

Grandstream Networks, Inc.

GSC361X Series

FHD Infrared Weatherproof, IP Dome/Box Camera

User Manual







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http://www.grandstream.com/support

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CAUTION

Changes or modifications to this product not expressly approved by Grandstream, or operation of this product in any way other than as detailed by this guide, could void your manufacturer warranty.

WARNING

Please do not use a different power adaptor with devices as it may cause damage to the products and void the manufacturer warranty.





FCC Caution

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.





GNU GPL INFORMATION

GSC3610/GSC3615 firmware contains third-party software licensed under the GNU General Public License (GPL). Grandstream uses software under the specific terms of the GPL. Please see the GNU General Public License (GPL) for the exact terms and conditions of the license.

Grandstream GNU GPL related source code can be downloaded from Grandstream web site from: http://www.grandstream.com/sites/default/files/Resources/GSC361X gpl.zip





Table of Contents

DOCUMENT PURPOSE	
CHANGE LOG	10
Firmware Version 1.0.1.13	10
WELCOME	11
PRODUCT OVERVIEW	12
Feature Highlights	12
GSC3610/GSC3615 Technical Specifications	12
GETTING STARTED	14
Equipment Packaging	14
Powering and Connecting the GSC361X	15
Option A (Recommended) Option B	
HARDWARE INSTALLATION	16
Mounting GSC3610	16
Mounting GSC3615	17
GSC361X APPLICATION SCENARIOS	18
LAN without Internet	18
LAN with Internet	19
Application Peripheral Connection	20
GSC3610/GSC3615 WEB GUI	21
UPnP	21
GS Search	
Web GUI Settings	23
GSC361X SETTINGS	25
Live View Page	25
System Settings	26





Date & Time Settings	26
Network Settings	26
Access Settings	28
User Management	31
Account	33
Account 1 - 4	33
Phone Settings	37
Phone Settings	37
Account [1-4] White List	39
Video & Audio Settings	39
Video Settings	40
OSD Settings	
CMOS Settings	
Audio Settings	
Privacy Masks	44
Alarm Settings	44
Alarm Events Config	
Alarm Schedule Settings	46
Alarm Action Settings	
Alarm Phone List	48
Email & FTP Settings	49
Email Settings	49
FTP & Center Storage	50
Maintenance Settings	51
Upgrade	51
Reboot & Reset	54
Debug Log	54
Data Maintenance	54
Event Notification	55
Certificates	56
Status	57
Account Status	57
System Info	58
Network Info	59
XPERIENCING THE GSC3610/GSC3615	60





Table of Tables

Table 1: GSC3610/GSC3615 Features in a Glance	12
Table 2: GSC3610/GSC3615 Technical Specifications	12
Table 3: Equipment Packaging	14
Table 4: GSC3610/GSC3615 WEB GUI Sections	23
Table 5: Date & Time	26
Table 6: Basic Settings	27
Table 7: Access Settings	28
Table 8: User Management	32
Table 9: SIP Account Basic & Advanced Settings	34
Table 10: Phone Settings	37
Table 11: White List	39
Table 12: Video Settings	40
Table 13: OSD Settings	42
Table 14: CMOS Settings	43
Table 15: Audio Settings	43
Table 16: Motion Detection	45
Table 17: Alarm Actions	48
Table 18: Alarm Phone List	49
Table 19: Email Settings - SMTP	49
Table 20: Picture Storage Settings	50
Table 21: Upgrade	53
Table 22: Reset & Reboot	54
Table 23 : Log Manager Settings	56
Table 24: System Info	59
Table 25: Network Info	59
Table of Figures	
3	
Figure 1: GSC3610/GSC3615 Package Content	14
Figure 2: RJ45 plug installation	15
Figure 3: Mounting GSC3610	16
Figure 4: Mounting GSC3615	17
Figure 5: GSC3610/GSC3615 Working in LAN	18
Figure 6: GSC361X working with Internet	19
Figure 7: Application Peripheral Connection for GSC3610/GSC3615	20
Figure 8: GS_Search tool	22
Figure 9: GSC361X Login Page	22
Figure 10: GSC3610/GSC3615 Web GUI	23





Figure 11: Live View	25
Figure 12: Date & Time Page	26
Figure 13: Basic Settings Page	27
Figure 14: Access Settings Page	28
Figure 15: MJPEG Authentication Mode	30
Figure 16: RTSP steam display using VLC	31
Figure 17: User Management Page	32
Figure 18: Password Recovery Email	32
Figure 19: SIP Account Settings Page	33
Figure 20: Phone Settings Page	37
Figure 21: White List Page	39
Figure 22: Video Settings Page	40
Figure 23: OSD Settings Page	42
Figure 24: CMOS Settings Page	42
Figure 25: Audio Settings Page	43
Figure 26: Privacy Masks Configuration Page	44
Figure 27: Events Page	45
Figure 28: Region Config	45
Figure 29: Alarm Schedule	46
Figure 30: Edit Schedule	47
Figure 31: Alarm Action	47
Figure 32: Edit Alarm Action	48
Figure 33: Alarm Phone List	48
Figure 34: Email Settings - SMTP Page	49
Figure 35: Picture Storage Settings	51
Figure 36: Upgrade Page	52
Figure 37: Reset & Reboot Page	54
Figure 38: Debug Log Page	54
Figure 39: Data Maintenance Page	55
Figure 40: Log Manager Page	55
Figure 41: Upload Certificate files	56
Figure 42: Trusted CA Certificates	57
Figure 43: Custom certificate	57
Figure 44: System Info Page	58
Figure 45: System Info Page	58
Figure 46: Network Info Page	50





DOCUMENT PURPOSE

This document describes how to configure the GSC3610/GSC3615 via web UI menu to fully manipulate device's features. Please visit http://www.grandstream.com/support to download the latest "GSC361X User Manual".

This guide covers following topics:

- Product Overview
- Getting Started
- Hardware Installation
- GSC3610/GSC3615 Web GUI
- GSC361X Settings
- Experiencing the GSC3610/GSC3615





CHANGE LOG

This section documents significant changes from previous versions of user manual for GSC361X Series. Only major new features or major document updates are listed here. Minor updates for corrections or editing are not documented here.

Firmware Version 1.0.1.13

This is the initial version.





WELCOME

Thank you for purchasing Grand stream's GSC361X FHD IP Box Camera, the innovative powerful weatherproof infrared next generation network camera. The GSC3610 is a ceiling-mounted fixed dome IP camera with a 3.6mm lens - making it an ideal device for wide-angle monitoring of nearby subjects in environments such as banks, hotels, retail stores, offices, warehouses, and building entrances. Meanwhile the GSC3615 is a wall-mounted bullet IP camera with a 3.6mm lens - making it ideal for wide-angle monitoring of nearby subjects in environments such as banks, hotels, retail, offices, warehouses, and building entrances. Both devices support motion detection and smart infrared technology for white balance and exposure to monitor activity at night in outdoor or dark enclosed spaces. The GSC3610/GSC3615 can be managed with GSURF Pro, Grandstream's free video management software, along with other ONVIF-compliant video management systems. It pairs with Grandstream's video phones and GSC3570 HD intercom and facility control station for active end-point monitoring and facility control. By adding weatherproof capabilities, this is an ideal device for increasing security and facility management in any indoor or outdoor area.

Designed for both indoor and outdoor environment, the GSC361X series of IP Cameras ensures ease of use, integration, and deployment, with multilingual graphical user interface, provides powerful solution to professional surveillance applications.

This manual will help you to learn how to operate and manage your GSC3610/GSC3615 FHD Infrared Weatherproof, IP Box Camera and make the best use of it.





PRODUCT OVERVIEW

Feature Highlights

The following table contains the major features of the GSC3610/GSC3615:

Table 1: GSC3610/GSC3615 Features in a Glance

GSC3610 GSC3615

- Motion detection
- Smart infrared technology for optimal white balance and exposure
- Built-in PoE to power the device and provide a network connection
- Alert notifications via outbound voice or video call & email screenshot
- IP66-level weatherproof capability
- Primary stream 1920x1080 and Secondary stream 640x480
- SIP/VoIP support for video and audio streaming to endpoints (external microphone required)



GSC3610/GSC3615 Technical Specifications

The following table resumes all the technical specifications including the protocols / standards supported, voice codecs, telephony features, languages, and upgrade/provisioning settings for GSC3610/GSC3615.

Table 2: GSC3610/GSC3615 Technical Specifications

Network Protocol	SIP RFC3261, TCP/IP/UDP, RTP/RTCP, HTTP/HTTPS, ARP, ICMP, DNS (A record, SRV, NAPTR), DHCP, SSH, TFTP, NTP, STUN, LLDP-MED, TLS, SRTP
Image Sensor Resolution	1/2.9" CMOS Sensor, 1920(H)*1080(V)
Video Compression	H.264/H.265/JPEG/MJPEG
Supported Maximum Video Resolution	Primary Stream: 1920*1080; 1280*960; 1280*720 Secondary Stream: 1280*720; 704*576; 640*480; 352*288; 320*240
Video Output	Network
Audio	1 x 3.5mm Line-In Port; 1 x 3.5mm Line-Out Port





Scanning System	Progressive
Image Configuration	Saturation/Brightness/Contrast/Sharpness, White Balance
Focal Length	Fixed 3.6mm
Infrared LED	2x LED, up to 20M, Auto Control
Ethernet	One RJ-45 (10/100Base-T) Port with PoE
ONVIF	Yes, Profile S
Day/Night	Color/ Black &White (IR-CUT)
Motion Detection	Supported
Language Supported	Multi-Language
Privacy Mask	4 Rectangular Zone
Weatherproof Grade	Metal, IP66-level weatherproof capability
Power	DC12V±10%,1A (Power Adapter NOT Included) PoE: Support IEEE 802.3af
Temperature / Humidity	-20 °C ~ 50 °C, RH95% Max
Weight and Dimensions	109 x 93mm, 390g
Compliance	FCC, CE, RCM, IC





GETTING STARTED

This chapter provides basic installation instructions including the list of the packaging contents and also information for obtaining the best performance with the GSC3610/GSC3615.

Equipment Packaging

Table 3: Equipment Packaging

GSC3610/GSC3615

- 1x GSC3610/GSC3615 Main Case.
- 1x Drill Template
- 1x Hex Key
- 1x Waterproof RJ45 Socket (5 pieces)
- 3x Wall Anchors and Screws
- 1x Quick Installation Guide.

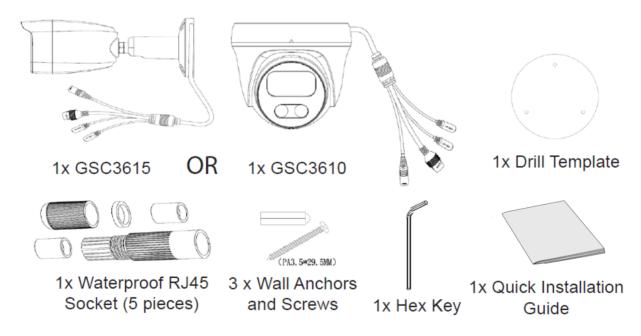


Figure 1: GSC3610/GSC3615 Package Content

Note: Check the package before installation. If you find anything missing, contact your system administrator.



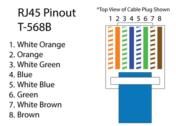


Powering and Connecting the GSC361X

The GSC3610/GSC3615 can be powered either using the right PSU (DC12V, 1A) or using a PoE switch, please refer to illustration below to do the wiring and connect the waterproof RJ45 socket:

Option A (Recommended)

 Based on T-568B (see diagram below) to install the RJ45 plug, tighten the connector using the provided waterproof socket.



2. Connect other end of the cable into a switch supporting Power over Ethernet.

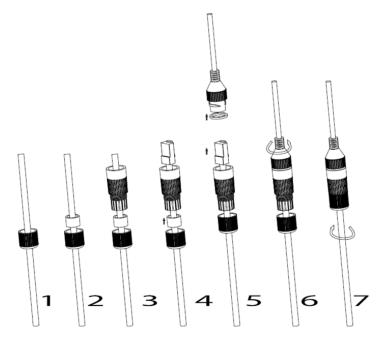


Figure 2: RJ45 plug installation

Option B

- 1. Wire the cable and connect it to a network switch as in the figure above.
- 2. Connect a 12VDC, 1A (minimum) Power Adapter (not provided) to the power socket of the GSC3610 tail cable. Make sure the polarity "+" (center) and "-" (outside) are correctly connected.

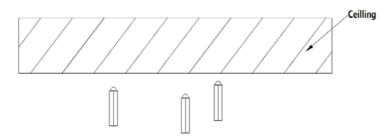




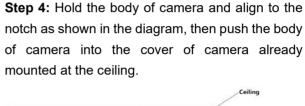
HARDWARE INSTALLATION

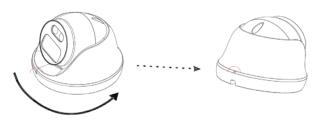
Mounting GSC3610

Step 1: Use supplied drill template to drill holes at ceiling. Select appropriate anchors or screws based on ceiling material.

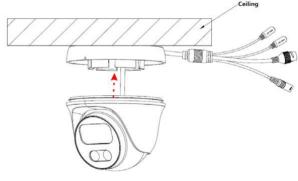


Step 2: Remove the top cover of the camera by turning it counterclockwise as shown in the figure below. Refer to the arrow and small notch on the machine body as shown below to align the machine cover.

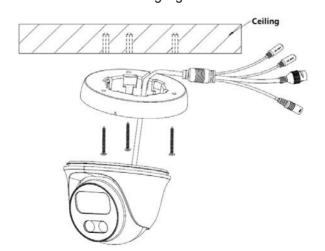




Step 3: Place the cable into the groove of camera cover, mount the cover into ceiling using provided screws as shown in below diagram. Leave the connectors of cable dangling outside the cover.



Step 5: Rotate the body of camera to snap to the self-locking bracket.



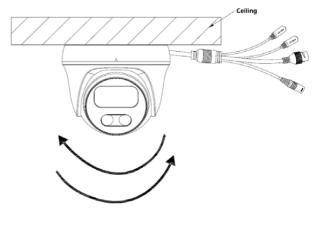


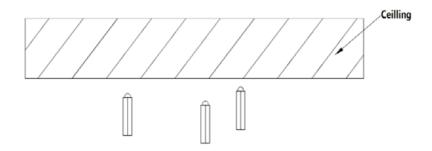
Figure 3: Mounting GSC3610





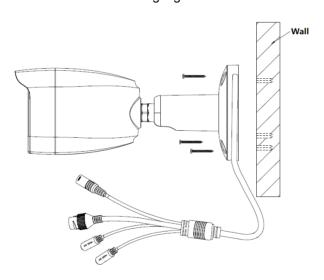
Mounting GSC3615

Step 1: Use supplied drill template to drill holes at ceiling. Select appropriate anchors or screws based on ceiling material.

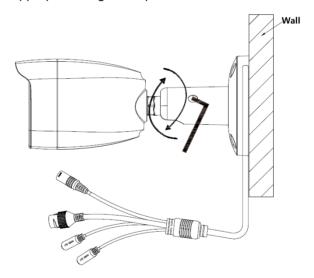


Step 2:

Place the cable into the groove of camera mounting base, mount the base at wall using provided screws as shown in below diagram. Leave the connectors of cable dangling outside the cover.



Step 3: Use the provided hex key to lose the fix screw, rotate and adjust the camera to the appropriate angle and position.



Step 4: Hold the body of camera and align to the notch as shown in the diagram, then push the body of camera into the cover of camera already mounted at the ceiling.

Figure 4: Mounting GSC3615





GSC361X APPLICATION SCENARIOS

GSC361X is very versatile infrared IP Camera, it can be used in a lot of scenarios.

LAN without Internet

For multi-room or a bigger space, multiple GSC361X might be required. User can establish a local area network using PoE switch.

If remote access required, a router with internet access may add in.

Equipment List:

- 1. Several GSC361X
- 2. Ethernet cables
- 3. Switch (Static IP required to configure to IP Cameras)
- 4. PoE Switch (Optional, better solution)

Note: If remote access to the cameras required to view the LIVE video stream, then broadband Internet is required, and more equipment required:

- 5. Router (if DHCP configured than static IP is not required although still recommended)
- 6. iPhone or Android phone. (Application like "IP Cam Viewer")



Figure 5: GSC3610/GSC3615 Working in LAN





LAN with Internet

For multi-room or a bigger space, with Internet access and local video recording required, following list is recommended:

Equipment List:

- 1. Several GSC361X
- 2. Ethernet cables
- 3. Switch (PoE Switch recommended)
- 4. Router
- 5. Broadband Internet Access (FiOS, Cable or DSL)
- 6. iPhone or Android phone. (Application like "IP Cam Viewer")
- 7. VMS GSurf_Pro Remote Access (Optional)



Figure 6: GSC361X working with Internet







Figure 7: Application Peripheral Connection for GSC3610/GSC3615

Audio Output and Input using 3.5mm interface must match below parameters:

Audio Output	$3.5 mm Line-Out, 560 \Omega, 4.0 Vpp$
Audio Input	3.5mm Line-In, 1-50mVpp

 Grandstream Audio & Video Phones (GXP21xx, GRP2600 & GXV33xx) can work with GSC3610/GSC3615 via either Peer IP (LAN) or SIP extension (WAN). Peer to Peer (or Direct IP) works only at LAN using static IP; SIP extension requires related SIP server/proxy provided and configured.





GSC3610/GSC3615 WEB GUI

Note the below requirement to access/configure the GSC361X:

- Internet Browser like Firefox, Chrome, Microsoft Internet Explorer.
- DHCP server enabled on the network.

Two ways exist for Windows user to get access to the GSC361X:

UPnP

By default, the GSC361X has the UPnP feature turned ON. For customers using Windows network with UPnP turned on (most SOHO routers support UPnP), it is easy to access the GSC361X:

- 1. Find the "Network" icon Network on the windows Desktop.
- 2. Click the icon to get into the "Network", the GSC361Xs will list as "Other Devices" shown. Refresh the pages if nothing displayed. Otherwise, the UPnP may not be active in the network.
- 3. Click on the displayed icon of related GSC361X, the default browser (e.g.: Internet Explorer, Firefox, or Chrome) will open and connect directly to the login webpage.

GS Search

Double check the requirements then follow the below steps to access the GSC361X WEB configuration page:

- Download and install GS_Search tool from the link below: http://www.grandstream.com/products/tools/surveillance/GS_Search.zip
- 2. Run the Grandstream GS Search tool.
- 3. Click on Search button to start device detection.
- 4. The detected devices will appear in the output field as below.





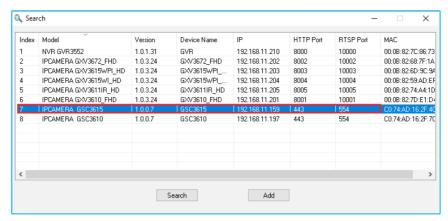


Figure 8: GS Search tool

5. Double click on the detected device. The default browser (Chrome in this example) will open to display the camera's login web interface.



Figure 9: GSC361X Login Page

- When clicking on the "Language" drop down, supported languages will be displayed. Click to select the related webpage display language. (Current firmware supports only English as default and simplified Chinese).
- 6. Username and password are required to login the camera to manage the device. The default username is "admin"; the default password is a random password printed in a sticker which can be found on the camera body or cable.
 - The default connection is via HTTPS. Once input the correct username and password,
 the device configuration webpage will be available.





Web GUI Settings

The GSC3610/GSC3615 embedded Web server responds to HTTP/HTTPS GET/POST requests. Embedded HTML pages allow users to configure the application phone through a Web browser such as Microsoft's IE, Mozilla, Firefox, Google Chrome and etc.

• Once logged in successfully to the GSC361X, the browser will display the GUI as shown below:

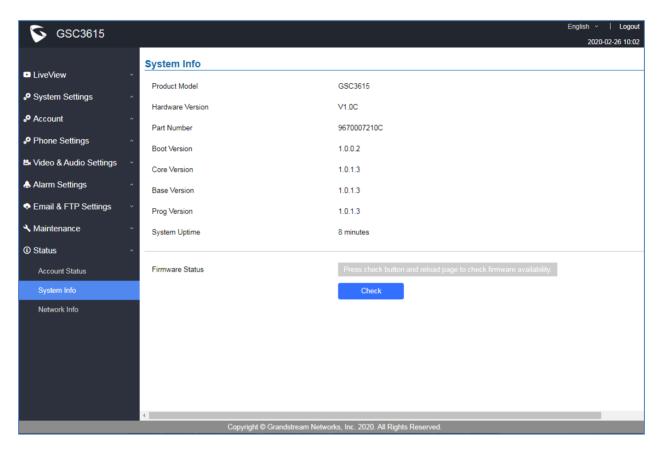


Figure 10: GSC3610/GSC3615 Web GUI

Table 4: GSC3610/GSC3615 WEB GUI Sections

Fields	Description
LiveView	Access to live view stream page.
	Play/Stop Live View
1	Play the primary stream.
2	Play the secondary stream.
	Zoom in/out





∢ × √ 0	Mute/Un-Mute
	Start/Stop Talking
©	Capture a screenshot
□	Start/Stop Recording
(O)	Set up "Record Path" and "Capture Path"
System Settings	Access to "System Settings" page.
Account	Access to "Account" configuration page.
Phone Settings	Access to "Phone Settings" configuration page.
Video & Audio Settings	Access to "Video & Audio settings" page.
Alarm Settings	Access to "Alarm settings" page.
Email & FTP Settings	Access to "Email & FTP Settings" page.
Maintenance	Access to "Maintenance" page.
Status	Click to enter "Status" page.
Display Performance	Brightness Contrast Saturation Sharp
Date & Time	Displays the current Date & Time
Logout	Logout from the web page.
English V	Select the webpage language.





GSC361X SETTINGS

Live View Page

This page allows users to view the live video of the GSC3610/GSC3615.

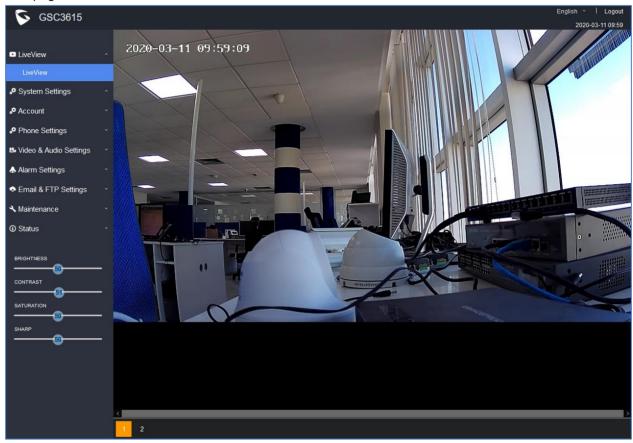


Figure 11: Live View

Two streams are available:

- Primary video stream: 1920*1080 resolution, recommended for continuous full HD recording
- Secondary video stream: 640*480 resolution, recommended for SIP/VoIP video calls

Note: Make sure to download/Install the browser video plugin to have access to the Live View and video stream tools.





System Settings

This page allows users to configure date and time, network settings as well as access method to the GSC361X and password for accessing the Web GUI.

Date & Time Settings

This page allows users to adjust system date and time.

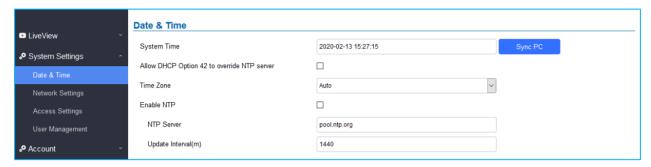


Figure 12: Date & Time Page

Table 5: Date & Time

System Time	Displays the current system time.
Allow DHCP Option 42 to override NTP server	Defines whether DHCP Option 42 should override NTP server or not. When enabled, DHCP Option 42 will override the NTP server if it is set up on the LAN. The default setting is "Yes".
Sync PC	Clicks to synchronize current time with the computer.
Time Zone	Selects from drop down menu the preferred time zone. Default is "Auto"
Enable NTP	Enables NTP to synchronize device time.
NTP Server	Configures the domain name of NTP server. Default is "pool.ntp.org"
Update Interval	Configures the Interval (in minutes) to retrieve updates from the NTP server.

Network Settings

This page allows users to set either a static or DHCP IP address to access the unit.





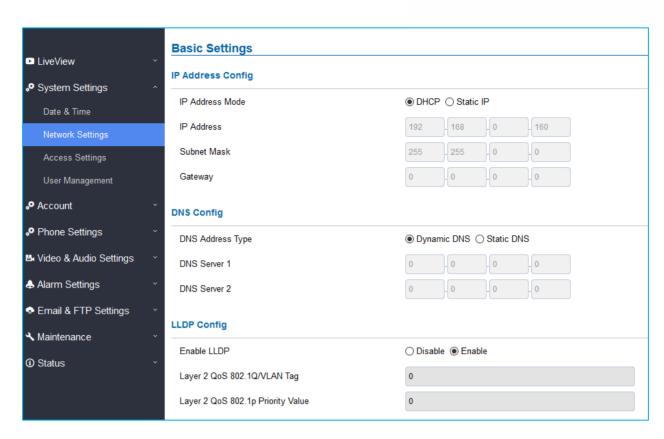


Figure 13: Basic Settings Page

Table 6: Basic Settings

IP Address Mode	Selects DHCP or Static IP. Default DHCP. (Static recommended)
IP Address	Configures the Static IP of the GSC361X.
Subnet Mask	Configures the Associated Subnet Mask.
Gateway	Configures the Gateway IP address.
DNS Address Type	Specifies the DNS type used: Dynamic DNS or Static DNS.
DNS Server 1	Configures DNS Server 1 IP address.
DNS Server 2	Configures DNS Server 2 IP address.
Evalua I I DD	Controls the LLDP (Link Layer Discovery Protocol) service. The default
Enable LLDP	setting is "Enabled".
Layer 2 QoS	Assigns the VLAN Tag of the Layer 2 QoS packets.
802.1Q/VLAN Tag	Default value is 0.
Layer 2 QoS 802.1p	Assigns the priority value of the Layer2 QoS packets.
Priority Value	Default value is 0.





Notes:

- If the device is behind SOHO (Small Office Home Office) router with port forwarding configured for remote access, static IP should be used to avoid IP address changes after router reboot.
- TCP port above 5000 is suggested to Port forward HTTP for remote access, due to some ISP would block port 80 for inbound traffic. For example, change the default HTTP port from 80 to 8088, to make sure the TCP port will not be blocked.
- In addition to HTTP port, RTSP port is also required to configure via port forwarding, so that the remote party can view the video stream.

Access Settings

This page configures the GSC361X access control parameters.

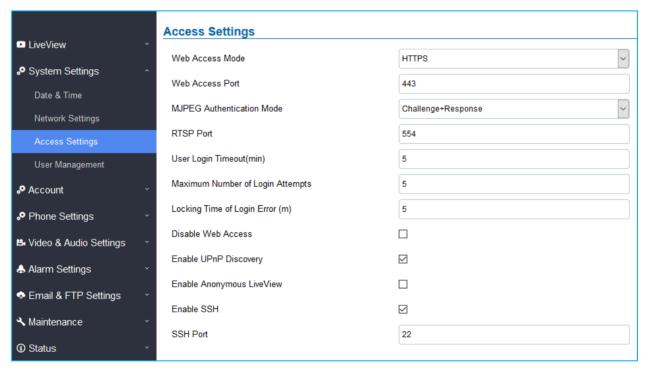


Figure 14: Access Settings Page

Table 7: Access Settings

Web Access Mode	Selects the access mode to the Web GUI either HTTP or HTTPS.
Web Access Port	Specifies the TCP port for Web Access, default 443.





	Allows 3 rd party system integrator or developers to implement related
	application for users. By default, this feature is disabled and use more
	secured "Challenge+Response" mode.
	If enabled, user can send HTTP API with correct credentials to retrieve
	MJPEG video stream or JPEG snapshot from GSC.
	Notes:
MJPEG Authentication	1- The MJPEG stream can be retrieved via the following URL
Mode	HTML based →
	http(s)://admin:password@IP_GSC3610:Port/jpeg/mjpeg.html
	Stream → http(s)://admin:password@ip:port/jpeg/stream
	2- The MJPEG stream retrieved via the methods above is running on
	the background and cannot be tuned. If users want more flexibility,
	they can use the three configurable video streams as shown on
	[Retrieving Video Streams]
RTSP Port	Specifies RTSP port for media stream, default TCP port 554.
	If no action is made within this time the GSC361X will logout from the Web
User Login Timeout(min)	GUI, range is between 3 and 60. Default is 5.
	Specifies the allowed login times error limit, if the unsuccessful login
Maximum Number of Login Attempts	attempts exceed this value, the GSC361X webGUI will be locked for the
	time specified in Login Error Lock Time. Default is 5.
Locking Time of Login	Specifies how long the GSC361X is locked before a new login attempt is
Error (m)	allowed. Default is 5.
	Allow or deny the web access to the GSC361X. (HTTP API do not take
	effect when this option is enabled).
	Note: If both WebUI and SSH are disabled, GSC361X will get blocked
	and not be able to be accessed. Only two ways to get it back:
Disable Web Access	1. Re-provisioned by ITSP or Service Provider (by adjusting the related
	parameters)
	2. Hard Reset (GSC361X has to be offline and uninstalled to perform
	this hard reset).
Enable UPnP Discovery	UPnP (or mDNS) function for local discovery. Default setting is enabled.
	1. When enabled, user can display the camera stream from without
Enable Anonymous LiveView	admin credentials using the following URL scheme:
	http(s)://GSC3610_IP:port/videoview.html
	1. User can also retrieve a real-time snapshot without admin credentials
	using the following URL:
	http(s)://IP:port/anonymous/snapshot/view.html





	Or with: https://IP GSC3610:Port/anonymous/snapshot/view.jpg 2. To retrieve video stream via RTSP, users can use the following format: rtsp://IP_GSC3610:Port/X where X=0,4 for 1st, 2nd streams, respectively.
Enable SSH	Allows SSH access for remote secured configuration purposes (restart, upgrade, provision)
SSH Port	Specifies the SSH port. Default setting is 22.

Retrieving Video Streams

RTSP Stream

To retrieve video stream via RTSP, users can use the following format:

rtsp://admin:password@IP_GSC361X:Port/X where X=0,4 for 1st, 2nd streams respectively

MJPEG Stream

The GSC361X supports MJPEG Stream live viewing via HTTP API commands, this can be used without installing the Live view browser plugin. Users can deploy two methods to retrieve MJPEG stream depending on *MJPEG Authentication Mode*, which can be set under following path:

Web UI → System Settings → Access Settings

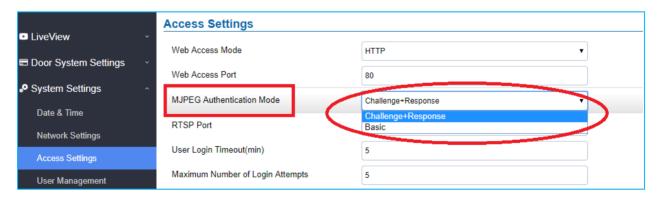


Figure 15: MJPEG Authentication Mode

A. <u>"Challenge+Response" MJPEG Authentication Mode:</u>

In order to get live view stream using MJPEG stream over HTTP command on this mode, please fellow below steps:

1. In browser type in http(s)://IP_Address_GSC361X:Port/jpeg/mjpeg.html





Example: https://192.168.5.146/jpeg/mjpeg.html

- 2. The browser will pop up the window above asking for credentials, user needs to enter admin credential.
- 3. The browser will show MJPEG stream (720p).
- B. "Basic" MJPEG Authentication Mode:

Please follow below steps in order to take a snapshot via HTTP commands:

- 1. In browser type in: http(s)://admin:password@IP_Address_GSC:Port/jpeg/mjpeg.html

 Example: https://admin:admin@192.168.5.157:443/jpeg/mjpeg.html
- 2. The browser will show MJPEG stream (720p).

Note: Similar command can be applied to open source application like **VLC Media Player** to retrieve H.264 video stream with better quality: **rtsp://admin:password@IP_GSC361X:Port/X**

Where X=0,4 corresponded to 1st, 2nd video stream



Figure 16: RTSP steam display using VLC

User Management

This page allows users to configure the password for administrator. Since this is a door system which must be a secure product, the use is only limited to administrator.





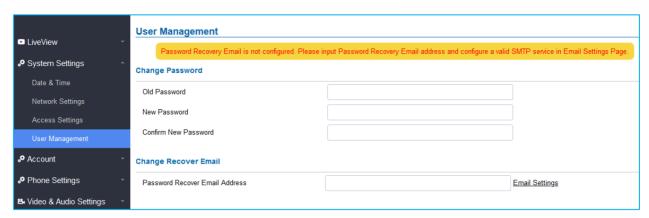
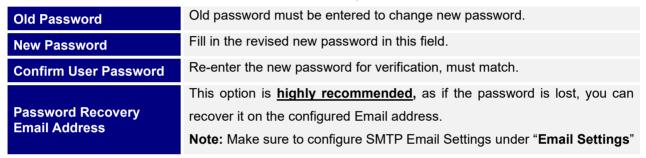


Figure 17: User Management Page

Table 8: User Management



Note:

When trying to change the password, users need to set the "Password Recovery Email" which
should be a valid Email account configurable under "Email & FTP Settings → Email Settings" to
retrieve the email before the new admin password take effect as displayed on the following
screenshot.

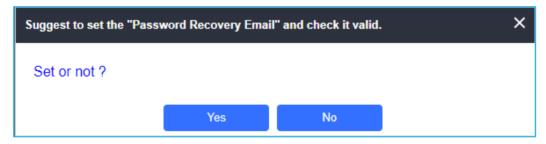


Figure 18: Password Recovery Email





Account

The GSC361X supports 4 SIP accounts and 4 lines, this section covers the configuration of basic and advanced sip settings for each account.

Account 1 - 4

This page allows the administrator to configure the SIP account basic and advanced settings for each SIP account:

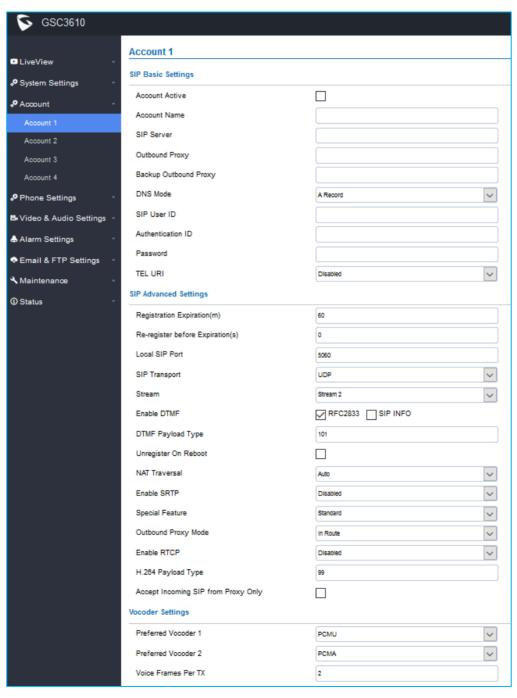


Figure 19: SIP Account Settings Page





Table 9: SIP Account Basic & Advanced Settings

SIP Basic Settings	
Account Active	This field indicates whether the account is active. Default setting is "Yes".
Account Name	Configures the SIP account name used for identification.
SIP Server	Configures the FQDN or IP of the SIP server from VoIP service provider or local IPPBX.
Outbound Proxy	Configures the IP address or the domain name of the outbound proxy, media gateway, or session border controller. It is used by the GSC for firewall or NAT penetration in different network environments. If a symmetric NAT is detected, STUN will not work and only an outbound proxy can provide a solution.
Backup Outbound Proxy	Configures the backup outbound proxy to be used when the "Outbound Proxy" registration fails. By default, this field is left empty.
DNS Mode	Configure which DNS mode will be used to translate the SIP Server FQDN (Default value is A Record): • A Record. • SRV. • NAPTR/SRV.
SIP User ID	Configures the SIP username or telephone number from ITSP. Note: Letters, digits and special characters including @ are supported.
Authenticate ID	Configures the Authenticate ID used by SIP proxy.
Password	Sets the Authenticate password used by SIP proxy. Note: For security reasons, the SIP password is invisible on the web UI.
TEL URI	Select "User=Phone" or "Enabled" from the dropdown list. If the SIP account has an assigned PSTN telephone number, this field should be set to "User=Phone". Then a "User=Phone" parameter will be attached to the Request-Line and "TO" header in the SIP request to indicate the E.164 number. If set to "Enable", "Tel:" will be used instead of "SIP:" in the SIP request. The default setting is "Disable".
SIP Advanced Settings	
Registration Expiration (m)	Sets the registration expiration time. Default setting is 60 minutes. Valid range is from 1 to 64800 minutes.
Re-register before Expiration (s)	Specifies the time frequency (in seconds) that the GSC361X sends reregistration request before the Register Expiration. The default value is 0. Range is from 0-64800 seconds.





Local SIP Port	Sets the local SIP port. Default setting is 5060 for Account 1, 5062 for Account 2, 5064 for Account 3, 5066 for Account 4.
SIP Transport	Chooses the SIP transport protocol. UDP, TCP or TCP/TLS. Default setting is UDP.
Stream	Select the Video stream to be used by the GSC361X when call is made from this SIP Account. Default is Stream 2.
Enable DTMF	Specifies the mechanism to transmit DTMF digits. There are 2 supported modes: • RFC2833 sends DTMF with RTP packet. Users can check the RTP packet to see the DTMFs sent as well as the number pressed. • SIP INFO uses SIP INFO to carry DTMF. Default setting is "RFC2833"
DTMF Payload Type	Configures the payload type for DTMF using RFC2833. Default value is 101. Range: 96~127.
Unregister on Reboot	Allows the SIP user's registration information to be cleared when the GSC reboots. The SIP REGISTER message will contain "Expires: 0" to unbind the connection.
NAT Traversal	This parameter configures whether the NAT traversal mechanism is activated. Users could select the mechanism from No, STUN, Keep-alive, UPnP, Auto. The default setting is "No". If set to "STUN" and STUN server is configured, the GSC will route according to the STUN server. If NAT type is Full Cone, Restricted Cone or Port-Restricted Cone, the unit will try to use public IP addresses and port number in all the SIP&SDP messages. The GSC will send empty SDP packet to the SIP server periodically to keep the NAT port open if it is configured to be "Keep-alive". Configure this to be "No" if an outbound proxy is used. "STUN" cannot be used if the detected NAT is symmetric NAT. If the firewall and the SIP device behind the firewall are both able to use UPNP, it can be set to "UPNP". Both parties will negotiate to use which port to allow SIP through.
Enable SRTP	Enable SRTP mode based on your selection from the drop-down menu. The default setting is "Disabled", the two other modes are "Enabled but Not Forced" and "Enabled and Forced".
Special Feature	Configures GSC settings to meet different vendors' server requirements. Users can choose from Standard, BroadSoft or Telefonica Spain. The default setting is "Standard".





Outbound Proxy Mode	In route: outbound proxy FQDN is placed in route header. This is used for the SIP Extension to notify the SIP server that the device is behind a NAT/Firewall. Always sent to: SIP messages will always be sent to Outbound proxy. Not in route: remove the Route header from SIP requests.
Enable RTCP	This option allows 3rd party Service Provider or Cloud Solution to monitor the operation status of the GSC361X by using related SIP Calls. By default, it is disabled. Users can choose either RTCP or RTCP-XR.
H.264 Payload Type	The H.264 payload type can now be configured to be compatible with 3rd party video phones, as well as other advanced SIP settings, to easy system integration process. Default is 99.
Accept Incoming SIP from Proxy Only	When set to "Yes", the SIP address of the Request URL in the incoming SIP message will be checked. If it does not match the SIP server address of the account, the call will be rejected. The default setting is disabled.
Vocoder Settings	
Preferred Vocoder 1	Select audio codec to prioritize. Supported codecs are: PCMU and PCMA.
Preferred Vocoder 2	Select the second audio codec PCMU or PCMA.
Voice Frame Per TX	Configures the number of voice frames transmitted per packet. When configuring this, it should be noted that the "ptime" value for the SDP will change with different configurations here. This value is related to the codec used and the actual frames transmitted during the in-payload call. For end users, it is recommended to use the default setting, as incorrect settings may influence the audio quality. Range is from 1-64. The default setting is 2.





Phone Settings

The phone settings allow users to configure the GSC361X phone settings and the White list for all the SIP accounts.

Phone Settings

This page allows users to configure the GSC361X phone settings.

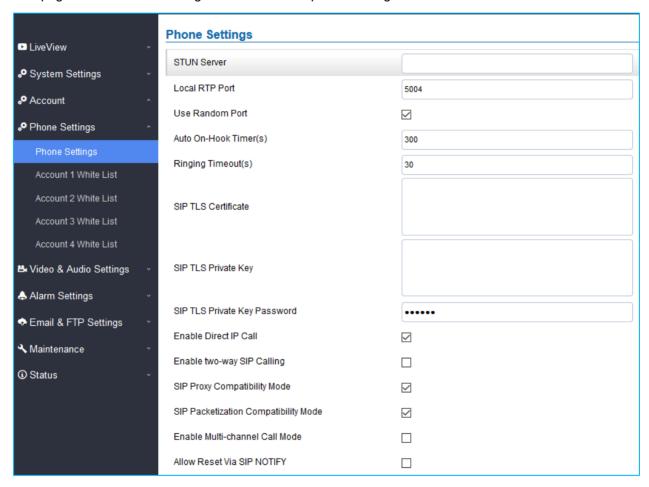


Figure 20: Phone Settings Page

Table 10: Phone Settings

STUN Server	Configures the STUN server FQDN or IP. If the device is behind a non-symmetric router, STUN server can help to penetrate & resolve NAT issues.
Local RTP Port	Sets the local RTP port for media. Default setting is 5004. Range between 1024~65400.





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Account [1-4] White List

This page allows users to configure the white list per account, which is a phone number or extension list that can call the GSC361X. (The call will be automatically answered when calling from a phone set on the white list, and all other inbound calls will be blocked), the user can configure up to 30 white phone numbers per SIP account. Moreover, besides numbers associated to active cards, and numbers on the "Number Called When Doorbell Pressed" setting, all whitelisted numbers can open door remotely by using the respective PIN code.

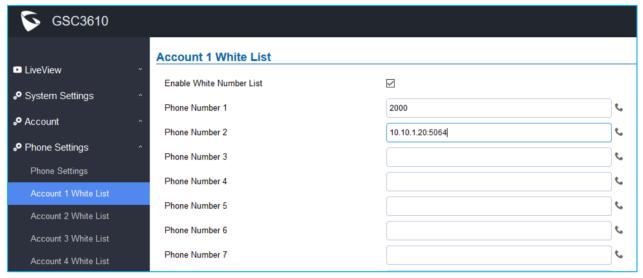


Figure 21: White List Page

The table below gives a brief overview of the options:

Table 11: White List

Enable White Number List	Enables the White List feature.
Phone Number 1 -30	 Adds a new phone number (or IP address) to the white list. Notes: When using IP addresses, the port number should be appended (default 5060). Only the whitelisted numbers/IPs can open door remotely using PIN Code when calling GSC361X.

Video & Audio Settings

The audio and videos settings allow users to configure the video / audio codecs, videos resolution, CMOS settings and audio related settings.





Video Settings

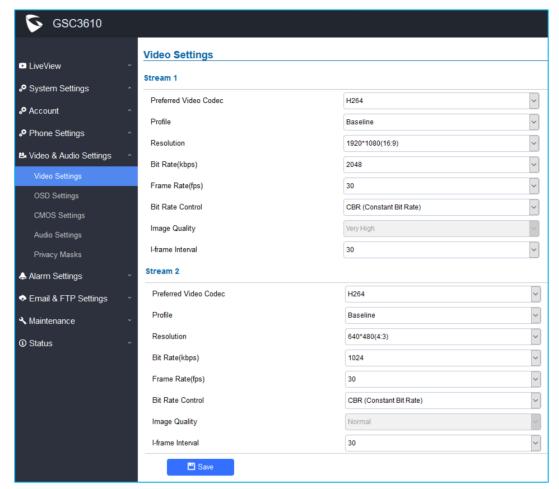


Figure 22: Video Settings Page

Table 12: Video Settings

Stream 1	
Preferred Video Codec	Selects the videos codecs, the codecs supported are H.264, H.265 and MJPEG. Default setting is H.264.
Profile	Selects the H.264/H.265 profile. Three profiles are available for H.264: Baseline, Main Profile and High Profile. And one profile for H.265: HEVC Main
Resolution	Specifies the resolution in pixels used at video image.
Bit Rate(kbps)	Selects the video bit rate or bandwidth used.
Frame Rate(fps)	Selects the maximum frame rate used (more data if big frame used).
Bit Rate Control	Selects the constantly bit rate, or variable bit rate.
Image Quality	Selects the image quality used when Variable Bit Rate used.
I-frame Interval	Configures the I-frame interval (suggested 2~3 times of frame rate).





Stream 2	
Preferred Video Codec	Selects the videos codecs, the codecs supported are H.264, H.265 and MJPEG. Default setting is H.264.
Profile	Selects the H.264/H.265 profile. Three profiles are available for H.264: Baseline, Main Profile and High Profile. And one profile for H.265: HECV Main
Resolution	Specifies the resolution in pixels used at video image.
Bit Rate(kbps)	Selects the video bit rate or bandwidth used.
Frame Rate(fps)	Selects the maximum frame rate used (more data if big frame used).
Bit Rate Control	Selects the constantly bit rate, or variable bit rate.
Image Quality	Selects the image quality used when Variable Bit Rate used.
I-frame Interval	Configures the I-frame interval (suggested 2~3 times of frame rate).

Notes:

- H.264 suggested if the GSC361X needs to be viewed via Internet.
- For definition of Baseline, Main Profile and High profile of H.264 please refer to: H.264 Profiles
- If MJPEG is selected, reduce the frame rate to the minimal value to save bandwidth and get better image.
- Grandstream GSC361X provides two video streams, users can use them with flexibility. For example, the high-resolution stream for local recording, another low or high resolution for SIP video phone call or remote smartphone monitoring application, or vice versa depending application scenarios.
- Use below link to calculate bandwidth and storage before installation http://www.grandstream.com/support/tools/bandwidth-storage-calc

OSD Settings

OSD Settings (On Screen Display) allow the users to Display time stamp and text on the video screen.





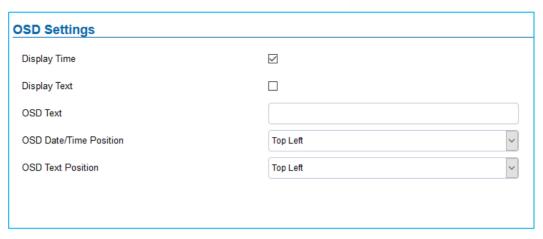


Figure 23: OSD Settings Page

Table 13: OSD Settings

Display Time	When checked, time will be displayed inside the video image.
Display Text	When checked, inputted text on "OSD Test" will be displayed on the video image.
OSD Text	Input a text (to identify the GSC361X) it will be shown on the screen.
OSD Date/Time Position	Show the Date/Time position on the screen.
OSD Text Position	Show the text position on the screen.

CMOS Settings

This page configures the CMOS parameters for different scenarios.

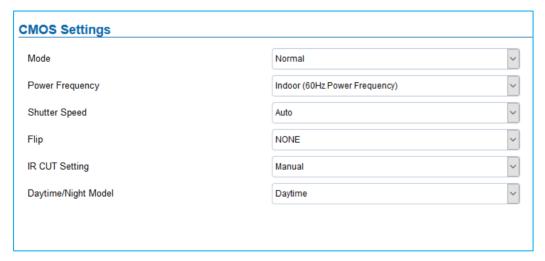


Figure 24: CMOS Settings Page





Table 14: CMOS Settings

Mode	Pull down to choose "Normal, Low Light, WDR" for different light condition. Default "Normal".
Power Frequency	Select correct light condition for the scene monitored: Outdoor, Indoor 50Hz power frequency (Europe, China, etc.) or 60Hz power frequency (US, Japan, etc.).
Shutter Speed	Camera Shutter Speed. There are 10 options, with Auto, 1/30 (slowest), 1/60, 1/125, 1/250, 1/500, 1/1000, 1/2000, 1/5000 and 1/10000 (fastest)
Flip	Pull down to choose to flip video either vertically, horizontal or both
IR CUT Setting	Set Manual or Automatic (IR Sensor control) to switch the mechanical IR_CUT.
Daytime/Night Model	Select either Daytime or Night Model

Audio Settings

This page allows users to configure the audio settings.

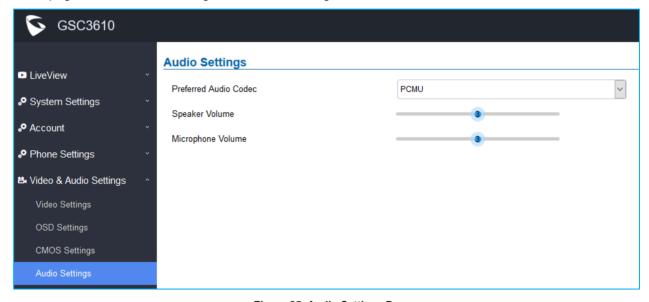


Figure 25: Audio Settings Page

Table 15: Audio Settings

Preferred Audio Codec	Configures the audio codec.
	Two codecs are available: PCMU and PCMA.
Speaker Volume	Adjusts the speaker volume connected.
Microphone Volume	Adjusts the Mic volume.





Privacy Masks

This page allows users to configure privacy masks up to 4 different regions by selecting different regions requiring privacy mask as displayed on the following figure.

When privacy mask enabled, the video at related region will be masked by black color and no video displayed inside that mask.

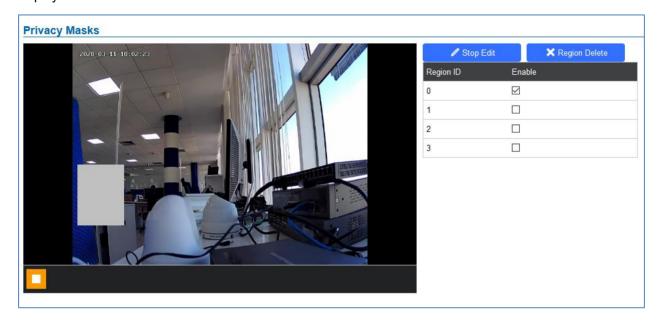


Figure 26: Privacy Masks Configuration Page

- Click "Start Edit" then long press and slide to identify a region
- Select a preconfigured region then Click "Region Delete" to remove it.

Alarm Settings

This page allows users to configure alarm schedule and alarm actions.

Alarm Events Config

This page allows users to configure GSC361X events to trigger programmed actions within predefined schedule.





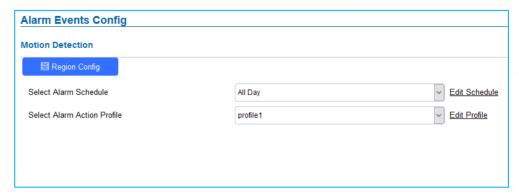


Figure 27: Events Page

Motion Detection

Users can select a specific region to trigger the alarm using motion detection.

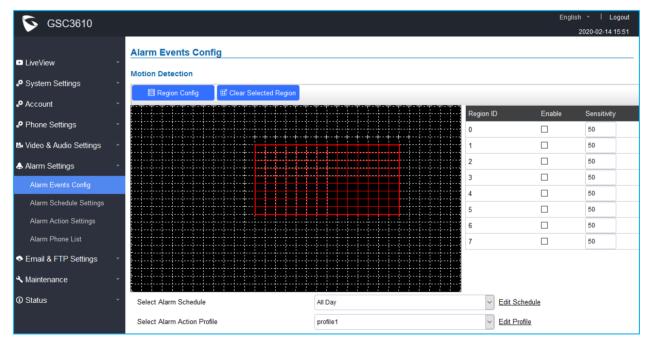


Figure 28: Region Config

Table 16: Motion Detection

Region Config	Configures the motion detection region. First click to access the Region
	Config menu and second click to quit.
Clear Selected Region	Selects a zone on the screen then click on "Clear" to delete the region.
Sensitivity	Specifies the region sensitivity (value between 0-100%).
Select Alarm Schedule	Selects the alarm schedule.
Select Alarm Action Profile	Selects the programmed Alarm Action profile.





Alarm Schedule Settings

This page specifies the configuration of Alarm Schedule.

Note: Schedule must be configured first to allow the alarm to take the related action.

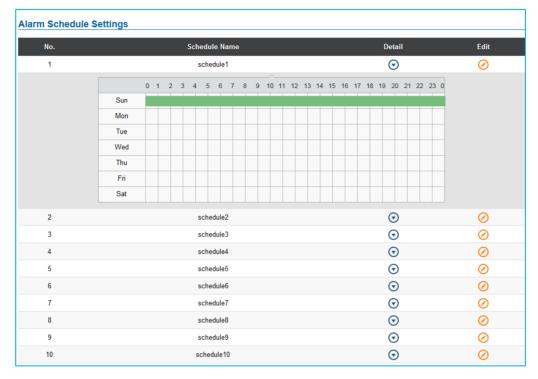


Figure 29: Alarm Schedule

GSC361X supports up to 10 alarm schedules to be configured, with time span specified by users. Users can View the schedule details by clicking or Edit the alarm schedule by clicking button. Usually the 24 hours' span is 00:00 ~ 23:59, which is 24 hours' format. Note that it is possible to copy the configuration to different date during the schedule programming using the banner at the bottom.





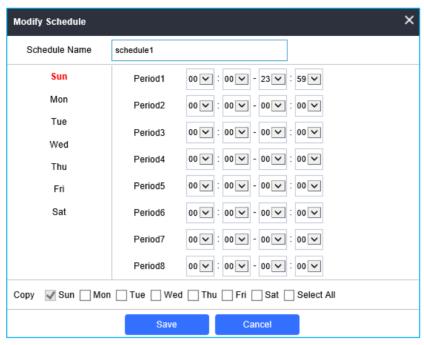


Figure 30: Edit Schedule

Alarm Action Settings

This page specifies the configuration of Profile used by the Alarm Actions. A Profile is required before the Alarm Action can take effect.

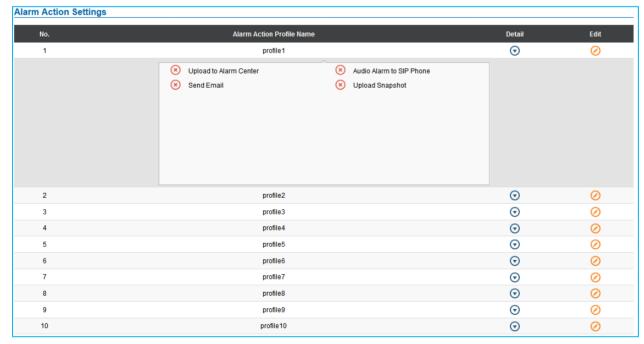


Figure 31: Alarm Action

User can edit the alarm action by clicking button, the following window will popup.





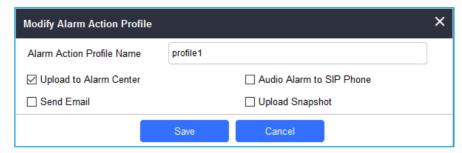


Figure 32: Edit Alarm Action

Table 17: Alarm Actions

Upload to Alarm Center	If selected, the GSurf will popup alarm window and sound alarm in the computer speaker.
Audio Alarm to SIP Phone	If selected, GSC361X will call pre-configured (video or audio) phone and will play sound alarm.
Send Email	If selected, an email with snapshot will be sent to the pre-configured email destination.
Upload Snapshot	If selected, snapshots at the moment where the event is triggered will be sent to preconfigured destination (e.g.: FTP or email).

Alarm Phone List

This page allows users to configure the Alarm Phone List, which are phone numbers or extensions list that the GSC361X will call out when event is trigged.

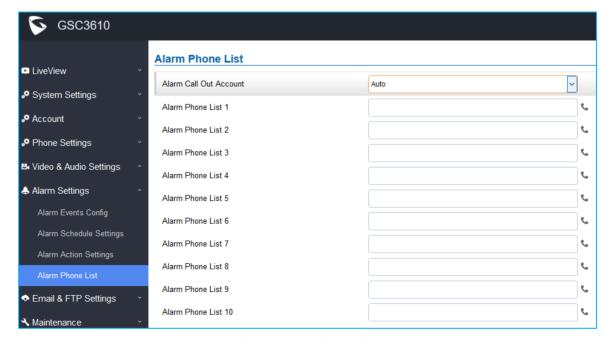


Figure 33: Alarm Phone List





Table 18: Alarm Phone List

Alarm Call Out Account	Select the SIP Account to be used by the GSC361X when alarm out is triggered.
Alarm Phone List 1-10	Add or delete number from the phone alarm list. (When IP address is used then the port needs to be appended, example: 192.168.1.12:5060).

Once the event is triggered the GSC361X will call the first number, once time out is reached and no answer is returned from the first number, the GSC3610 will try the next number on the list and so on. Once the remote phone answers the call, an alarm will be played to notify users that an event is triggered.

Email & FTP Settings

This page contains Email and FTP Settings.

Email Settings

This page allows users to configure email client to send out an email when the alarm is trigged.

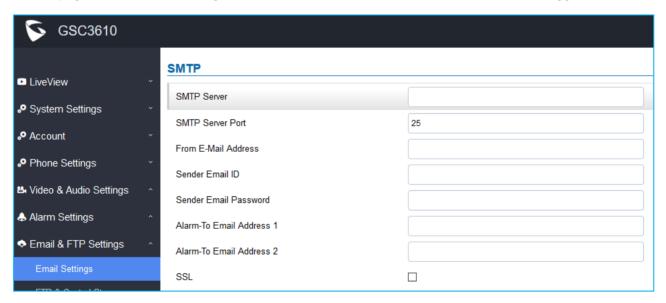


Figure 34: Email Settings - SMTP Page

Table 19: Email Settings - SMTP

SMTP Server	Configures the SMTP Email Server IP or Domain Name.
SMTP Server Port	Specifies the Port number used by server to send email.
From E-mail address	Specifies email address of alarm email sending from, usually client email ID.
Sender Email ID	Specifies sender's User ID or account ID in the email system used.





Sender Email Password	Specifies sender's password of the email account.
Alarm-To Email Address 1	Specifies the 1 st email address to receive the alarm email.
Alarm-To Email Address 2	Specifies the 2 nd email address to receive the alarm email.
SSL	Check if the SMTP email server requires SSL.

Notes:

- Click "Save" to save the email configuration information.

FTP & Center Storage

This page allows users to configure the FTP Settings in order to upload capture images.

Table 20: Picture Storage Settings

Storage Server Type	Selects whether to upload pictures to Central Storage or upload them to the FTP server.
FTP Server	Configures the IP address of the FTP server when selected to upload images to.
FTP Server Port	Specifies the FTP address port.
FTP Username	Specifies the FTP server account name.
FTP Password	Specifies the FTP server password.
FTP Path	Specifies the storage path.
FTP Test	Click to test the connection with FTP server.







Figure 35: Picture Storage Settings

Notes:

- If the connection to the FTP server is successful, a ".txt" file containing a success message will be
 uploaded to the FTP server. And the following message will pop up on the Web GUI
 FTP test successfully.
- Central Storage will store screenshots locally.

Maintenance Settings

This page shows the GSC361X Maintenance parameters.

Upgrade

This page contains the upgrade and provisioning parameters of the GSC361X.





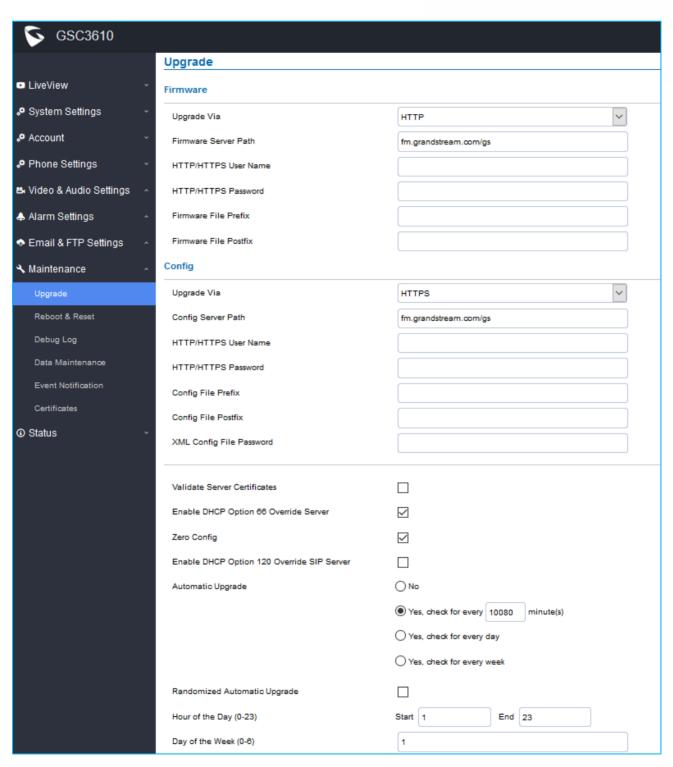


Figure 36: Upgrade Page





Table 21: Upgrade

Firmware	
	Selects the upgrade method
Upgrade Via	(TFTP, HTTP, or HTTPS).
Firmware Server Path	Configures the IP address or the FQDN of the upgrade server.
HTTP/HTTPS Username	The username for the HTTP/HTTPS server.
HTTP/HTTPS Password	The password for the HTTP/HTTPS server.
	Enables your ITSP to lock configuration updates. If configured, only the
Firmware File Prefix	firmware file with the matching encrypted prefix will be downloaded and
	flashed into the phone.
	Enables your ITSP to lock firmware updates. If configured, only the
Firmware File Postfix	firmware with the matching encrypted postfix will be downloaded and
	flashed into the phone.
Config	
Upgrade via	Selects the upgrade method (TFTP, HTTP, and HTTPS).
Config Server Path	Configures the IP address or the FQDN of the configuration server.
HTTP/HTTPS Username	The username for the HTTP/HTTPS server.
HTTP/HTTPS Password	The password for the HTTP/HTTPS server.
	Enables your ITSP to lock configuration updates. If configured, only the
Config File Prefix	configuration file with the matching encrypted prefix will be downloaded
	and flashed into the phone.
	Enables your ITSP to lock configuration updates. If configured, only the
Config File Postfix	configuration file with the matching encrypted postfix will be downloaded
	and flashed into the phone.
XML Config File Password	Specifies the password for the configuration file.
Validate Server Certificate	Enable this option in order to validate certificate with trusted ones during
	TLS connection.
Enable DHCP Option 66	Activates DHCP option 66 to override upgrade/config servers.
Override Server	Fuebles 7-m Confin feeting for subject to the confine feeting feeting feeting for subject to the confine feeting feet
Zero Config	Enables Zero Config feature for auto provisioning.
Enable DHCP Option 120	Enables DHCP Option 120 from local server to override the SIP Server
Override SIP Server	on the phone. The default setting is enabled.
Automotio Unaredo	Enables automatic upgrade and provisioning.
Automatic Upgrade	Set schedule for provisioning for either every X minute, every day, or every week. Default is No.
	CYCLY WOOK. Delault is No.





Randomized Automatic	Enable and define the start/End hours of the day and days of the week
Upgrade	where the GSC361X will randomly checking for update.

Reboot & Reset

This page allows user to reboot and reset the GSC361X.



Figure 37: Reset & Reboot Page

Table 22: Reset & Reboot

Reboot	When clicked, the GSC361X will restart (soft reboot).
Reset	Restore Factory Default Settings

Debug Log

This page allows user to configure SYSLOG to collect information to help troubleshooting issues with GSC361X.

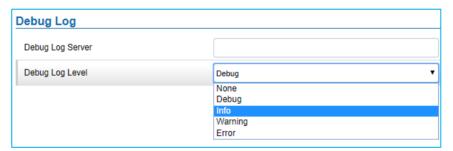


Figure 38: Debug Log Page

- Five levels of Debugging are available, None, Debug, Info, Warning, Error.
- Once the Syslog Server and the level entered, press "Save" and then Reboot the device to apply the settings.

Data Maintenance

This page allows users to manage the GSC361X configuration file by importing/exporting configuration files.







Figure 39: Data Maintenance Page

Notes:

- Click on to save the GSC361X configuration in a predefined directory.
- Users can either select to include all the passwords (SIP, FTP, Remotes access...) on the configuration files exported or not including the passwords as displayed on the previous figure.

Event Notification

This page allows users to configure the event notification details that will be used by GSC361X to communicate to an HTTP server to log the events. When the feature is enabled and configured, all the event logs will be uploaded to server:

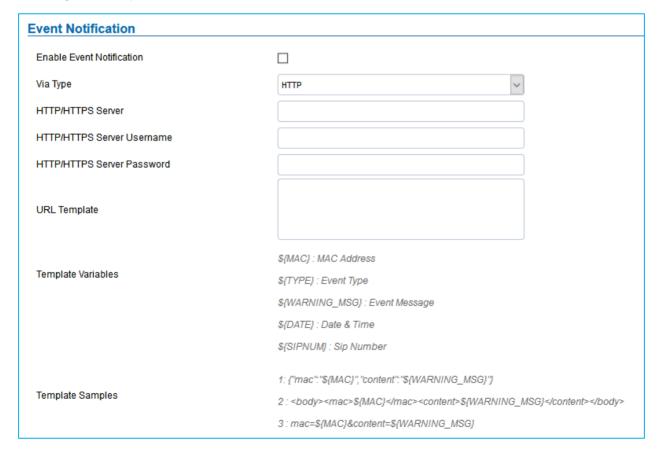


Figure 40: Log Manager Page





Table 23: Log Manager Settings

Enable Event Notification	Enables Event Notification feature
Via Type	Choose which protocol will be used to connect to the logs server (HTTP or HTTPs).
HTTP/HTTPS Server	Enter the IP address of domain name for the logs server.
HTTP Server Username	Configure the username of your HTTP(s) server
HTTP Server Password	Configure the password of your HTTP(s) server
URL Template	Specify the template for the event log messages that will be sent to the server, users can use the following variables to customize the message: • \${MAC}: MAC Address • \${TYPE}: Event Type • \${WARNING_MSG}: Event Message • \${DATE}: Date & Time • \${SIPNUM}: SIP Number

• User can test the configuration by clicking on



Certificates

This page allows users to upload up to 6 Trusted CA certificate files which will be trusted by the GSC361X during SSL exchange. Also, users are allowed to configure the device with custom certificate signed by custom CA certificate under the Custom Certificate section.

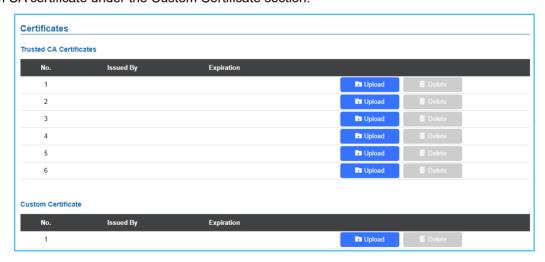


Figure 41: Upload Certificate files





In order to upload your Trusted CA certificate, you may proceed as follows:

- Click on button to upload a file and some related information to the uploaded file will be displayed, such as "Issued by" and "Expiration date".



Figure 42: Trusted CA Certificates

Users could press
 Delete to delete one of the files.

In order to upload your Custom certificate, you may proceed as follows:

- Click on button to upload a file and some related information to the uploaded file will be displayed, such as "Issued by" and "Expiration date".



Figure 43: Custom certificate

Status

This page displays GSC361X system and network information.

Account Status

This page displays of configured accounts' SIP user ID, SIP server as well as the SIP Registration status, from Account 1 to Account 4.

Notes:

- When the SIP account is registered, the SIP Registration status display will be Online
- When SIP account is unregistered, the SIP Registration status display will be Offline





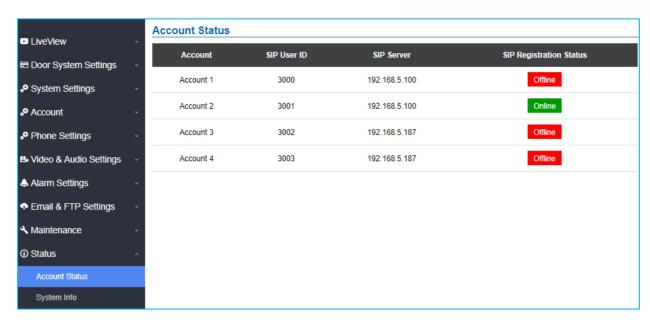


Figure 44: System Info Page

System Info

This page displays information such as the product model, the hardware version, firmware...

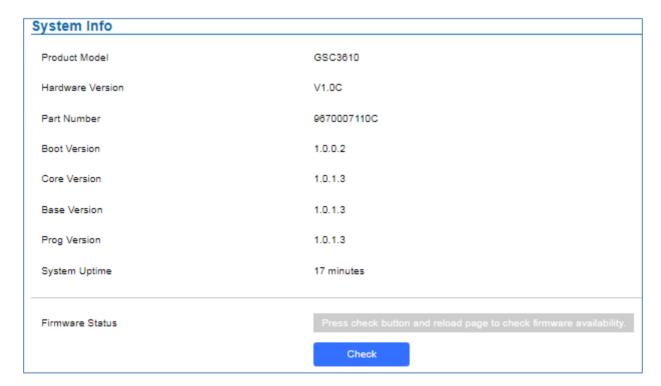


Figure 45: System Info Page





Table 24: System Info

Product Model	Displays the Product Model.
Hardware Version	Displays the Hardware Version.
Part Number	Displays the Part Number.
Boot Version	Displays the Boot Version.
Core Version	Displays the Core Version.
Base Version	Displays the Base Version.
Prog Version	Displays the Prog Version.
System Up Time	Displays the time since the first boot of the GSC361X.
Firmware Status	Click the button to check whether the firmware in the firmware server has an updated version, if so, update immediately.

Network Info

This page displays the network system information of GSC361X.

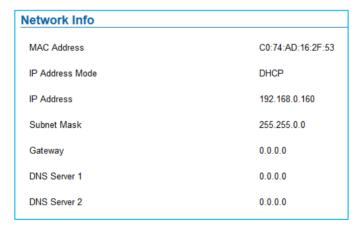


Figure 46: Network Info Page

Table 25: Network Info

MAC Address	Displays the GSC MAC Address.
IP Address Mode	Displays the IP address mode used.
IP Address	Displays the IP address of the GSC361X.
Subnet Mask	Displays the Subnet Mask used.
Gateway	Displays the GSC361X Gateway.
DNS Server 1	Displays the Preferred DNS Server.
DNS Server 2	Displays the secondary DNS Server.





EXPERIENCING THE GSC3610/GSC3615

Please visit our website: http://www.grandstream.com to receive the most up- to-date updates on firmware releases, additional features, FAQs, documentation and news on new products.

We encourage you to browse our <u>product related documentation</u>, <u>FAQs</u> and <u>User and Developer Forum</u> for answers to your general questions. If you have purchased our products through a Grandstream Certified Partner or Reseller, please contact them directly for immediate support.

Our technical support staff is trained and ready to answer all of your questions. Contact a technical support member or submit a trouble ticket online to receive in-depth support.

