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PEERING GRANDSTREAM CAMERA & IP MULTIMEDIA PHONE ON DOOR OPEN

CONFIGURATION GUIDE

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INTRODUCTION

The purpose of this document is to guide you to configure/monitor Grandstream IP cameras & IP Video Encoders/Decoders and your Grandstream IP Multimedia Phone, to implement door-open control and video stream viewing on video phone.

This guide is applicable to the following Grandstream IP cameras (GXV3651_FHD, with firmware 1.0.1.40 or higher; GXV3611_HD, GXV3611_LL, GXV 3601, GXV3601_HD, GXV3601_LL with firmware 1.0.4.27 or higher) and IP Video Encoders/Decoders (GXV3501, GXV3504 with firmware 1.0.4.27 or higher; GXV3500 with firmware 1.0.1.40 or higher (Encoding functionality is used on GXV3500) and GXV3140 (with firmware 1.0.7.50 or higher) and GXV3175 (with firmware 1.0.3.40 or higher)

Be aware that different firmware revisions may have different web interface formats and functionality.



TUTORIAL ENVIRONMENT

For this tutorial, we will be using Grandstream IP Multimedia Phone GXV3175 with firmware 1.0.3.40 and Grandstream IP Camera GXV3651_FHD with firmware 1.0.1.40.

GXV3175 IP is 192.168.50.199

GXV3651_FHD IP is 192.168.50.143

Note: Make sure that both devices are set to use Static IPs; otherwise, the communication cannot be established if one of them changes its IP from original one.

The Camera and the IP Multimedia Phone should be in the same Local Area Network; in the same VPN, behind the same router or each has a public IP when in different networks. In other words; the camera and the IP Multimedia Phone need to be able to reach each other.

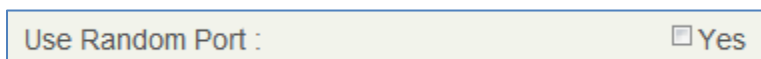
This tutorial is separated in two parts:

PART ONE: IP CAMERA AND IP MULTIMEDIA PHONE PEER-TO-PEER CONFIGURATION

Step 1: Configure your IP Multimedia Phone

1. Access to the web interface of your IP Multimedia Phone by entering the its IP address on your browser. [http://<IP Multimedia Phone IP>](http://<IP_Multimedia_Phone_IP>) (Default; username: admin, password: admin) (i.e. <http://192.168.50.199>)

2. Go to **Advanced Settings > General Settings** and uncheck **Use Random Port** (Default is Yes).



Use Random Port : Yes

3. Click **Save** on the bottom of the page and then apply your settings by clicking **Apply** on the top of the page.

4. Go to **Account 2** and enter the following :

- a. **Account Active** : Yes (by enabling the check box)
- b. **Account Name** : Any name (for example : Camera Peer)
- c. **SIP Server** : Enter the IP of the camera to monitor (in our example : 192.168.50.143)
- d. **SIP User ID** : Any extension number (for example : 100)
- e. **Authenticate ID** : Same as SIP User ID (for example : 100)
- f. **Authenticate Password** : Any password, can be same as SIP User ID (for example : 100)
- g. **Name** : Any name (for example : Camera Peer)

General Settings

Account Active :	<input checked="" type="checkbox"/> Yes
Account Name :	<input type="text" value="Camera Peer"/>
SIP Server :	<input type="text" value="192.168.50.143"/>
SIP User ID :	<input type="text" value="100"/>
Authenticate ID :	<input type="text" value="100"/>
Authenticate Password :	<input type="password" value="..."/>
Voice Mail UserID :	<input type="text"/>
Name :	<input type="text" value="Camera Peer"/>
Tel URI :	<input type="text" value="Disable"/>

- Figure 1 : Account 2 General Settings -

5. Repeat Step 3 to save and apply your settings.
6. Go to **Account 2 > SIP Settings** and set the following :

Note: We used account 2 in this example to keep Account 1 registered with IPVideoTalk service. Same tutorial applies to other account slots but you only need to make sure selecting the correct SIP port that relates with the Account slot in used.

- a. **SIP Registration** : No (Disable the check box)
 - b. **Local SIP port** : 5062 (Account1/2/3 uses port 5060/5062/5064)
7. Go to **Account 2 > Network Settings**, set **NAT Traversal** to **NAT NO** and click **Save**.

NAT Traversal :	<input type="text" value="NAT NO"/>
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8. Go to **Account 2 > Call Settings** and set the following:
 - a. **Start Video Automatically:** Yes (Enable check box)

Step 2: Configure your IP Camera

1. Access the web interface of your IP camera by entering the IP of the camera on your browser.
http://<Camera_IP> (Default; username: admin, password: admin)
(i.e. <http://192.168.50.143>)
2. Go to **Configuration > SIP** and enter the following :
 - a. **Account Name:** Enter any name (for example : Phone Peer)
 - b. **SIP Server:** Enter the IP address of your IP Multimedia Phone followed by the SIP port (in this example: 192.168.50.199:5062) **Note:** We specified SIP port 5062, since it's the local SIP port for Account 2 on the IP Multimedia Phone.
 - c. **Outbound Proxy:** Leave it blank
 - d. **SIP User ID:** Enter any extension (for example : 101)
 - e. **Authenticate ID:** Same as SIP User ID (for example : 101)
 - f. **Authenticate Password:** Enter any password (for example : 101)
 - g. **Stream:** Select which stream will be used (Primary or Secondary, default secondary)
 - h. **Preferred Vocoder:** Select which vocoder to use for audio (PCMU or PCMA)
 - i. **Local SIP port:** Keep default 5060
 - j. **Local RTP port:** Keep default 5004
 - k. **Auto Hook Timer:** This will let the camera to automatically answer the call (Keep default 300)
 - l. **Disable Audio in SIP call:** Should not be checked
 - m. **Enable Keep-Alive:** Keep it unchecked
 - n. **Enable SIP Open Door:** Enable it
 - o. **Key to Open the Door:** Enter a secure code for door opening option.
 - p. **Accept Direct IP Call:** Should be checked
 - q. **Phone list:** Add any phone number in it

3. Click **Save** then reboot the camera.

General Phone Settings

Registered: Offline

Unregister On Reboot:

SIP Settings

Account Name: ⓘ

SIP Server: ⓘ

Outbound Proxy: ⓘ

SIP User ID: ⓘ

Authenticate ID: ⓘ

Authenticate Password: ⓘ

STUN Server: ⓘ

Stream: ▼

Preferred Vocoder: ▼

Register Expiration(Second): ⓘ

local SIP Port: ⓘ

local RTP Port: ⓘ

Auto on Hook Timer: ⓘ

Disable Audio in SIP Call: ⓘ

Enable Keep Alive:

Accept Direct IP Call:

Enable White List Number Filter: ⓘ

Note: You must restart the device to apply the changes.

- Figure 2: IP camera SIP settings -

SIP Open Door Settings

Enable SIP Open Door: i

Key to Open the Door: i

Delay Lock Time(Second): v

Phone List

Phone Number	Remark Name	Remove
<input type="text"/>	<input type="text"/>	<input type="button" value="Add..."/>
111	door open	<input type="checkbox"/>
	<input type="checkbox"/> Check All	<input type="button" value="Remove"/>

Note: You must restart the device to apply the changes.

- Figure 3: IP camera SIP settings cont.-

Once Step 1 and Step 2 are completed, you will be able to call the IP Camera from your IP Multimedia Phone to monitor it.

1. Use the second account to dial
2. Dial 111 and press Video Call
3. The camera will auto-answer
4. Video and Audio stream will be displayed on your IP Multimedia Phone

Note: If you want to use Primary stream, we recommend these settings on the camera side under **Configuration > Video & Audio > Video Settings > Primary Stream Settings:**

Preferred Video Codec: *H.264* (MJPEG Video Codec will not work in this scenario)

Resolution: *VGA 640*480 (4:3)* or lower

Bit Rate: *1024 kbps* or lower

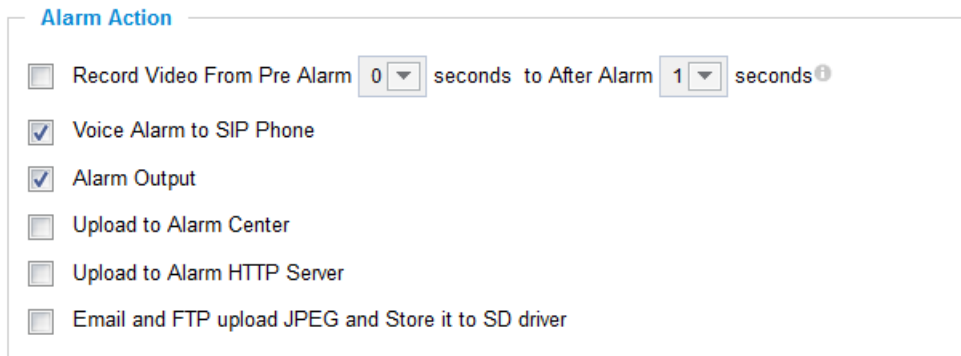
Max Frame Rate: *15 fps* or lower

PART TWO: SETUP THE ALARM EVENT TO SIP PHONE CONFIGURATION

Now, we will configure Alert Event on the camera and set the alarm to call the configured IP Multimedia Phone.

Step 1: Enable Alert Event

1. Access the web interface of your IP camera by entering the IP of the camera on your browser.
http://<Camera_IP> (Default; username: admin, password: admin)
 (i.e. <http://192.168.50.143>)
2. Go to **Configuration > Advanced Settings > Alert Event** and set the following :
 - a. **Voice Alarm to SIP Phone:** Yes (Check box needs to be enabled)
 - b. **Alarm Output:** Yes



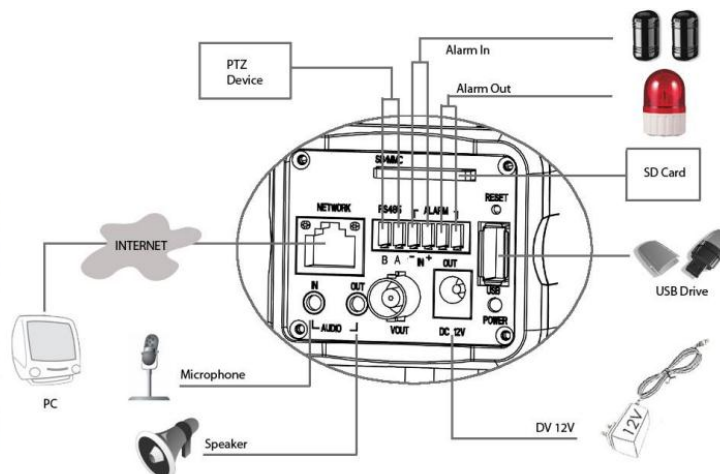
- Figure 4: IP camera Alert Event settings -

Step 2: Connect doorbell and IP camera

3. Configure Alarm Input on camera



- Figure 5: IP camera back -



- Figure 6: IP camera connection diagram -

In order to be working with door open, the camera should be connecting with door bell. Doorbell should be connecting on “Alarm In” port and the door-lock will be connecting on “alarm out” port as we can see on Figure 4 and Figure 5.

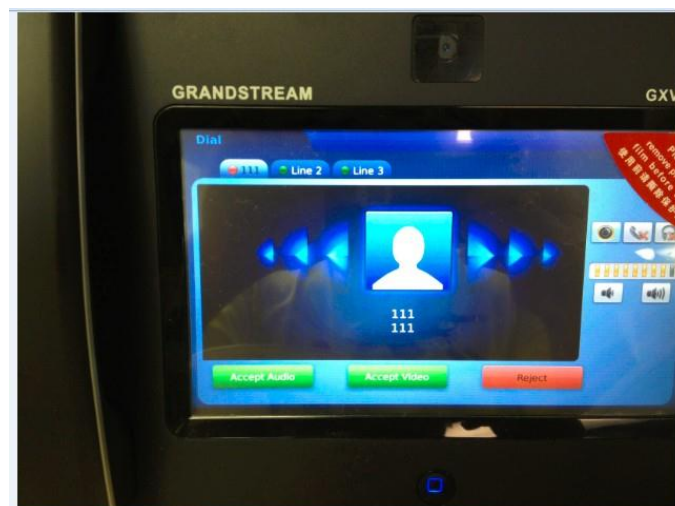
Here’s a sample photo showing how to connect on the back to camera.



- Figure 7: connecting on the back of camera -

Step 3: Doorbell open operation

After the connection is established, we can try opening door by using these two devices. Once someone hits the doorbell, there will be an incoming call to video phone.



- Figure 8: Doorbell incoming call -

Then answer the call by clicking “Accept Video” and press the button “Option”.

Next, enter the dooropen code which was pre-configured on the web-interface of IP camera.

After verification, the camera will send a relay through “Alarm out” port on the back to door, making it to open.

