press “Arming mode” to enable the change in above Step I.
2. Select the Arming mode used. For example, “Outdoor” is selected because the doorbell is located at outside. Swipe the grey button to enable the feature, the button will turn to blue when enabled.
3. Press “<” icon to exit the configuration to idle screen.
4. The “Arming status” icon will change color (green). To show the device is “Armed”, or the feature is enabled.



Figure 6: Arming Mode

Once configured, and upon pressing the doorbell or switch (AIN1 and GND short-circuit), “DING DONG” doorbell tone will be played at GSC3570, a green open door virtual button will be displayed on the screen (if configured and wired the strike). Press the green “Open door” virtual button, the relay will take reaction to open the door.



The GSC3570 top right corner will also display a door opened icon and an “alarm” icon and “Message” will be displayed with front and back red LED flashing, reminding there is an open door (alarming) event happened. Press the “Messages” icon to check what the message is then exit the UI, the alarm message and the flashing LEDs will disappear.

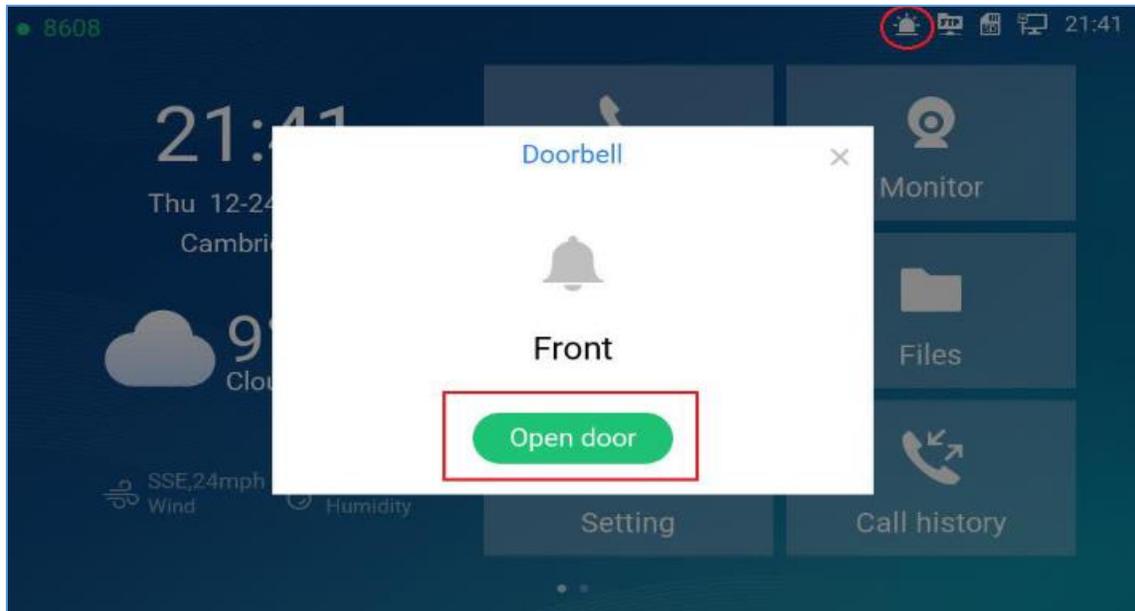


Figure 7: Doorbell notification and OpenDoor icon

CONNECTING GSC361X WITH GSC3570 FOR VIDEO MONITOR

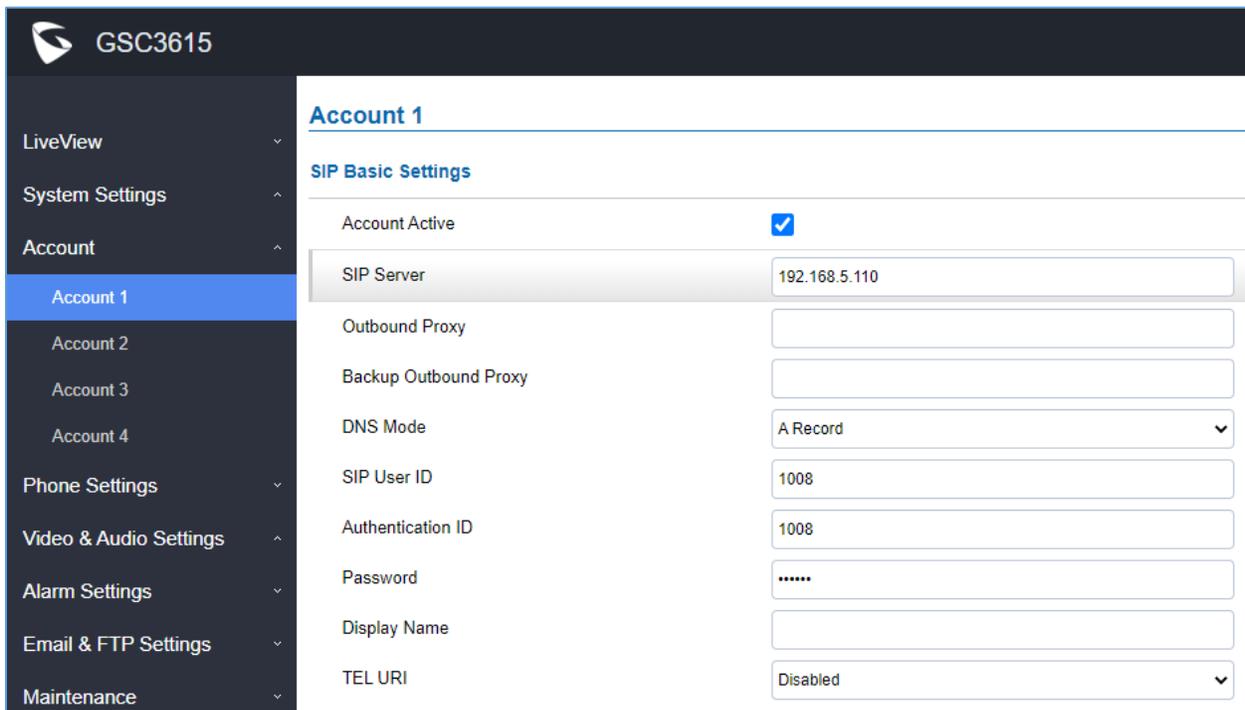
In this configuration example we will be using two GSC361x IP cameras and one GSC3570 Control Station.

- The GSC3615 and GSC3570 are both configured with a SIP account under the same SIP server.
 - GSC3615 will be configured with SIP account “1008”
 - GSC3570 will be configured with SIP account “1007”
 - The SIP server IP in our example is: 192.168.5.110
- The GSC3610 with IP 192.168.5.169 without a registered SIP account and will be used as a second camera for RTSP video streaming.

GSC361x Configuration Settings

SIP Account Settings

We first start with configuring the SIP account from the GSC3615 Web GUI, For this matter, navigate to “Account” → “Account X” , and set your SIP settings accordingly.



The screenshot shows the GSC3615 Web GUI interface. On the left is a navigation menu with options: LiveView, System Settings, Account, Account 1 (selected), Account 2, Account 3, Account 4, Phone Settings, Video & Audio Settings, Alarm Settings, Email & FTP Settings, and Maintenance. The main content area is titled 'Account 1' and 'SIP Basic Settings'. It contains the following configuration fields:

Account Active	<input checked="" type="checkbox"/>
SIP Server	192.168.5.110
Outbound Proxy	<input type="text"/>
Backup Outbound Proxy	<input type="text"/>
DNS Mode	A Record
SIP User ID	1008
Authentication ID	1008
Password
Display Name	<input type="text"/>
TEL URI	Disabled

Figure 8: GSC3615 - SIP Account Settings

Video Settings

From both GSC361x IP cameras used, we need to set the video stream parameters according to the maximum supported in the GSC3570 control station, namely (*Video resolution up to 720p, Frame rate up*



to 30 fps, Bit rate up to 2Mbps).

To change these settings from the GSC361x Web GUI by navigating to “**Video & Audio Settings**” → “**Video Settings**”, Below screenshot is an example for **Stream 1** video settings.

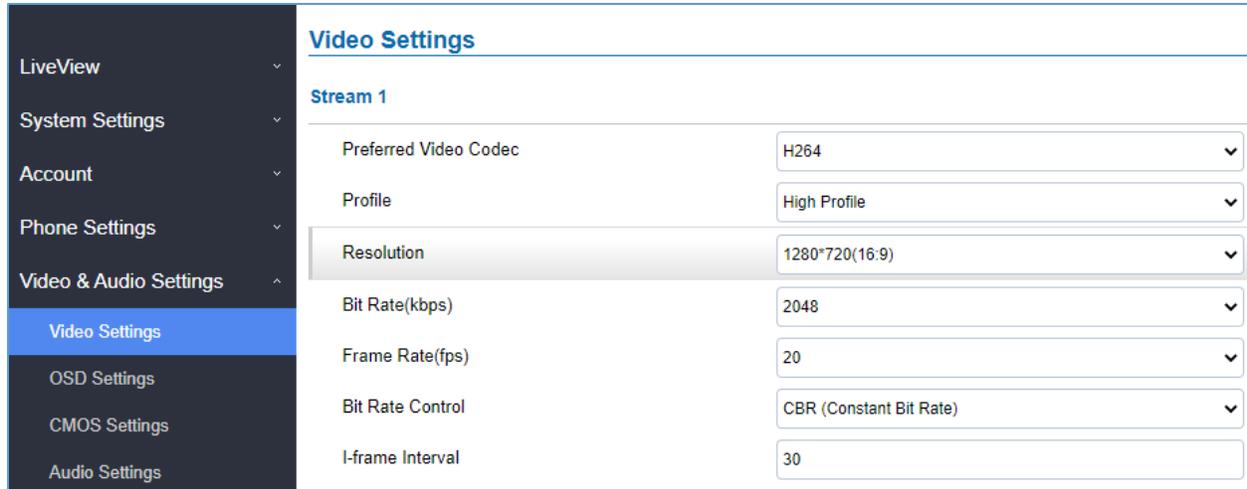


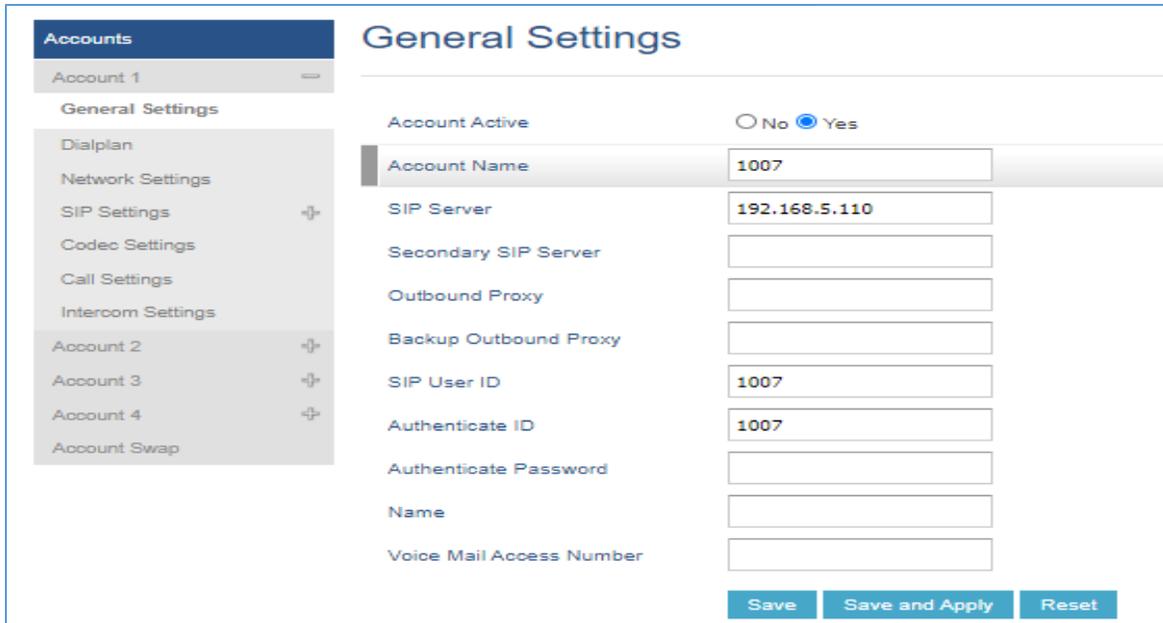
Figure 9: GSC361x - Video Settings

Note: For some network environment, the resolution “720P” might be too high that causes no video or quality issue during video calls with the receiving end (GSC3570 in our scenario). In this case, please change to a lower resolution, and set “Video Bit Rate” to “512kbps”.

GSC3570 Configuration Settings

SIP Account Settings

From the GSC3570 Web GUI we navigate to “**Accounts**” → “**Account X**” → “**General Settings**” in order to configure the SIP account that will be used for video calls towards the GSC361x IP camera, The below screenshot is an example from our configuration.



General Settings	
Account Active	<input type="radio"/> No <input checked="" type="radio"/> Yes
Account Name	<input type="text" value="1007"/>
SIP Server	<input type="text" value="192.168.5.110"/>
Secondary SIP Server	<input type="text"/>
Outbound Proxy	<input type="text"/>
Backup Outbound Proxy	<input type="text"/>
SIP User ID	<input type="text" value="1007"/>
Authenticate ID	<input type="text" value="1007"/>
Authenticate Password	<input type="text"/>
Name	<input type="text"/>
Voice Mail Access Number	<input type="text"/>

Figure 10: GS3570 - SIP Account Settings

Adding GSC361x IP Camera

The GSC3570 can be configured with up to 32 IP camera including GSC361x models.

The configuration can be done from GSC3570 as follow:

- **Web GUI configuration:**
 1. Access **Settings**→ **IPC**.
 2. Enter a name for the IP Camera in **System Identification**. (not a mandatory field)
 3. Select **SIP** or **RTSP** in **Connection Type**.
 4. In **System Number** enter the GSC361x SIP extension or (IP address in case of peering scenario).
 5. Select the Account that will be making outgoing calls towards the GSC361x under **Account**.
 6. Click on **Save and Apply**.



Order	System Identification	Connection Type	System Number	Account	RTSP URL	RTSP Username	RTSP Password
1	GSC3615_test	sip	1008	Account 1			
2	GSC3610_test	rtsp	192.168.5.169	Account 1	192.168.5.169	admin	
3		sip		Account 1			
4		sip		Account 1			
5		sip		Account 1			
6		sip		Account 1			
7		sip		Account 1			
8		sip		Account 1			
9		sip		Account 1			
10		sip		Account 1			
11		sip		Account 1			

Figure 11: Adding GSC361x from GSC3570 Web GUI

Notes:

- In case you choose “**RTSP**” in “**Connection Type**” make sure to fill in the “**RTSP URL**” which is the IP address of the GSC361x IP camera.
- The default port number for RTSP is 554, and the **RTSP password** should be the same as the one set from the GSC361x Web GUI, under “**System Settings**” → “**Access Settings**”

• **LCD configuration:**

1. Tap the menu button if GSC3570 is in idle state.
2. On the first screen menu, tap **Monitor** → **IP Camera**.
3. Press the **Add** or **+** button to add a new IP Camera.
4. Enter the GSC361x IP Camera Name in **Device Name** field.
5. Select which Account to make outgoing call towards the GSC361x IP Camera and enter its SIP extension (or IP address in case of peering scenario) in **Device Number** field.



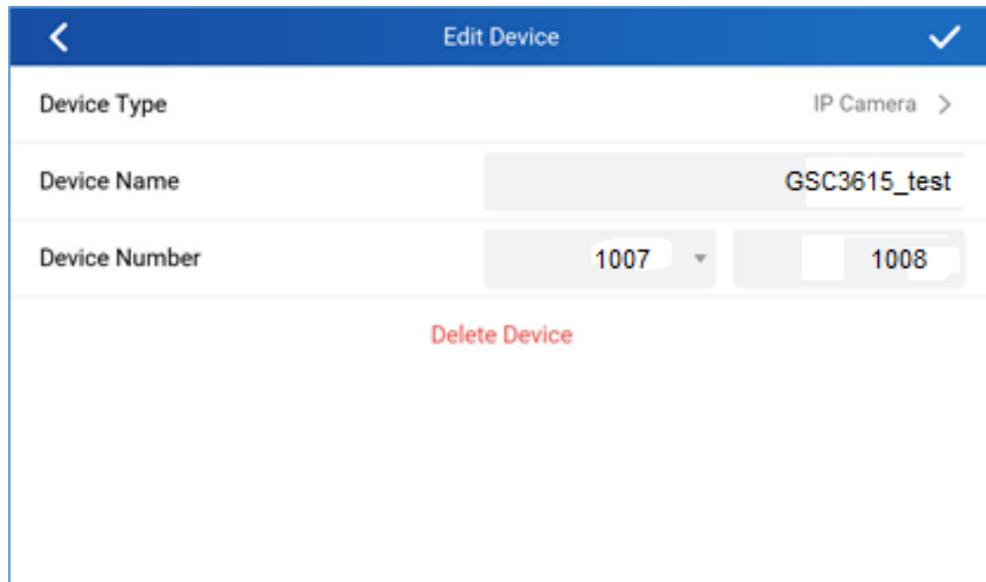


Figure 12: Adding GSC361x from GSC3570 LCD Configuration

Video Monitor

Video Monitor by SIP Call

Now that we have configured both, the GSC361x IP camera and GSC3570 control station as shown in the previous sections, The GSC3570 is ready to be used as a video monitoring screen for GSC361x to check who is near the door when GSC3570 receives a Doorbell notification. This can be achieved by initiating a SIP call or using RTSP video streaming.

The GSC361x and GSC3570 were previously configured with SIP accounts registered to the same SIP server. Users can initiate SIP video calls from the GSC3570 LCD screen by dialing the SIP extension of the GSC361x IP camera, or otherwise from “**Monitor**” tab as shown in below screenshot.





Figure 13: GSC3570 LCD Menu - Monitor Tab

And select “IP Camera” , then press the call icon to the account you want to initiate the video call to, in our example “1008”.

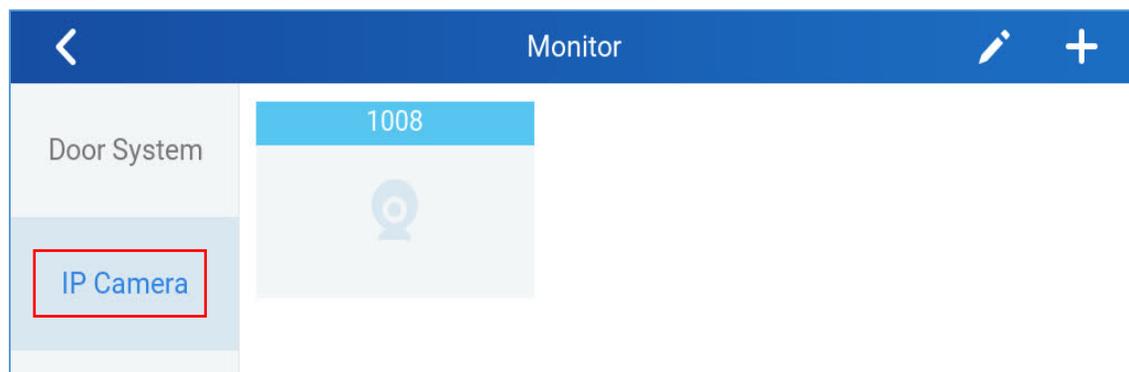


Figure 14: GSC3570 LCD – Video calling GSC361x by SIP

Once the call button pressed, the GSC3570 will initiate a video call to the GSC361x IP camera, and as the auto-answer is enabled by default, the video call is established immediately, and we can see it from the GSC3570 LCD screen like the example from below screenshot.





Figure 15: GSC3570 LCD screen - SIP video call to GSC361x

Video Monitor by RTSP Streaming

The other method to video monitor from the GSC3570 control station is using the RTSP video streaming, in our example as mentioned in the previous sections, we have used a GSC3610 IP camera that we have called “GSC3610_test”.

Once pressing the play icon, the RTSP video streaming will be initiated, and you can check the video feed from the GSC361x IP camera as shown in below screenshot.



Figure 16: GSC3570 LCD screen - Video stream from GSC361x by RTSP

