

Grandstream Networks, Inc.

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GXV3500

IP Video Encoder/Decode

**User Manual**



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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 User Manual, could void your manufacturer warranty.

## **WARNING**

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



## SAFETY COMPLIANCES

These instructions are intended to assist users to safely operate the GXV3500, avoid dangerous situations or damage the device.

	
<b>Warning</b> : May cause serious injury or death if any of the warnings below are neglected.	<b>Caution</b> : Equipment may be damaged if any of the following caution messages are neglected.



### **Warning:**

Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with DC 12V according to the IEC60950-1 standard. Please refer to the technical specifications for more details. Do not use a third-party power adapter or power cord. When the device installed on the wall or ceiling, make sure that it is firmly attached.



### **Caution :**

- Make sure that the power supply voltage is correct before using the camera.
- Do not drop the device or expose it to physical shock.
- Do not expose the device to temperatures outside the range of 0 oC to 45oC when the device is in operation.
- Do not expose the device to damp/wet conditions or high electromagnetism radiation.
- To avoid heat accumulation, make sure that your operating environment has proper ventilation.
- Do not damage the warranty sticker.

A few parts (e.g. electrolytic capacitor) of the equipment shall be replaced regularly according to their average lifetime. The average lifetime varies from the differences between operating environments and usage history. Regular maintenance checks are recommended for all users. Please contact your dealer for more details.



## FCC CAUTION

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. 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. 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.

## RF Exposure Information (SAR)

This device is designed and manufactured not to be exceeded the emission limits for exposure to radio frequency RF energy set by the Federal Communications Commission of the United States. The exposure standard for wireless devices employing a unit of measurement is known as the Specific Absorption Rate (SAR), and the SAR limit set by FCC is 1.6 W/kg.

This device is complied with SAR for general population/uncontrolled exposure limits in ANSI/IEEE C95.1-1992, and has been tested in accordance with the measurement methods and procedures specified in OET Bulletin 65 Supplement C. This device has been tested, and meets the FCC RF exposure guidelines when tested with the device directly contacted to the body. RF exposure compliance with anybody-worn accessory, which contains metal, was not tested and certified, and uses such body-worn accessory, should be avoided.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



## Warranty

If the GXV3500 was purchased from a reseller, please contact the company where the device was purchased for replacement, repair or refund.

If the device was purchased directly from Grandstream, please contact our technical support team for a RMA (Return Materials Authorization) number before the product is returned.

Grandstream reserves the right to remedy warranty policy without prior notification.



### 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 User Manual, could void your manufacturer warranty.*

*Please do not use a different power adaptor with the GXV3500 because this may cause damage to the products and void the manufacturer warranty.*

- This document is subject to change without notice. The latest electronic version of this user manual is available for download at:

[http://www.grandstream.com/sites/default/files/Resources/gxv3500\\_user\\_manual.pdf](http://www.grandstream.com/sites/default/files/Resources/gxv3500_user_manual.pdf)

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## CHANGE LOG

This section documents significant changes from previous versions of user manual for GDS3710. Only major new features or major document updates are listed here. Minor updates for corrections or editing are not documented here.

### **Firmware Version 1.0.1.98**

- Added support for DHCP Option 66. [DHCP Option 66 Override Server]
- Add support for DNS SRV mode. [DNS Mode][DNS Mode]

### **Firmware Version 1.0.1.97**

- Added activating alarm out directly upon receiving SIP call.

### **Firmware Version 1.0.1.95**

- Changed the WEB UI color tone to dark blue and updated the Logo.

### **Firmware Version 1.0.1.94**

- Added displaying black screen to external monitor/TV when network is disconnected.



## WELCOME

Thank you for purchasing Grandstream's GXV3500, a powerful device to convert analogue camera to IP network camera (encoder mode), or display real-time stream to big screen TV (decode mode).

GXV3500 is a next generation encoder/Decode. It features cutting-edge H.264 real-time video compression, industry leading SIP/VoIP for 2-way audio and video streaming to smartphones and videophones, PoE, best-in-class scalability and ease of integration, and advanced security protection. The unique incorporation of TCP/IP protocols creates sophisticated, flexible networking and remote control abilities.

The GXV3500 features the advanced functionality of embedded analytics (motion detection). The built-in Alarm\_In and Alarm\_Out interface can be used to linked analogue camera, can also be peered to configured IP camera as external and remote Alarm\_Out, saved the direct wiring to the camera via Ethernet network connection.

The GXV3500 can be managed with GSurf Pro (Grandstream's intuitive FREE video management software that controls up to 72 cameras simultaneously), or grouped with GVR3550/3552 Grandstream Network Video Recorder (NVR) via plug-n-play, as well as other ONVIF compliant video management systems. It also offers an advanced and flexible HTTP API and an SDK for easy integration with other surveillance systems.

Designed for indoor environment application, the GXV3500 is a robust surveillance solution for broad range of application environments such as banks, hotels, schools, retail stores and small warehouses, offices or building entrances, and other small to median sized enclosed environments.

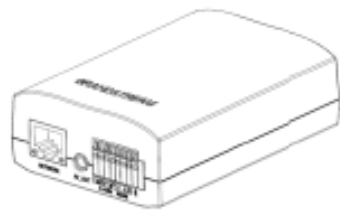
GDS3710 is ideal for entry places requiring a wide-angle monitoring, such as banks, hotels, schools, office buildings, retail stores and small warehouses, and for most small to medium sized enclosed environments.



## CONNECT YOUR GXV3500

### Equipment Package Contents

- GXV3500 – 1 Channel digital video encoder/Decode
- 12V DC Universal Power Adaptor
- 3.5mm to RCA audio/video cable
- Quick Installation Guide



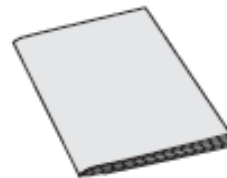
GXV 3500



12V Power Supply



TV out RCA cable



QuickStart Guide

Figure 1: GXV3500 Package

### Connecting the GXV3500

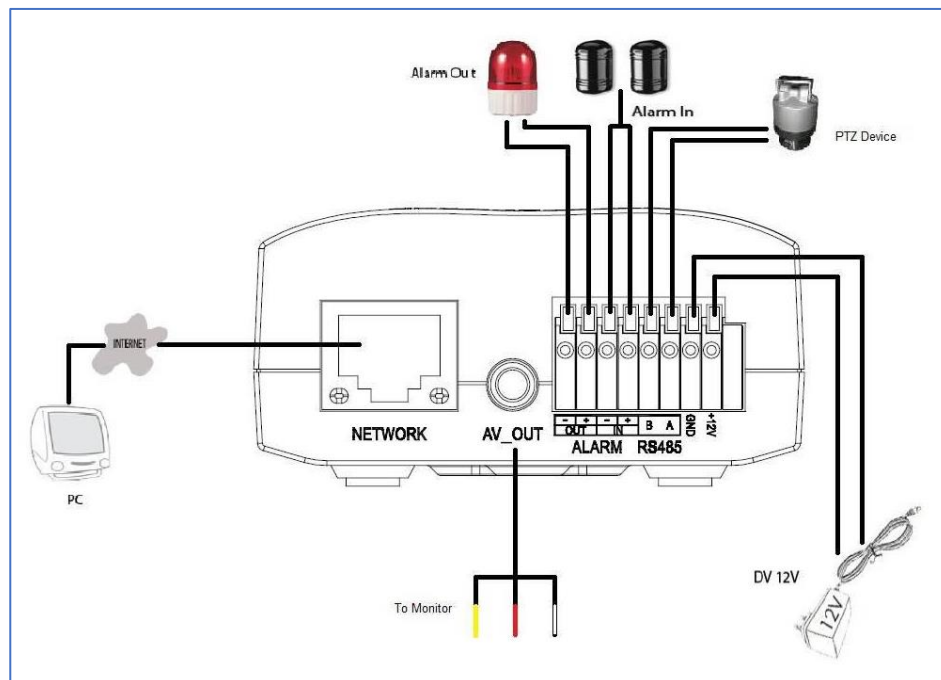
#### 1. Using the Power Adaptor as power supply

- Connect the RJ45 Ethernet cable to the NETWORK port of the GXV3500
- Connect the other end of the RJ45 cable to your network (switch or router or PC)
- Connect the power supply to the DC 12V power clamps on the back of the GXV3500
- Connect the GXV3500 Video into the analog camera Video Out port via BNC cable.
- Connect 3<sup>rd</sup> party 3.5mm external microphone to “MIC\_IN” port of GXV3500 if audio required.

## 2. Using PoE as power supply

- Connect the RJ45 Ethernet cable to the NETWORK port of GXV3500
- Connect the other end of the RJ45 cable to your PoE switch
- PoE injector can be used if PoE switch is not available.
- Connect the GXV3500 Video In to the analog camera Video Out port via BNC cable.
- Connect 3<sup>rd</sup> party 3.5mm external microphone to “MIC\_IN” port of GXV3500 if audio required.

Please refer to following connection diagram to hook up the camera and external 3<sup>rd</sup> party accessories.



**Figure 2: GXV3500 Connection diagram**

## PRODUCT OVERVIEW

### GXV3500 Camera

Please see below the diagram and explanation of GXV3500 IP camera:

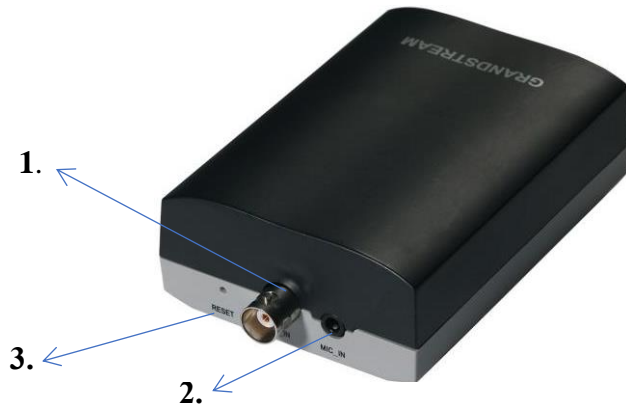


Figure 3: GXV3500 IP Camera front view

1. **V\_IN, BNC Interface:** GXV3500 BNC interface, connect to analog camera as Video Input (Voltage: 1.0V p-p; Resistance 75 Ω).
2. **MIC\_IN:** 3.5mm socket for external 3<sup>rd</sup> party microphone input.
3. **RESET:** PIN hole, press & hold for 15 seconds to factory reset the device.



Figure 4: GXV3500 IP Camera rear view

1. **NETWORK:** 10/100 RJ45 network socket for Ethernet connection.
2. **AV\_OUT:** 3.5mm to RCA audio/video connection output to display device like TV.
3. **ALARM OUT:** 1 Channel Alarm Output port for device like Siren.
4. **ALARM IN:** 1 Channel Alarm Input port for device like Infrared Motion Detector.
5. **RS-485:** 1 Channel RS-485 Interface for cameras with PTZ Controller.
6. **DC 12 V:** 12V DC power port. Insert the positive bare wire +12V; insert the negative bare wire into the GND port. Do NOT connect wrongly.

**Note:** “Pin Out” of the 3.5mm AV cable used for GXV3500 (highlight in Blue)

- 1: **Ground;**
- 2: **Video (Yellow);**
- 3: **Audio Right (Red);**
- 4: **Audio Left (White).**

Same as the AV cable used in Apple iBook, etc.



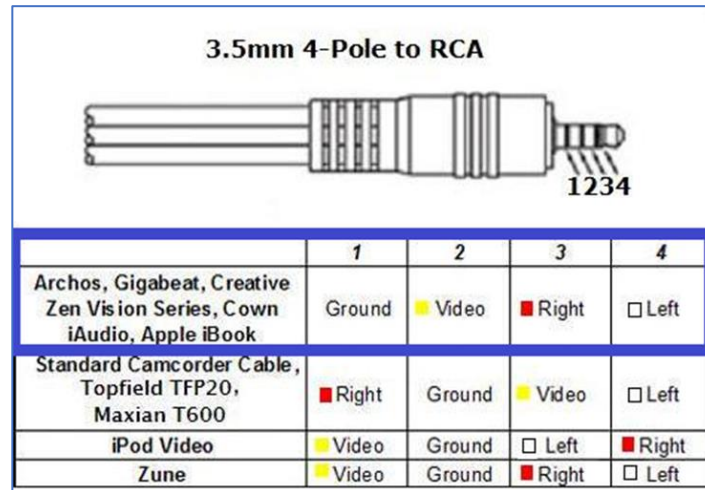


Figure 5: AV Cable standard example

## Technical Specifications

The following table resumes all the technical specifications including the protocols / standards supported, voice codecs, telephony features and upgrade/provisioning settings for GXV3500.

Table 1: GXV3500 Technical Specifications

<b>Channel</b>	1
<b>Video Compression (Encoder)</b>	H.264, MJPEG, JPEG
<b>Video Decompression (Decode)</b>	H.264 ONLY
<b>Max. Video Resolution (Encoding)</b>	Encoding (4CIF): 704x480@30fps (NTSC); 704x576@25fps (PAL)
<b>Max. Video Resolution (Decoding)</b>	Decoding (4CIF): 720x480@30fps (NTSC); 720x576@25fps (PAL)
<b>Video Bit Rate</b>	16 Kbps ~ 2 Mbps
<b>Video Input (Encoder Mode)</b>	1, BNC (Voltage: 1.0Vp-p; Resistance: 75Ω)
<b>Video Output (Decode Mode)</b>	1, 3.5mm to RCA Line-Out
<b>Audio Compression</b>	G.711 a/u (PCMA, PCMU)
<b>Audio Input</b>	1, 3.5mm Line In (Resistance: 1.5KΩ)
<b>Audio Output</b>	1, 3.5mm to RCA Line-Out (600Ω, 0.707 Vrms)

<b>Alarm Input</b>	1, PIN, Voltage < 45V, Current (DC) < 50mA, Normal Open (Low)
<b>Alarm Output</b>	1, PIN, Voltage < 80V, Current < 50mA, Normal Open (Low)
<b>PTZ Control</b>	1, PIN, via RS-485
<b>Embedded Analytics</b>	Motion Detection (up to 16 target areas)
<b>Pre-/Post-Alarm Recording</b>	Yes
<b>Security</b>	On screen display, HTTPS, Password
<b>Snapshots</b>	Triggered upon Events, Send via email and/or FTP
<b>SIP/VoIP Support</b>	Yes, Voice and Video
<b>Power over Ethernet (PoE)</b>	IEEE 802.3af Class 0; 10M/100M Auto-sensing, 2KV Lightning Surge Protection.
<b>Network Protocol</b>	TCP/UDP/IP, RTP/RTCP, RTSP, DHCP, DDNS, HTTP, HTTPS, SMTP, FTP, NTP
<b>Cable Connections</b>	<ul style="list-style-type: none"> <li>• BNC for Video In</li> <li>• 3.5mm Audio Line-In</li> <li>• RJ45 Ethernet</li> <li>• 3.5mm to RCA Video and Audio Line-Out</li> <li>• PINs for Alarm-In, Alarm-Out, PTZ and Power Input</li> </ul>
<b>Dimensions</b>	67mm x 34mm x 96mm
<b>Weight</b>	121g or 4.3oz
<b>Temperature / Humidity</b>	Operating: 0°C ~ +45°C (32°F ~ 113°F), 10 – 90% RH (Non-condensing) Storage: -20°C ~ +60°C (-4°F ~ 140°F)
<b>Power Adapter</b>	Output: 12VDC/0.5A; Input: 100–240VAC, 50–60Hz
<b>Compliance</b>	FCC Part 15, Subpart B Class B; EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, EN 55024, EN 60950-1; RCM AS/NZS CISPR 22/24, AS/NZS 60950

## INSTALLATION GUIDE

### Minimum Recommended Computer System Requirement

To install GXV3500, you have to have a computer, PC recommend.

The minimum recommended PC system requirement listed below:

- Windows XP, Windows Vista, Windows 7 and Windows 8
- CPU: Intel Pentium 4 or higher, 2 GHz
- RAM: 2 GB (4 GB recommended for larger systems)
- Support for DirectX 8.0 and above.

### Configure the GXV3500 via Web Browser

The GXV3500 has embedded Web server to respond to HTTP GET/POST requests. Embedded HTML pages allow user to configure the IP camera through Microsoft Internet Explorer (7.0 or above), Firefox, Chrome (plug-in from Grandstream required).

Download WebControl Plug-in from Grandstream website:

[http://www.grandstream.com/products/tools/surveillance/webcontrl\\_plugin.zip](http://www.grandstream.com/products/tools/surveillance/webcontrl_plugin.zip)

#### Notes:

- Please temporarily disable Antivirus or Internet Security Software when download and install the Grandstream WebControl Plug-in for Firefox/Chrome or "GSViewerX.cab" for Microsoft Internet Explorer. Please close Browser to install the downloaded Plug-in or Active-X.
- Please trust and install the file downloaded if prompted by the Antivirus or Security software.
- For Apple platform (OS-X or iOS), only MJPEG (video encode mode) supported currently.

### Connect the Camera to network with DHCP server (Recommended)

The GXV3500 by default enabled as DHCP client, it will automatically get IP address from the network with DHCP server running.

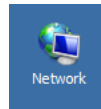


## Windows Platform

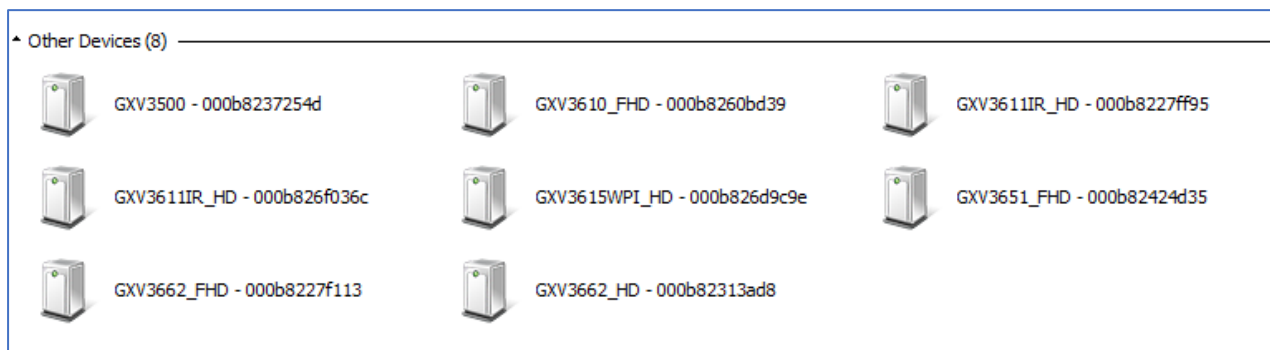
There are two ways for Windows user to get access to the IP Camera easily:

### A. UPnP

By default, the GXV3500 has the UPnP feature turned ON. For customers using Window network with UPnP turned on (most SOHO router support UPnP), it is very easy to access the IP camera:



- Find the “Network” icon at Windows Desktop.
- Click the icon to get into the “Network” and the IP cameras will list as “Other Devices” shown like below. Refresh the pages if nothing displayed. Otherwise, the UPnP may not active in the network.

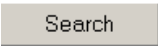


**Figure 6: Windows “network” showing gxv3500 as “other devices” via UPNP**

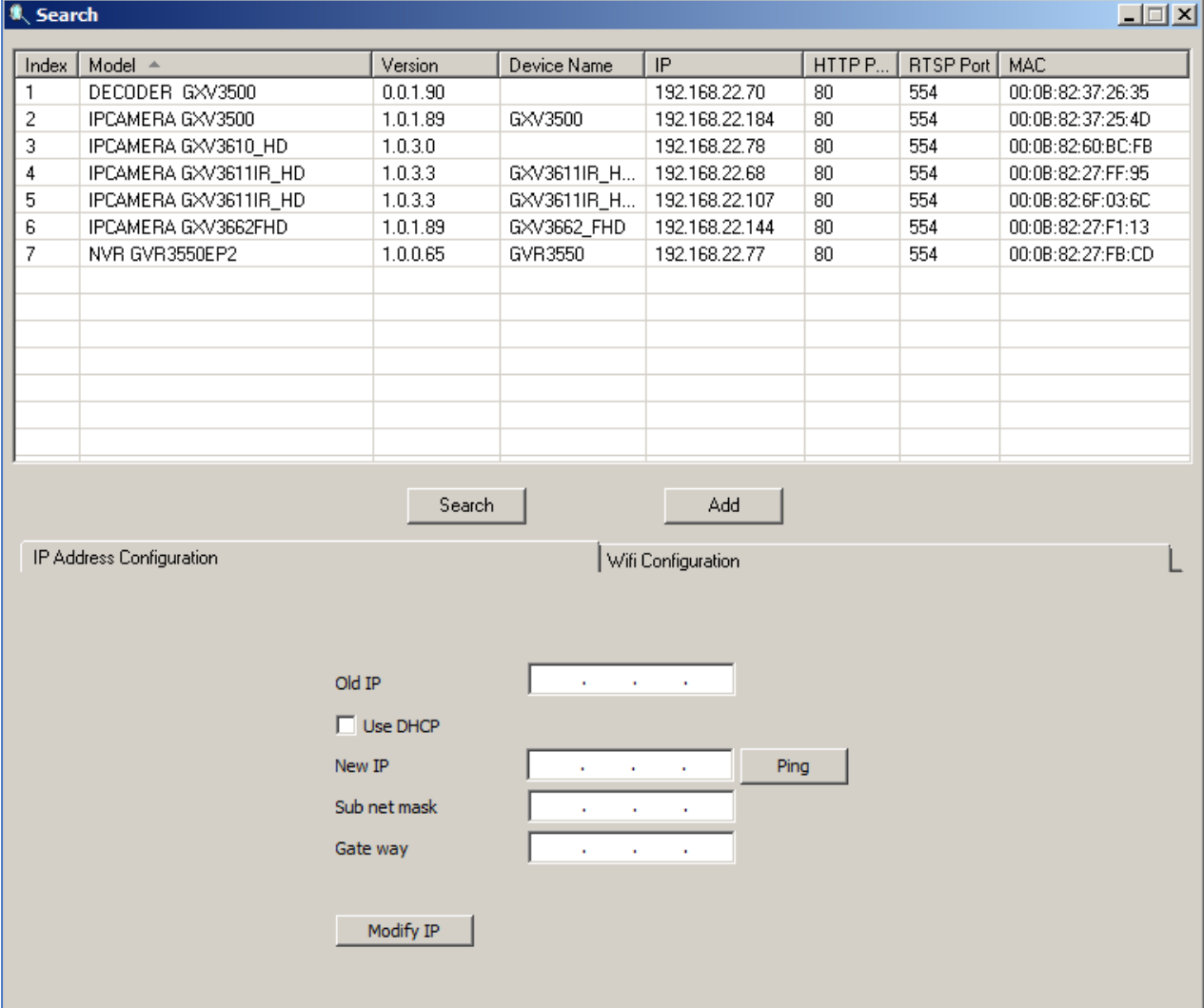
- Click the displayed icon of related IP camera, the default browser (e.g.: Firefox or Chrome) will open and connect directly to the camera’s webpage, prompt message will display asking for plug-in installation.
- Disable security or antivirus software, download the plug-in, close browser and install the plug-in, open the browser again, the embedded video will be displayed if clicking the icon of the related IP Camera.

### B. “GS Search” Utility Tool

User can know the IP address assigned to the camera from DHCP server log or using the Grandstream GS\_Search tool. Following is the instruction for using “GS\_Search” utility tool:

1. Download the GS\_Search tool from Grandstream website:  
[http://www.grandstream.com/products/tools/surveillance/GS\\_Search.zip](http://www.grandstream.com/products/tools/surveillance/GS_Search.zip)
2. Run the Grandstream GS\_Search tool by double click the unzipped “GS\_Search.exe”.
3. Click on the  button to begin device detection
4. The detected devices will appear in the output field like below:





The screenshot shows a window titled "Search" with a table of detected devices. Below the table are "Search" and "Add" buttons. At the bottom, there are tabs for "IP Address Configuration" and "Wifi Configuration". The IP configuration form includes fields for Old IP, New IP, Sub net mask, and Gate way, along with checkboxes for "Use DHCP" and a "Ping" button. A "Modify IP" button is also present.

Index	Model	Version	Device Name	IP	HTTP P...	RTSP Port	MAC
1	DECODER GXV3500	0.0.1.90		192.168.22.70	80	554	00:0B:82:37:26:35
2	IPCAMERA GXV3500	1.0.1.89	GXV3500	192.168.22.184	80	554	00:0B:82:37:25:4D
3	IPCAMERA GXV3610_HD	1.0.3.0		192.168.22.78	80	554	00:0B:82:60:BC:FB
4	IPCAMERA GXV3611IR_HD	1.0.3.3	GXV3611IR_H...	192.168.22.68	80	554	00:0B:82:27:FF:95
5	IPCAMERA GXV3611IR_HD	1.0.3.3	GXV3611IR_H...	192.168.22.107	80	554	00:0B:82:6F:03:6C
6	IPCAMERA GXV3662FHD	1.0.1.89	GXV3662_FHD	192.168.22.144	80	554	00:0B:82:27:F1:13
7	NVR GVR3550EP2	1.0.0.65	GVR3550	192.168.22.77	80	554	00:0B:82:27:FB:CD

Figure 7: GS\_SEARCH Result page of GXV3500

5. Double click the column of the detected camera, the browser will automatically open and link to the device IP and the web configuration page.
6. The browser will ask for plug-in or ActiveX if not installed, otherwise it will get to Home page and start to show the video captured by the camera (by default the camera enabled anonymous access)
7. Click "Configuration" icon, the browser will ask credentials to authorize configuration.
8. Enter the administrator user name and password to access the Web Configuration Interface, the default user name and password are both set to **admin**.
9. In step 6, browser will indicate that "This website wants to install the following add-on: GSViewerX.cab from Grandstream Networks Inc." Please allow the installation.
10. The plug-in can be download here:

[http://www.grandstream.com/products/tools/surveillance/webcontrl\\_plugin.zip](http://www.grandstream.com/products/tools/surveillance/webcontrl_plugin.zip)



## Apple Platform

For Apple users, please turn on Bonjour of Safari to find and access the GXV3500.

- 1) Open Safari, select “Advanced” to open the Advanced Setting.
- 2) Click “Include Bonjour in the Bookmarks menu” and “Include Bonjour in the Favorites bar” then close the setting page and back to Safari.

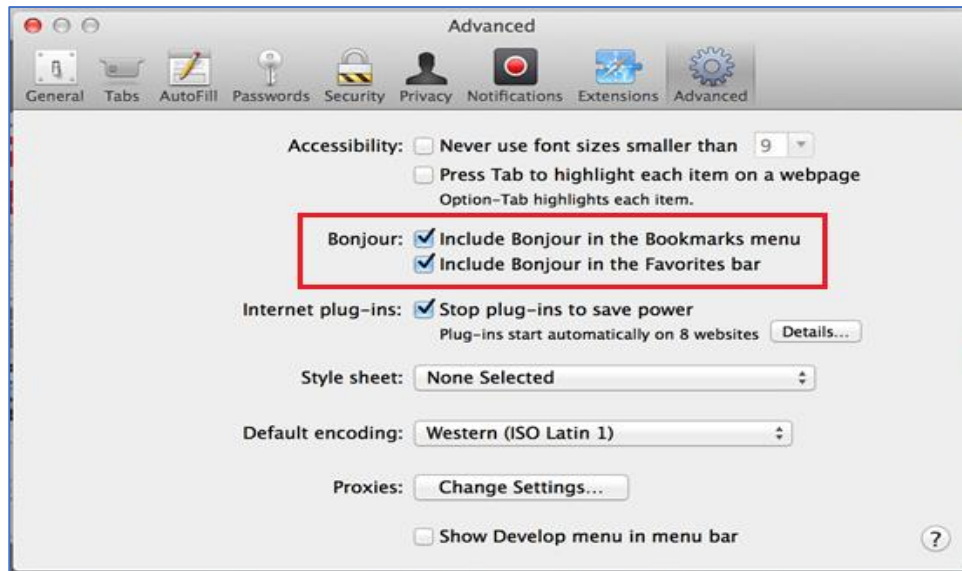


Figure 8: Apple Safari “Bonjour” Setting page to display GXV3500

- 3) Bonjour will now display embedded at Safari. Select “Bonjour” pull-down menu and select “Webpages”, the related IP Camera like GXV3500 will be there.

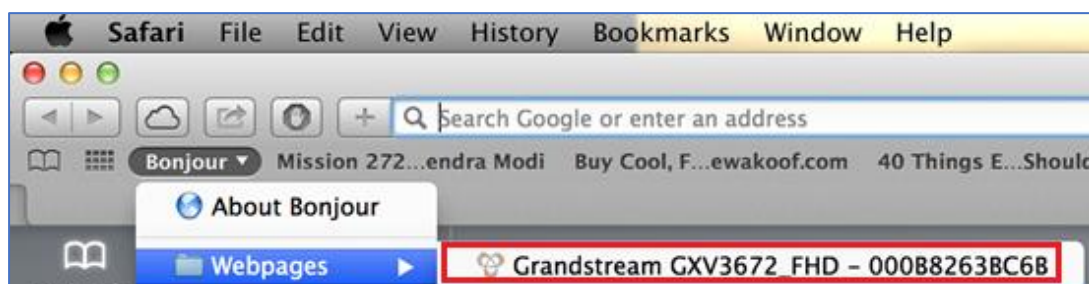


Figure 9: Apple Safari “Bonjour” Setting page to display GXV3500

- 4) Click the displayed camera to access to the configuration page of the camera.

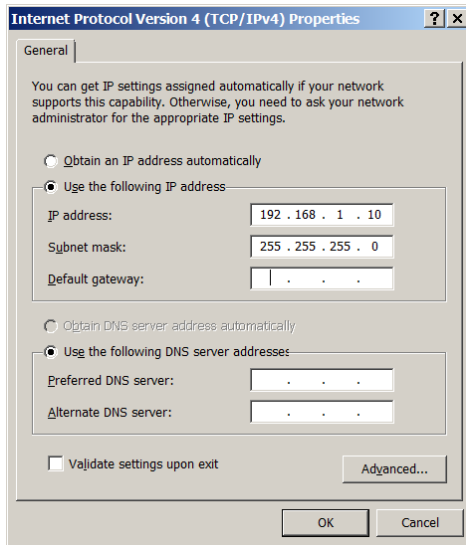
## Connect to the Camera using Static IP

If no DHCP server in the network, or the camera does not get IP from DHCP server, user can connect the camera to a computer directly, using static IP to configure the camera.

The default IP, if no DHCP server; or DHCP offer time out (3 minutes), is **192.168.1.168**



1. Connect the computer network port via an Ethernet cable directly to the IP camera GXV3500.
2. Configure the computer using Static IP: 192.168.1.XXX (1<XXX<255, but NOT 168) and configure the “Subnet mask” to “255.255.255.0”. Leave the “Default Gateway” to “Blank” like below: (Example of Windows platform, Apple platform is similar)



3. Power on the GXV3500.
4. Start the browser when the network connection is up.
5. Enter 192.168.1.168 in the address bar of the browser.
6. The browser will ask for plug-in or ActiveX if not installed, otherwise it will get to Home page and start to show the video captured by the camera (by default the camera enabled anonymous access)
7. Click “Configuration” icon, the browser will ask credentials to authorize configuration.
8. Enter the administrator user name and password to access the Web Configuration Interface, the default user name and password are both set to **admin**.
9. In step 6, IE will indicate that “This website wants to install the following add-on: GSViewerX.cab from Grandstream Networks Inc.”, allow the installation.
10. Firefox, Chrome user need to download and install the plug-in to see the video, the plug-in is here: [http://www.grandstream.com/products/tools/surveillance/webcontrl\\_plugin.zip](http://www.grandstream.com/products/tools/surveillance/webcontrl_plugin.zip)

**Note:**

- Please temporarily disable Antivirus or Internet Security Software and close all browsers when download and install the Grandstream Plug-in Software.



## GXV3500 APPLICATION SCENARIOS

GXV3500 is a very versatile indoor device, it can be used in a lot of scenarios.

### Battery Power or No network

For environment like remote warehouse/storage, grocery store, small (take-out) restaurants, the GXV3500 will meet your very basic surveillance requirement

This is idea solution to upgrade the traditional standalone CCTV security system, while leave the potential of operating it in IP network when the network is available. All you need is power (could be battery), network wiring is not necessary required and can leave to future upgrade when it available.

**Table 2: GXV3500 Power Specifications**

Product	Power Adapter Model			POE Model			Class Advertisement (IEEE 802.3af)
	Standby	Operating	Max Power	Standby	Operating	Max Power	
	Power(W)	Power(W)	Power(W)	Power(W)	Power(W)	Power(W)	
GXV3500	1.49	1.55	1.60	1.93	1.98	2.05	0

Equipment List:

- 1) GXV3500
- 2) Ethernet cable and PoE injector (Optional)

Depending on the space monitored, one or several GXV3500 may be required.

### LAN w/o Internet

For multi-room or a bigger space, multiple GXV3500 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 GXV3500
- 2) Ethernet cables
- 3) Switch (Static IP required to configure to IP Cameras)
- 4) PoE Switch (Optional, better solution)

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) Broadband Internet Access (FiOS, Cable or DSL)
- 7) iPhone or Android phone.





## 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 GXV3500
- 2) GVR3550/2 NVR
- 3) Ethernet cables
- 4) Switch (PoE Switch recommended)
- 5) Router
- 6) Broadband Internet Access (FiOS, Cable or DSL)
- 7) iPhone or Android phone
- 8) GSurf\_Pro Remote Access (Optional)

## GXV3500 Application Peripheral Connection

Below is the illustration of GXV3500 peripheral connections for related application.

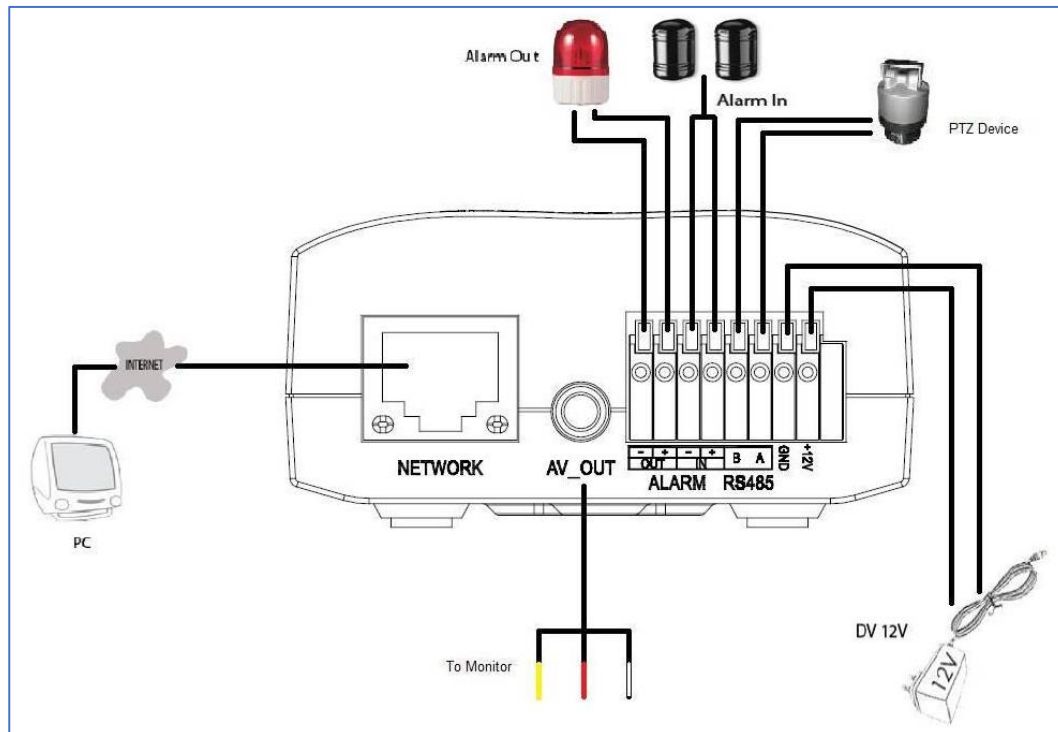


Figure 10: Application peripheral connection for GXV3500

**Notes:**

- For days of video storage, please use Motion Detection Event Video Recording, or using Grandstream GVR3550/2, or GSurf\_Pro VMS.
- Alarm\_In could use any 3<sup>rd</sup> party Sensors (like IR Motion Sensor) or Intercom Push Button, etc.
- Alarm\_Out device could use 3<sup>rd</sup> party Siren and Strobe Light, or Electric Door Striker, etc.
- Audio Input (Microphone) and Audio Output (Amplified Speaker) using 3.5mm interface and must match below impedance parameter:

<b>Audio Input</b>	<ul style="list-style-type: none"> <li>• 3.5mm Line-In (1.5KΩ)</li> </ul>
<b>Audio Output</b>	<ul style="list-style-type: none"> <li>• 3.5mm Line-Out (600Ω, 0.707 Vrms)</li> </ul>

- Grandstream Video Phone can work with GXV3500 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.

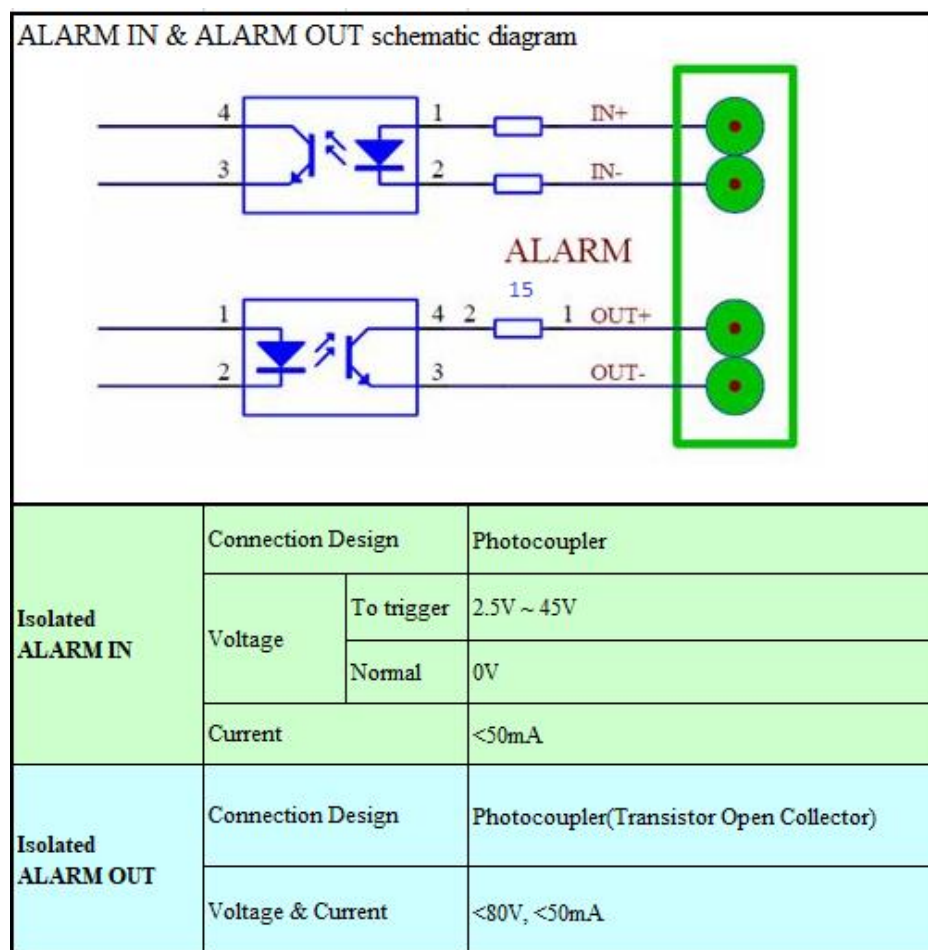


Figure 11: Alarm\_In and Alarm\_Out Connection Circuit Sample for GXV3500

**Notes:**

- The Alarm\_In and Alarm\_Out circuit connection has to be similar to above circuit diagram and meet following requirement:

<b>Alarm Input</b>	1, PIN, Voltage < 45V, Current (DC) < 50mA, Normal Open (Low)
<b>Alarm Output</b>	1, PIN, Voltage < 80V, Current < 50mA, Normal Open (Low)

- The Alarm\_In circuit (like above photo coupler), if there is any voltage change smaller than 15V, as specification listed), the GXV3500 Alarm\_In port will detect it and trigger the action and event.
- Higher voltage and wrong polarity connection are prohibited because this will damage the devices.



## GXV3500 HOME WEB PAGE (ENCODER MODE)

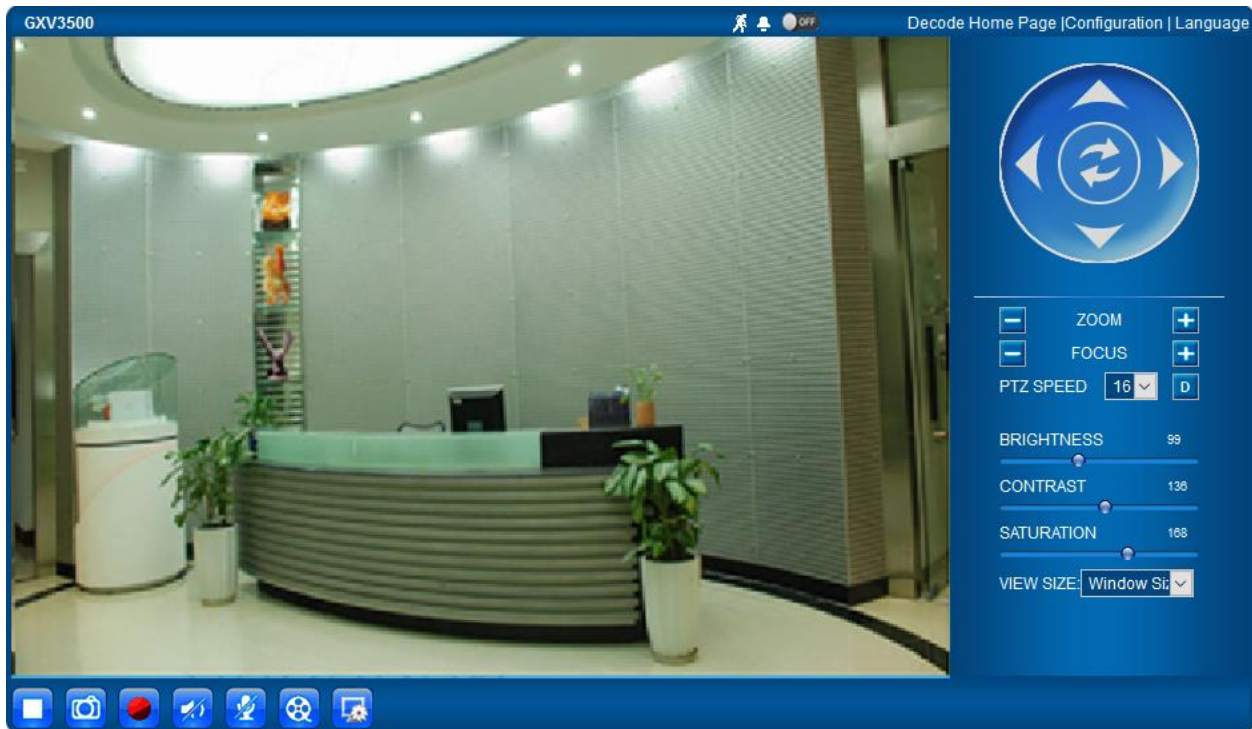


Figure 12: Home page of gxv3500 (encoder mode)

Table 3: Home page options (Encoder Mode)

<b>View Size</b>	Click to switch between real resolution size and embedded window size video.
<b>ZOOM</b>	Zoom In/Out during PTZ operation (when connected to supported camera)
<b>BRIGHTNESS bar</b>	Adjust the image or video brightness.
<b>CONTRAST bar</b>	Adjust the image or video contrast.
<b>SATURATION bar</b>	Adjust the image or video saturation.
<b>Language icon</b>	Click to switch webpage language.(Current support: Chinese, English and Russian)
<b>Configuration icon</b>	Click to enter “Configuration Page” to configure the parameters of GXV3500 (Administration)
<b>Decode Home Page</b>	Click to switch to Decode Mode (Reboot required to take effect).
<b>Default Video Parameter icon</b>	Click to reset video parameters (Brightness, Contrast, and Saturation) to default.
<b>Stop/Play Video icon</b>	Click to Stop and Play the embedded live video.
<b>Capture (Snapshot) icon</b>	Click to capture and save a snapshot of current displayed video frame.

<b>Record icon</b>	Click to Start/Stop record of current video stream into a file. Default directory: C:\Record
<b>Listen On/Off icon</b>	Toggle to listen/stop audio from the camera's microphone
<b>Listen On/Off icon</b>	Toggle to listen/stop audio from the camera's microphone
<b>Talk On/Off icon</b>	Toggle to talk to camera's speaker (computer microphone required)
<b>Playback</b>	Click to playback the recorded video file.
<b>Local Configuration</b>	Click to configure the file path of snapshot and recorded video files. Also adjust the video
<b>Motion Detection Alarm</b>	If (configured) motion detection alarm triggered, the indicator will flash in
<b>DI, Alarm_In icon</b>	Indicator will be on when there is an external Alarm Input. Click the indicator icon to turn off the alarm indication.
<b>DO, Alarm_Out icon</b>	Click the indicator icon manually switch the Alarm_Out operation.

## GXV3500 Configuration & Language Page

- When click the “Configuration” icon, web page will link to configure page related parameters of the GXV3500.
- There are two big categories of settings: **Basic Settings** and **Advanced Settings**. Details will illustrate in the following Chapters.
- When click the “Language” icon, supported languages will display in Figure 2. Click to select the related webpage display language.



Figure 13: Web language switch

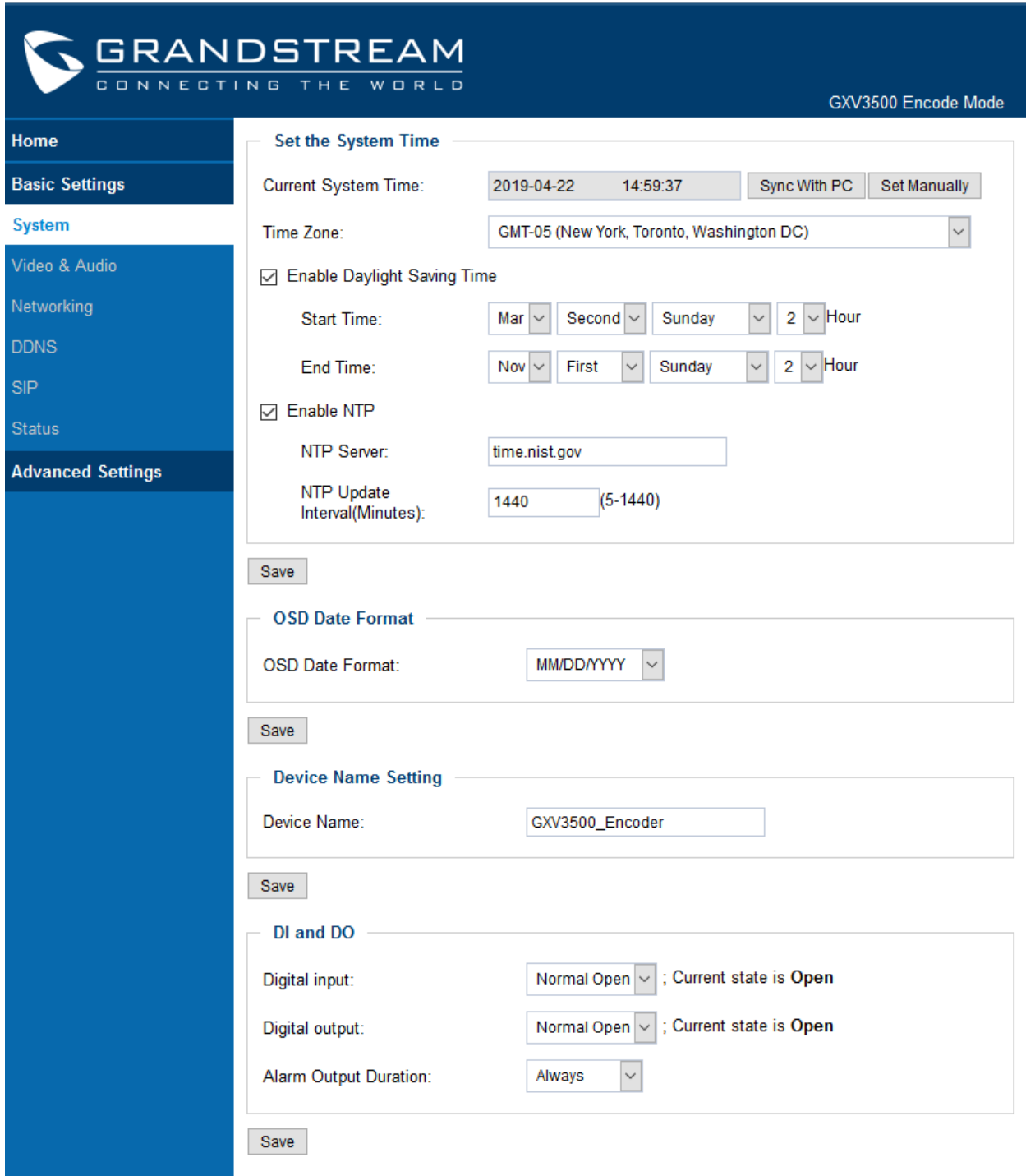
- Currently firmware only support: English (default), Simplified Chinese and Russian.



## Basic Settings Explanation

### System Settings Page

This page allow user to configure the system settings of GXV3500.



**GRANDSTREAM**  
CONNECTING THE WORLD

GXV3500 Encode Mode

**Home**

**Basic Settings**

**System**

Video & Audio

Networking

DDNS

SIP

Status

**Advanced Settings**

---

**Set the System Time**

Current System Time: 2019-04-22 14:59:37

Time Zone: GMT-05 (New York, Toronto, Washington DC)

Enable Daylight Saving Time

Start Time: Mar  Second  Sunday  2  Hour

End Time: Nov  First  Sunday  2  Hour

Enable NTP

NTP Server: time.nist.gov

NTP Update Interval(Minutes): 1440 (5-1440)

---

**OSD Date Format**

OSD Date Format: MM/DD/YYYY

---

**Device Name Setting**

Device Name: GXV3500\_Encoder

---

**DI and DO**

Digital input: Normal Open  ; Current state is **Open**

Digital output: Normal Open  ; Current state is **Open**

Alarm Output Duration: Always

Figure 14: System Settings page




**Table 4: System settings page options (Encoder Mode)**

<b>Current System Time</b>	Display time current system is running at.
<b>Sync with PC</b>	Click to synchronize current time with computer.
<b>Set Manually</b>	Click to manually set the current time and date.
<b>Time Zone</b>	Select from pull down menu the time zone unit located.
<b>Enable DST</b>	Configure Day Light Saving Time
<b>NTP</b>	Enable and configure NTP server and update interval.
<b>On Screen Display (OSD)</b>	Format to display the OSD date.
<b>OSD Date Format</b>	OSD Date format, choose based on user preference.
<b>Device Name Setting</b>	Set the name of the camera which will be shown in the result of "Search Tool" of GSurf_Pro VMS program.
<b>DI and DO</b>	DI and DO initial status for Alarm In or Out operation.
<b>Digital Input</b>	State of Digital Input, normal at Open state.
<b>Digital Output</b>	State of Digital Output, normal at Open state
<b>DO Duration</b>	Select operation of Alarm Output Duration from pull down list.

## Video & Audio Setting Page

This page allows user to configure the video and audio related settings.




GRANDSTREAM  
CONNECTING THE WORLD
GXV3500 Encode Mode

Home

Basic Settings

System

Video & Audio

Networking

DDNS

SIP

Status

Advanced Settings

**On Screen Display(OSD)**

OSD Text:

OSD Position:  ▾

Display Time:

Display Text:

---

**Video Settings**

**Primary Stream Settings**

Preferred Video Codec:  ▾

Resolution:  ▾

Bit Rate:  ▾ kbps

Maximum Frame Rate:  ▾ fps

Bit Rate Control:  CBR  VBR

I-frame Interval:  Frame(1-100)

**Secondary Stream Settings**

Preferred Video Codec:  ▾

Resolution:  ▾

Bit Rate:  ▾ kbps

Maximum Frame Rate:  ▾ fps

Bit Rate Control:  CBR  VBR

I-frame Interval:  Frame(1-100)

---

**Audio Settings**

Preferred Audio Codec:  ▾

Microphone Volume:

Speaker Volume:

Figure 15: Video & Audio Settings Page





**Table 5: Video & Audio settings**

<b>On Screen Display (OSD)</b>	Format to display the OSD date.
<b>OSD Text</b>	Input text (to identify the camera) shown on the screen.
<b>OSD Position</b>	Show the OSD in either top or bottom position on screen.
<b>Display Time</b>	When checked, time will be displayed inside the video image.
<b>Display Text</b>	When checked, inputted text will display on video image.
<b>Preferred Video Codec</b>	MJPEG and H.264 supported, H.264 recommended.
<b>Resolution</b>	The resolution in pixels used at video image.
<b>Bit Rate</b>	Video bit rate or bandwidth used.
<b>Maximum Frame Rate</b>	Maximum frame rate used (more data if big frame used).
<b>Bit Rate Control</b>	Constantly bit rate, or variable bit rate.
<b>Image Quality</b>	Image quality used when Variable Bit Rate used.
<b>I-frame Interval</b>	I-frame interval (suggested 2~3 times of frame rate).
<b>Preferred Audio Codec</b>	PCMU, PCMA. Audio also can be disabled.
<b>Microphone Volume</b>	Slide to adjust microphone gain.
<b>Speaker Volume</b>	Slide to adjust the speaker volume connected.

**Notes:**

- H.264 suggested if camera needs to be viewed via Internet.
- The definition of Baseline, Main Profile and High profile of H.264 please refer to:
- [http://en.wikipedia.org/wiki/H.264/MPEG-4\\_AVC](http://en.wikipedia.org/wiki/H.264/MPEG-4_AVC)
- If MJPEG selected, reduce max. frame rate to min. value to save bandwidth and get better image
- Grandstream IP Camera provides two video streams, user can use them with flexibility. For example, the high-resolution stream for local recording; another low or high resolution for remote monitoring; 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>



## Networking Setting Page

This page allows user to configure network related parameters:

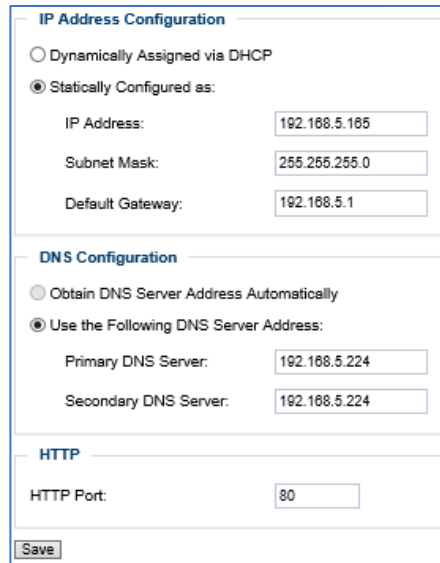


Figure 16: Networking Setting Page

Table 6: Networking Setting

<b>Dynamically Assigned via DHCP</b>	Default setting, DHCP server assign IP to camera.
<b>Statically Configured as</b>	Static IP address configuration (Preferred for Port FWD).
<b>DNS Configuration</b>	DNS server IP. Must be configured if using static IP.
<b>HTTP</b>	Web access TCP port, default 80.

### Notes:

- If camera behind SOHO router with port forwarding configuration for remote access, static IP or static DHCP has to be used to avoid IP address change after router reboot.
- TCP port above 5000 suggested if 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 not likely blocked.
- In addition to HTTP port, RTSP port is also required to configure via port forward, so remote party can view the video stream.
- If revise the default TCP port 80 to port "A", then RTSP port should be "2000+A" (changed from default TCP 554). Both TCP port "A" and "2000+A" should be configured for port forwarding in the router. For example, the HTTP port changed to 8088, the RTSP port now should be 10088, both TCP ports 8088 and 10088 should be configured for port forwarding in order for remote camera access: 8088 for web portal, 10088 for video streaming.



## DDNS Settings Page

This page allows user to configure dynamic DNS related parameters:

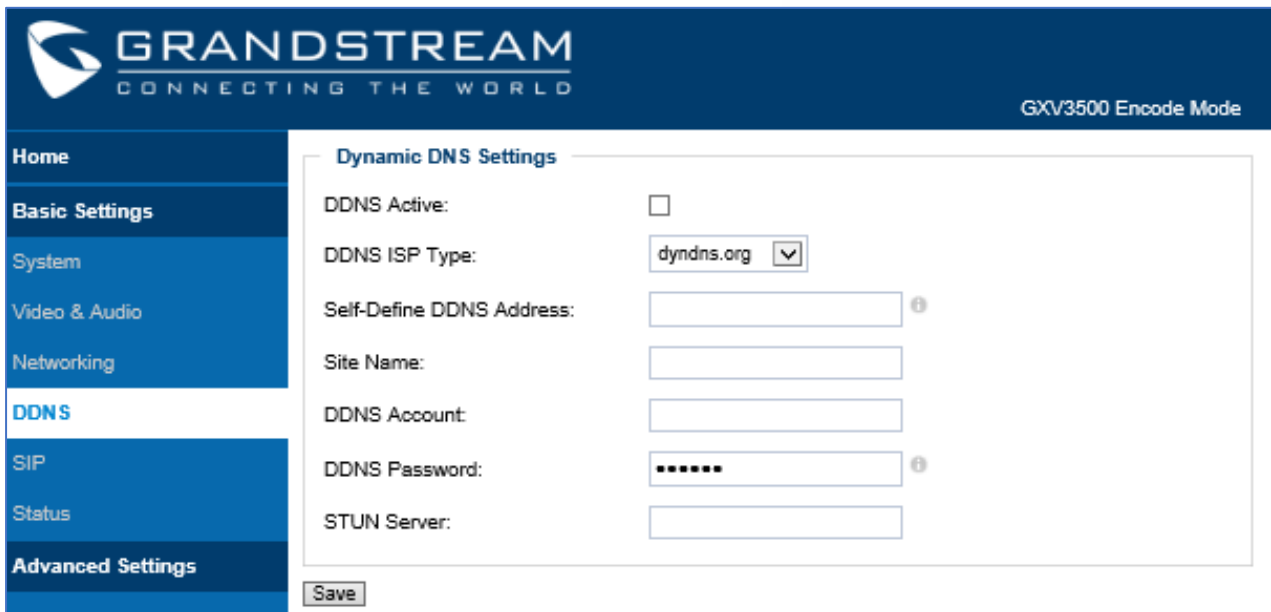


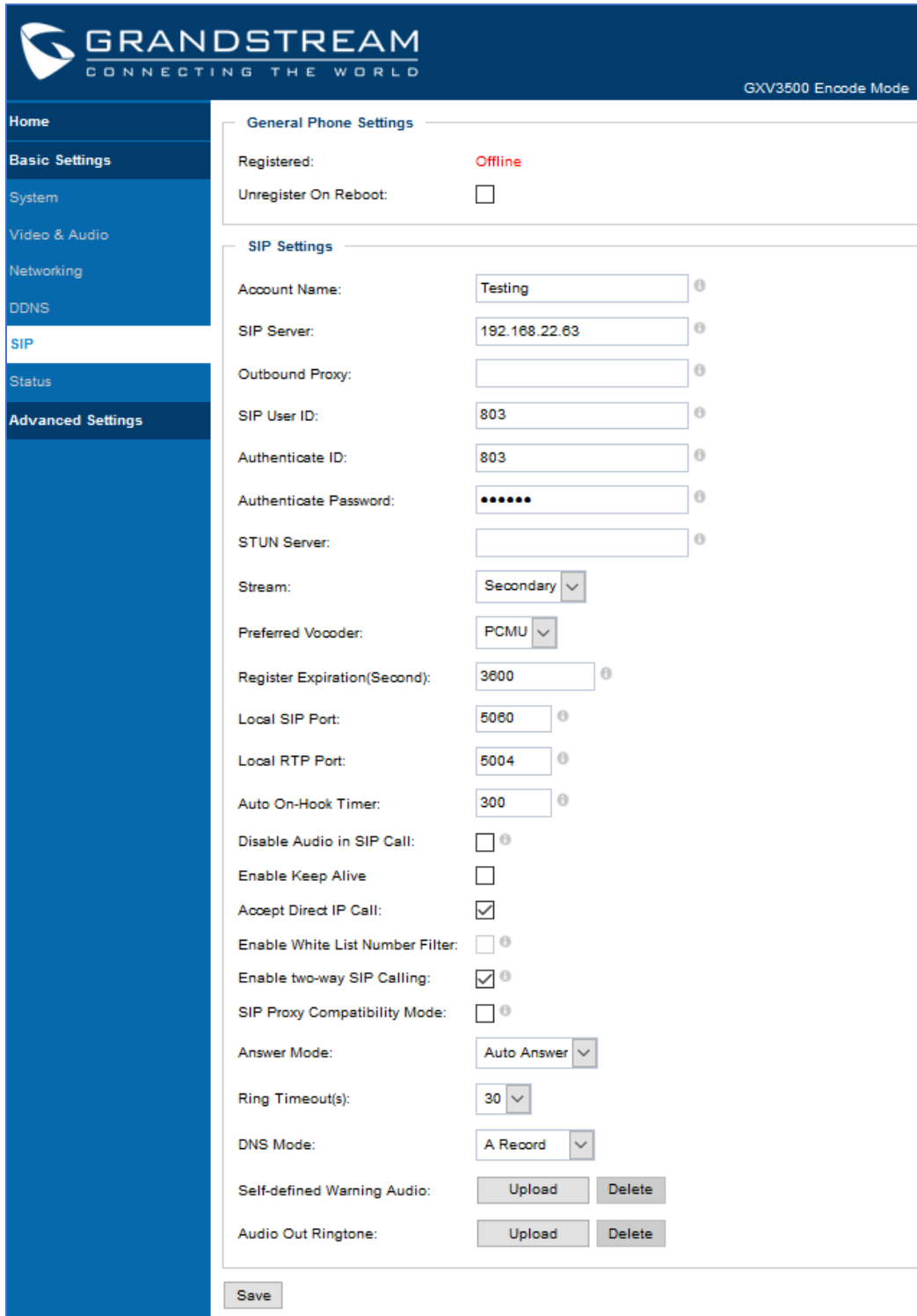
Figure 17: DDNS Setting Page

Table 7: DDNS Setting

<b>DDNS Active</b>	Enable DDNS by check this field.
<b>DDNS ISP Type</b>	Select the DDSN service provider from the pull-down menu list.
<b>Self-Define DDNS Address</b>	Input the self-defined DDNS address.
<b>Site Name</b>	DDNS site name.
<b>DDNS Account</b>	DDNS account name.
<b>DDNS Password</b>	DDNS password.
<b>STUN Server</b>	Stun server FQDN or IP. If device behind a non-symmetric router, STUN server can help to penetrate & resolve NAT issue.

## SIP Setting Page

GXV3500 can be configured as SIP endpoint to call out when alarm triggered, or allow permitted number to call in to check the audio/video if Grandstream IP videophone used.



The screenshot shows the Grandstream GXV3500 web interface. The top header includes the Grandstream logo and the text "GXV3500 Encode Mode". A left sidebar contains navigation links: Home, Basic Settings, System, Video & Audio, Networking, DDNS, SIP (highlighted), Status, and Advanced Settings. The main content area is titled "SIP Settings" and contains the following configuration fields:

- General Phone Settings:**
  - Registered: Offline
  - Unregister On Reboot:
- SIP Settings:**
  - Account Name: Testing
  - SIP Server: 192.168.22.63
  - Outbound Proxy: (empty)
  - SIP User ID: 803
  - Authenticate ID: 803
  - Authenticate Password: ••••••
  - STUN Server: (empty)
  - Stream: Secondary
  - Preferred Vocoder: PCMU
  - Register Expiration(Second): 3600
  - Local SIP Port: 5060
  - Local RTP Port: 5004
  - Auto On-Hook Timer: 300
  - Disable Audio in SIP Call:
  - Enable Keep Alive:
  - Accept Direct IP Call:
  - Enable White List Number Filter:
  - Enable two-way SIP Calling:
  - SIP Proxy Compatibility Mode:
  - Answer Mode: Auto Answer
  - Ring Timeout(s): 30
  - DNS Mode: A Record
  - Self-defined Warning Audio: Upload Delete
  - Audio Out Ringtone: Upload Delete

A "Save" button is located at the bottom left of the settings area.

Figure 18: SIP Setting Page (part 1)



**SIP Open Door Settings**

Sip Open Door Mode: Key to Open the Door ⓘ

Key to Open the Door: Key to Open the Door

Delay Lock Time(Second): 1

---

**Phone List for Alarm Out**

Phone Number	Remark Name	
<input style="width: 100%;" type="text"/>	<input style="width: 100%;" type="text"/>	<input type="button" value="Add..."/>
911	Police	<input type="checkbox"/>
<input type="checkbox"/> Check All		<input type="button" value="Remove"/>

---

**White List (Allowed Caller)**

Phone Number	
<input style="width: 100%;" type="text"/>	<input type="button" value="Add..."/>
6175669300	<input type="checkbox"/>
<input type="checkbox"/> Check All	
<input type="button" value="Remove"/>	

**Figure 19: SIP Setting Page (part 2)**

**Table 8: SIP Setting**

<b>Registered</b>	SIP registration status. Display “Online” in Green, “Offline” in Red.
<b>Unregistered on Reboot</b>	If checked and SIP server support, reboot camera will unbind all registered end points using this SIP account.
<b>Account Name</b>	SIP account name used for self-identification.
<b>SIP Server</b>	FQDN or IP of SIP server from VoIP service provider
<b>Outbound Proxy</b>	IP or FQDN of Outbound proxy server, helps penetrate NAT/Firewall
<b>SIP User ID</b>	SIP username, or telephone number from ITSP.
<b>Authenticate ID</b>	Authenticate ID used by SIP proxy
<b>Authenticate Password</b>	Authenticate password used by SIP proxy
<b>STUN Server</b>	STUN server used to resolve NAT if have
<b>Stream</b>	Which stream used for SIP call. Default 2nd stream, strongly recommended due to bandwidth and data involved at video call.
<b>Preferred Vocoder</b>	Audio codec used for SIP call, only G.711 A or U supported.
<b>Registration Expiration</b>	Registration expiration time, default 3600 seconds
<b>Local SIP Port</b>	Local SIP port, default 5060
<b>Local RTP Port</b>	Local RTP port for media, default 5004



<b>Auto On-Hook Timer</b>	Timer (in seconds) for automatic disconnecting the SIP call. Default 300.
<b>Disable Audio in SIP Call</b>	Disable or turn off audio of camera when SIP call established.
<b>Enable Keep Alive</b>	Checked to help NAT resolution, sending alive packets.
<b>Accept Direct IP Call</b>	Check to accept peer-to-peer IP call in LAN without SIP server.
<b>Enable White List Number Filter</b>	Check to allow only white list number to call in, for security.
<b>Enable two-way SIP Calling</b>	Check to enable two-way audio when call established (Default)
<b>SIP Proxy Compatibility Mode</b>	Upload self-defined alarm warning message audio. (Format: G.711 .WAV format, File Size <= 300KB, Linear PCM, 8KHz Sampling Rate, 16bit, Single Channel)
<b>Answer Mode</b>	Pulldown selection of “Auto Answer” (Default) or “Ring” mode.
<b>Ring Timeout (s)</b>	Pulldown selection of Ring Timeout timer in seconds. Range: 15-60 seconds. Default is 30 seconds.
<b>DNS Mode</b>	<p>Selects DNS mode to use for the client to look up server.</p> <ul style="list-style-type: none"> <li>• <b>A Record:</b> resolves IP Address of target according to domain name.</li> <li>• <b>SRV:</b> DNS SRV resource records indicate how to find services for various protocols.</li> <li>• <b>NAPTR/SRV:</b> Naming Authority Pointer according to RFC2915.</li> </ul> <p>Default is A Record.</p>
<b>Self-Defined Warning Audio</b>	Upload the correct formatted self-defined warning audio.
<b>Audio Out Ringtone</b>	Upload the correct formatted audio out ringtone.
<b>SIP Open Door Mode</b>	<p>Pulldown selection of three mode: Disabled, Key to Open the Door and Incoming Call to Open the Door</p> <ul style="list-style-type: none"> <li>• <b>Key to Open the Door:</b> DTMF password configured when call established to open door ,</li> <li>• <b>Incoming Call To Open the door:</b> Alarm out will be triggered once call is received by the GXV3500.</li> <li>• <b>Delay Lock Time:</b> Timer (in seconds) for relay/lock to recover. (Default is 1 second)</li> </ul>
<b>Phone List for Alarm Out</b>	Callee or receiver's number when alarm call triggered.
<b>White List (Allowed Caller)</b>	Phone numbers allowed calling into the camera.

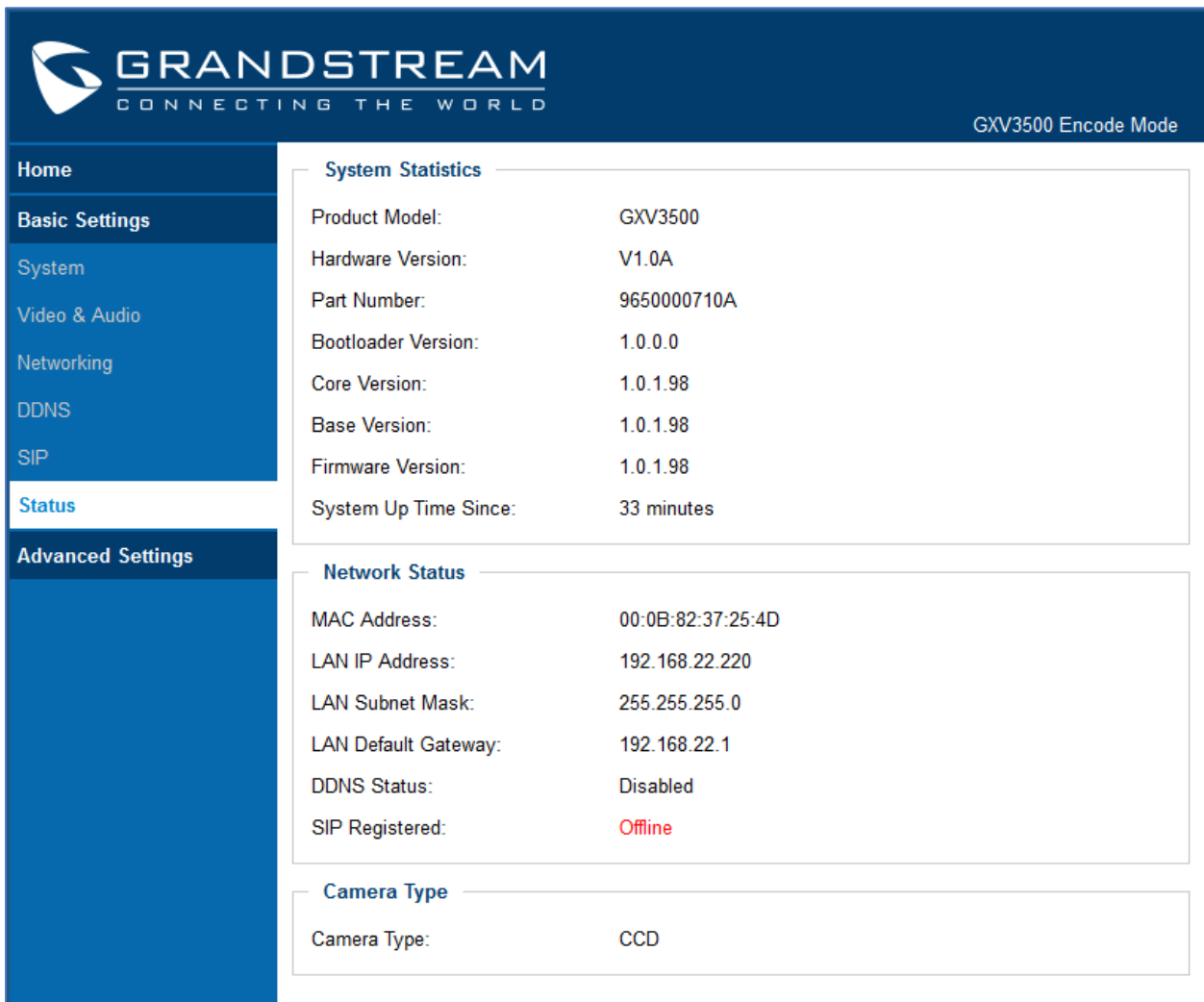


**Notes:**

- When selected, this feature will override any existing Alarm Out (like Alarm In triggered Alarm Out, or Motion Detection triggered Alarm Out).
- The Alarm Out Port has to connect to Electric Door Strike or Relay to control door open/close.
- Remote SIP phone needs key in password (**digits 0-9 only, ended with # key**) matching the configuration here to open the door. (via DTMF)

**Status Page**

This page shows the GXV3500 operation status:



The screenshot shows the Grandstream GXV3500 web interface. The top navigation bar includes 'Home', 'Basic Settings', 'System', 'Video & Audio', 'Networking', 'DDNS', 'SIP', 'Status', and 'Advanced Settings'. The 'Status' page is active, displaying the following information:

System Statistics	
Product Model:	GXV3500
Hardware Version:	V1.0A
Part Number:	9650000710A
Bootloader Version:	1.0.0.0
Core Version:	1.0.1.98
Base Version:	1.0.1.98
Firmware Version:	1.0.1.98
System Up Time Since:	33 minutes

Network Status	
MAC Address:	00:0B:82:37:25:4D
LAN IP Address:	192.168.22.220
LAN Subnet Mask:	255.255.255.0
LAN Default Gateway:	192.168.22.1
DDNS Status:	Disabled
SIP Registered:	Offline

Camera Type	
Camera Type:	CCD

Figure 20: Status Page

**Notes:**

- When SIP account registered, the status will display “Online” in Green.
- When SIP account unregistered, the status will display “Offline” in Red, as below.

SIP Registered: Offline

## Advanced Settings Explanation

### User Management Page

This page allows user to do user management:

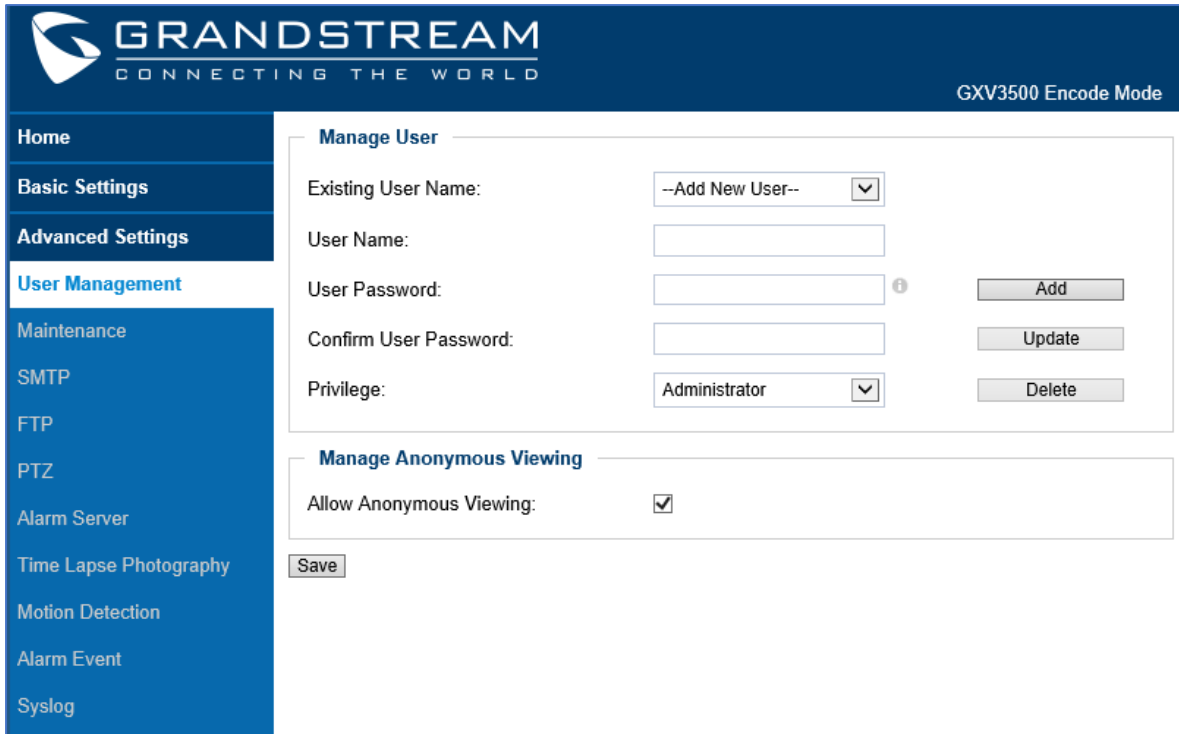


Figure 21: User Management Page

Table 9: User Management page

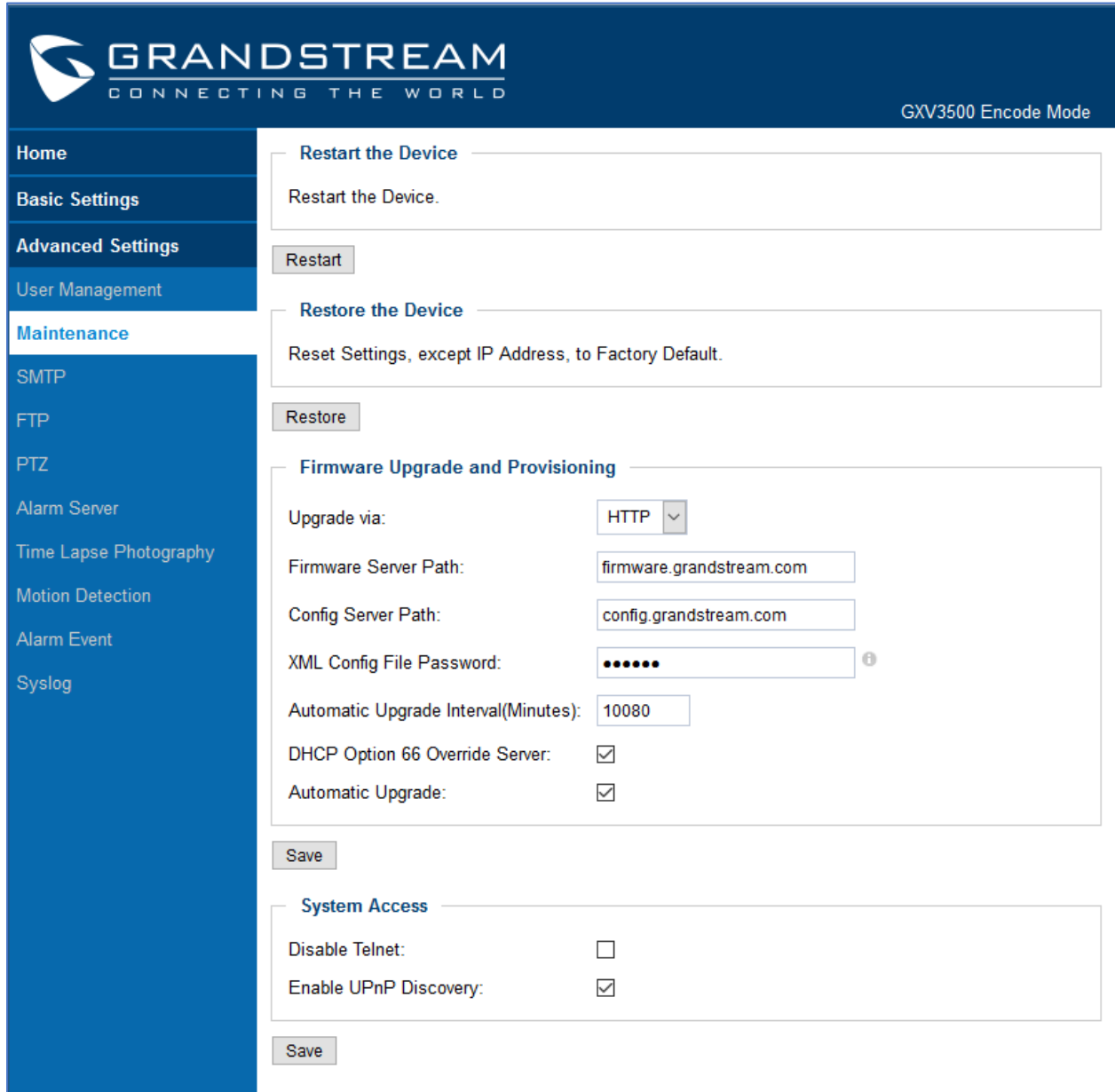
<b>Existing User Name</b>	Allow revise existing user or add new user.
<b>User Name</b>	The name of users need to be revised.
<b>User Password</b>	New password if revise password.
<b>Confirm User Password</b>	Re-enter the new password for verification, must match.
<b>Privilege</b>	Server path holding the configuration file (auto provisioning).
<b>Allow Anonymous Viewing</b>	When checked, no security enhanced. Any person can view the camera if knowing the IP or FQDN of the camera, but cannot change anything, just view ONLY.

### Maintenance Page

This page allows user to maintain the camera:







**Figure 22: Maintenance page**

**Table 10: User Management page**

<b>Restart</b>	When clicked, the GXV3500 will reboot or restart (soft reboot).
<b>Restore</b>	When clicked, the camera will be reset to factory default, wiping out all the configurations (except IP address).
<b>Upgrade via</b>	Firmware upgrade via TFTP, HTTP or HTTPS.
<b>Firmware Server Path</b>	Sets IP address or domain name of firmware server. The URL of the server that hosts the firmware release. Default is "fm.grandstream.com/gs". <b>Note:</b> Make sure to not prepend address with "http://" or any other protocol



<b>Config Server Path</b>	Sets IP address or domain name of configuration server. The server hosts a copy of the configuration file to be installed on the GXV3500. Default is "fm.grandstream.com/gs".  <b>Note:</b> Make sure to not prepend address with "http://" or any other protocol.
<b>XML Config File Password</b>	Password for encrypt the XML based configuration file.
<b>Automatic Upgrade Interval (Minutes)</b>	Time interval for automatic upgrade, default is 10080.
<b>DHCP Option 66 Override Server</b>	If DHCP option 66 is checked, the GXV3500 will attempt to download firmware file and XML config file from the server URL provided by DHCP overriding configured Firmware Server Path and Provisioning Server Path (even if left blank).
<b>Automatic Upgrade</b>	Checked to enable automatic firmware upgrade and provisioning.
<b>Disable Telnet</b>	Check to disable Telnet to enhance security.
<b>Enable UPnP Discovery</b>	Used for UPnP automatic discovery of the device in related network environment. Default enabled.

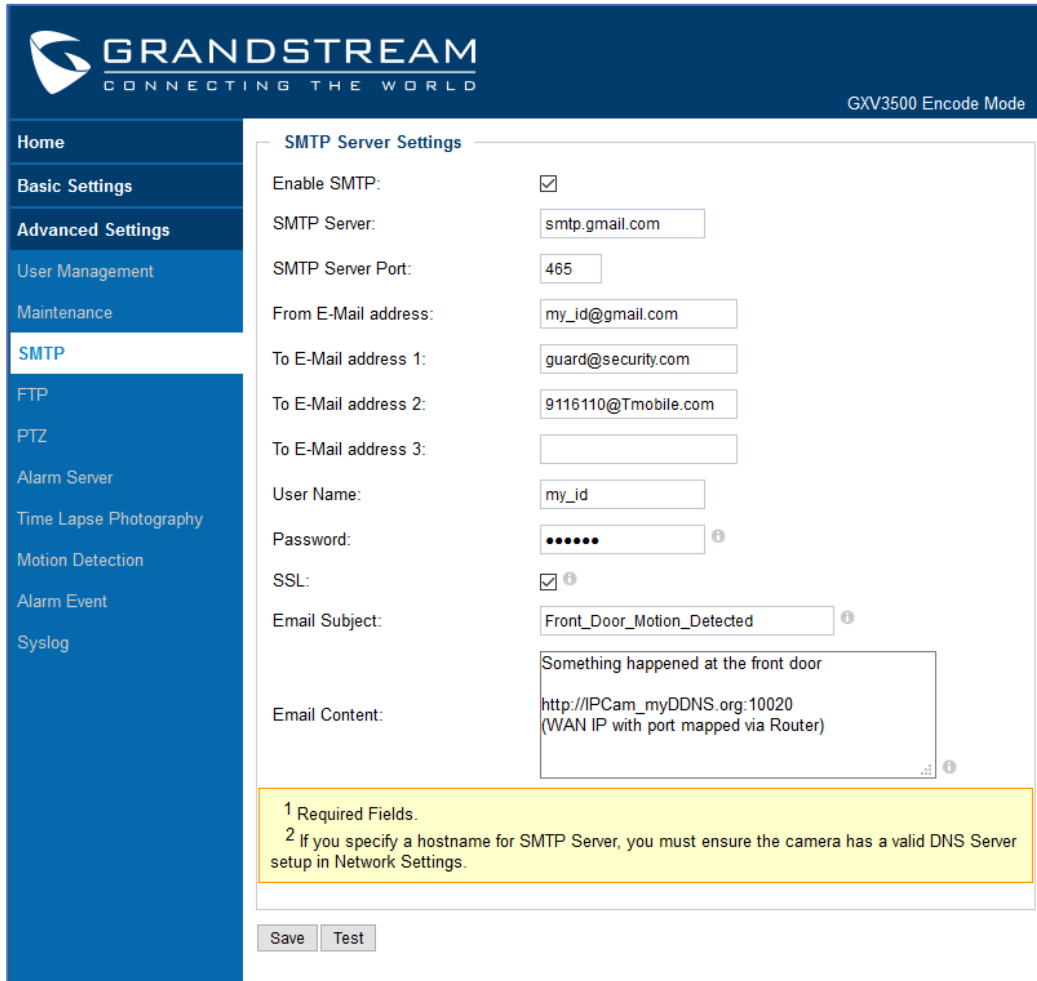
**Note:**

- Only XML based automatic provisioning is supported by GXV3500.

### SMTP Setting Page (Email Alarm)

This page allows user to configure email client to send out email when alarm triggered:





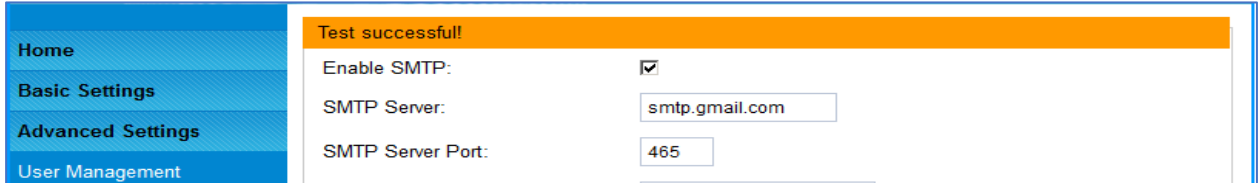
**Figure 23: SMTP page**

**Table 11: SMTP page**

<b>Enable SMTP</b>	When checked will enable email client.
<b>SMTP Server</b>	SMTP Email Server IP or Domain Name.
<b>SMTP Server Port</b>	Port number used by server to send email.
<b>From Email address</b>	The email address of alarm email sending from, usually client email ID.
<b>To E-Mail address</b>	The email address to receive the alarmed email, total 3 can be configured.
<b>User Name</b>	Email client User ID.
<b>Password</b>	Email client password.
<b>SSL</b>	Check if the SMTP email server requires SSL.
<b>Email Subject</b>	Customizable email subject for user's convenience.
<b>Email Content</b>	Customizable email content for user's purpose.

**Notes:**

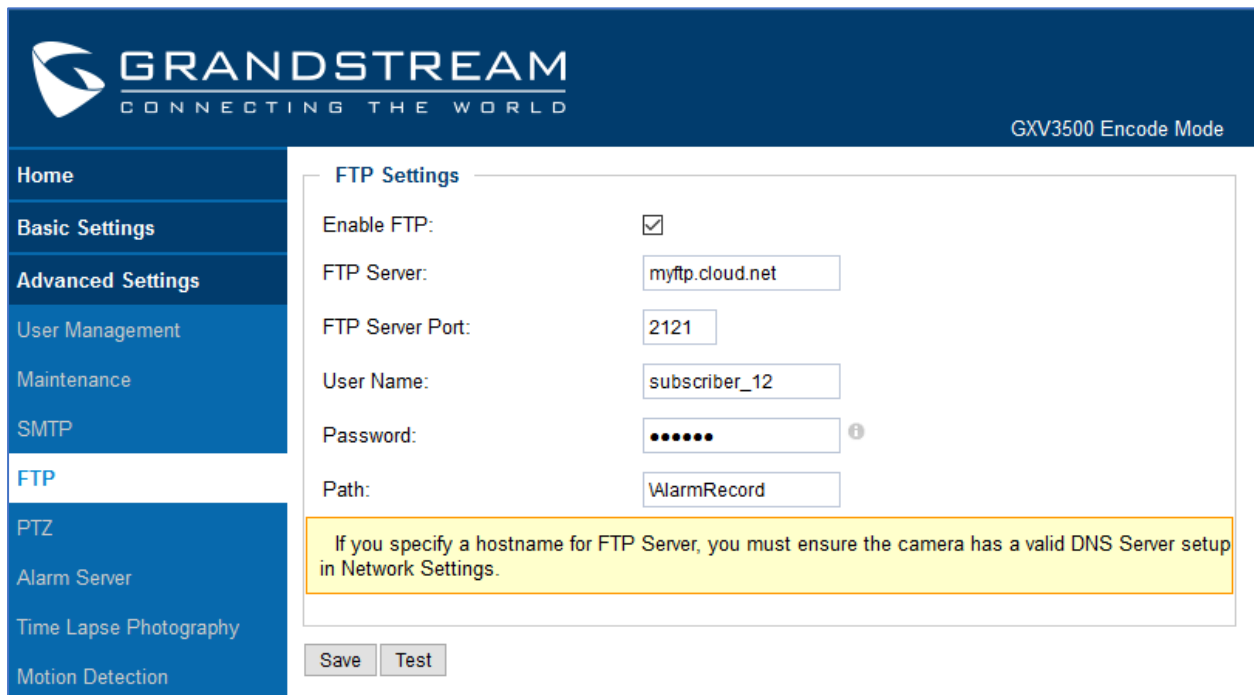
- Click “Save” to save the email configuration information.
- Click “Test” after configuration, if setting is correct, a test email will send out and “Test successful!” orange bar will display:



<b>Home</b>	<b>Test successful!</b>	
<b>Basic Settings</b>	Enable SMTP:	<input checked="" type="checkbox"/>
<b>Advanced Settings</b>	SMTP Server:	<input type="text" value="smtp.gmail.com"/>
User Management	SMTP Server Port:	<input type="text" value="465"/>

### FTP Settings Page (Upload Alarm)

This page allows user to configure FTP parameters to upload the alarm or video recording:



**Figure 24: FTP Settings Page**

**Table 12: FTP Settings page**

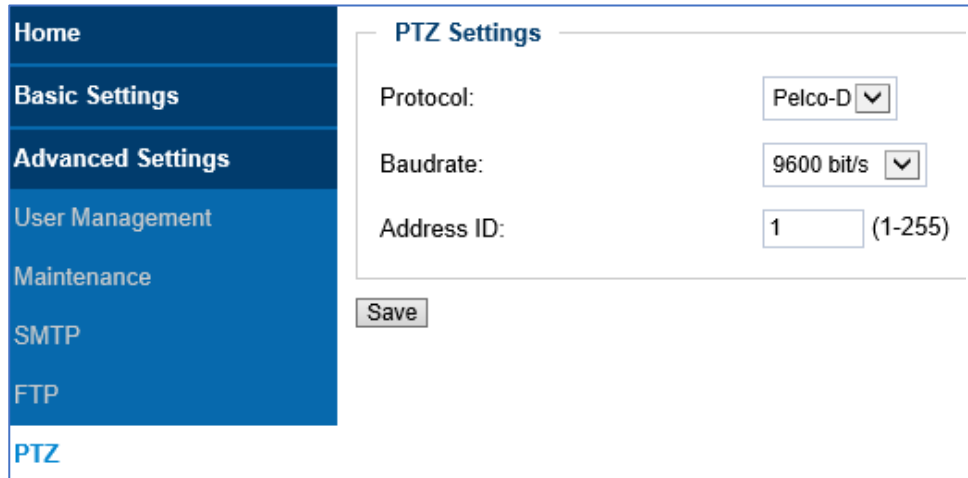
<b>Enable FTP</b>	When checked will enable built-in FTP client.
<b>FTP Server</b>	IP or Domain name of FTP site or server.
<b>FTP Server Port</b>	TCP port for FTP server, default port number 21.
<b>User Name</b>	FTP server User ID.
<b>Password</b>	FTP server user password.
<b>Path</b>	Path in the server where upload files are stored or saved.

**Notes:**

- Click “Save” to save the FTP configuration information.
- Click “Test” after configuration, if setting is correct, a test FTP operation will be performed and “Test successful!” orange bar will display if the operation is successful, like: Test successful!

**PTZ**

This page allows user to configure PTZ parameters if the connected analogue camera support Pelco-D or Pelco-P protocol.



**Figure 25: PTZ Setting Page**

**Table 13: PTZ Settings page**

<b>Protocol</b>	Pull-down to select supported PTZ protocol by connected analogue camera. Only Pelco-D or Pelco-P allowed.
<b>Baudrate</b>	The baudrate used by the analogue camera interface, select from the pull-down menu.
<b>Address ID</b>	Hardware Pelco-D or Pelco-P address ID used by the analogue camera, please refer to related camera user manual for this ID (or PIN switch in the UM), then fill in related matching address into this field.

**Note:**

- The address ID filled here has to be same and match the one used in the connected analogue camera. Otherwise the PTZ will not function or behave abnormal due to the wrong Pelco-D or Pelco-P address used.

**Alarm Server Settings Page**

This page allows user to configure alarm HTTP server to upload alarms (Upload Alarms to VMS platform supported or HTTP Server for processing)

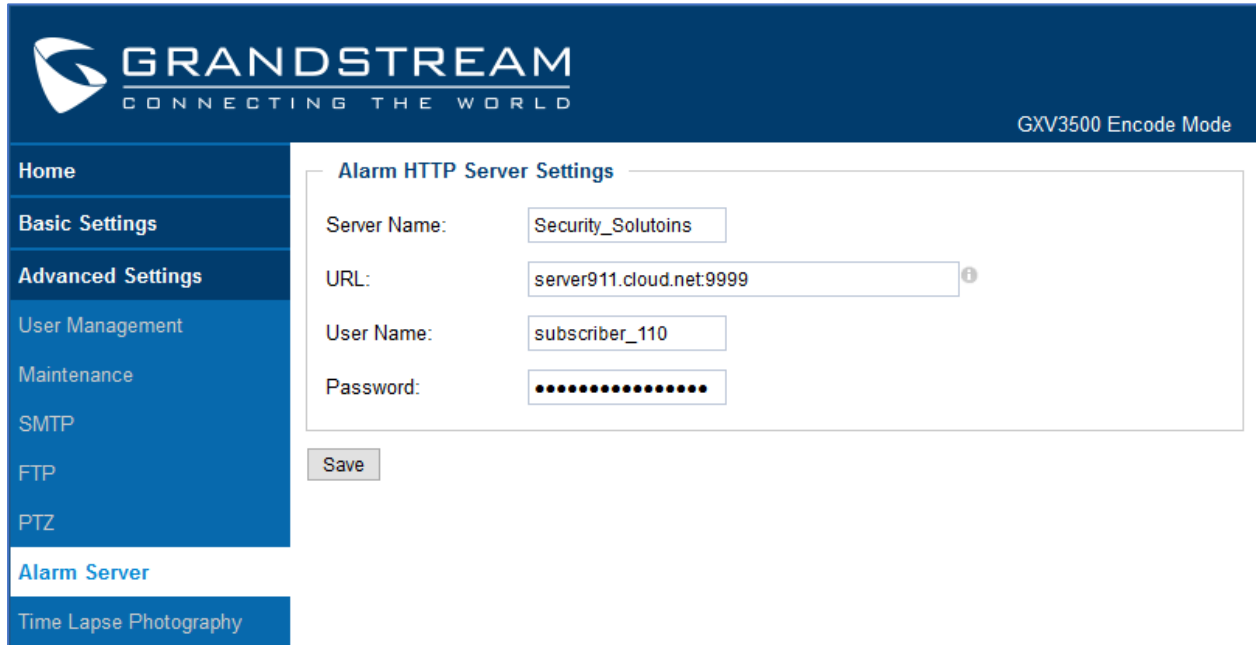


Figure 26: Alarm HTTP Server Setting Page

Table 14: Alarm HTTP Server Settings

<b>Server Name</b>	The name of HTTP server or VMS system
<b>URL</b>	URL of the Server
<b>User Name</b>	User ID from that Server
<b>Password</b>	Password for that User ID

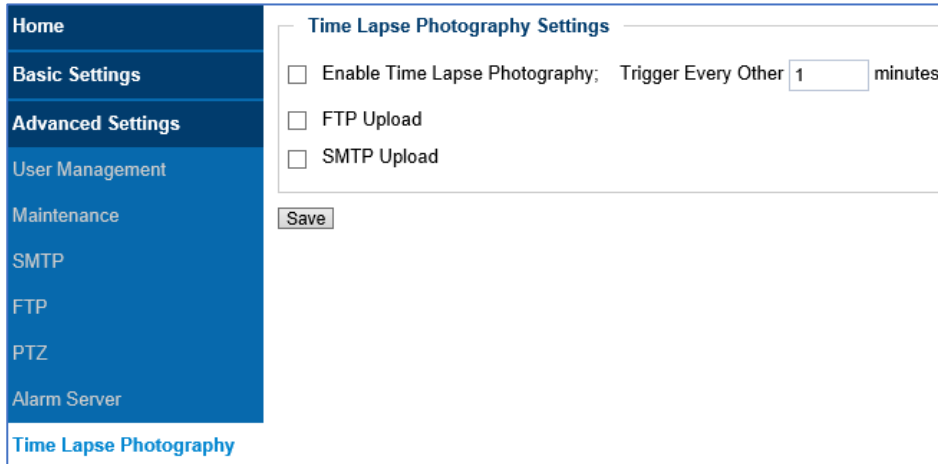
**Notes:**

- Grandstream provide HTTP API to help third party companies by using HTTP server or VMS to develop further solutions for their customers.  
[http://www.grandstream.com/products/surveillance/general/documents/grandstream\\_http\\_api.pdf](http://www.grandstream.com/products/surveillance/general/documents/grandstream_http_api.pdf)
- Grandstream IP Camera and Encoder (include GXV3500) are ONVIF certified.



## Time Lapse Photography

This page allows user to configure Time Lapse Photography (or period snapshot).



**Figure 27: Time Lapse Photography Configuration Page**

**Table 15: Time Lapse Photography Configuration**

<b>Enable Time Lapse Photography</b>	Check to enable this feature. User can configure the timer or duration of the triggering moment, minimum value is 1 minute.
<b>FTP Upload</b>	Enabled will allow device to upload the snapshots to FTP server. The FTP server is configured at “FTP” server page illustrate before.
<b>SMTP Upload</b>	Enabled will allow device to email the snapshots via email server. The email server is configured at “SMTP” configuration page.

Click “Save” button to save the changes made and the feature will take effect immediately.

## Motion Detection

This page allows user to configure motion detection to trigger alarms:



Home

Basic Settings

Advanced Settings

User Management

Maintenance

SMTP

FTP

PTZ

Alarm Server

Time Lapse Photography

Motion Detection

Alarm Event

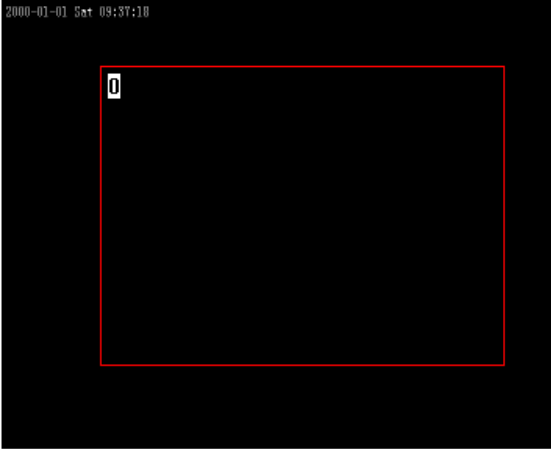
Syslog

### Motion Detection Settings

Motion detection will be disabled if both primary and secondary codec are set to MJPEG

Show Regions

Enable Motion Detection



Region ID	Sensitivity
0	50
1	50
2	50
3	50
4	50
5	50
6	50
7	50
8	50
9	50
10	50
11	50
12	50
13	50
14	50
15	50

### Alarm Action

Record Video From Pre Alarm Up to  seconds to After Alarm Up to  seconds ⓘ

Voice Alarm to SIP Phone

Alarm Output

Upload to Alarm Center

Upload to Alarm HTTP Server

Email and FTP upload JPEG and Store it to SD driver

Pre Alarm Up to  seconds to After Alarm Up to  seconds

### Motion Detection Time Schedule

Region ID	Date	Start Time	End Time	
<input type="text" value="0"/>	<input type="text" value="Everyday"/>	<input type="text" value="00:00"/>	<input type="text" value="23:59"/>	<input type="button" value="Add"/>

**Figure 28: Motion Detection Configuration Page**

**Table 16: Motion Detection Configuration**

<b>Show Regions</b>	When checked, Motion Detection region with number will be displayed as a white rectangle in the screen. When “Edit” clicked, the Rectangle will become Red.
<b>Enable Motion Detection</b>	When checked, Motion Detection is enabled.

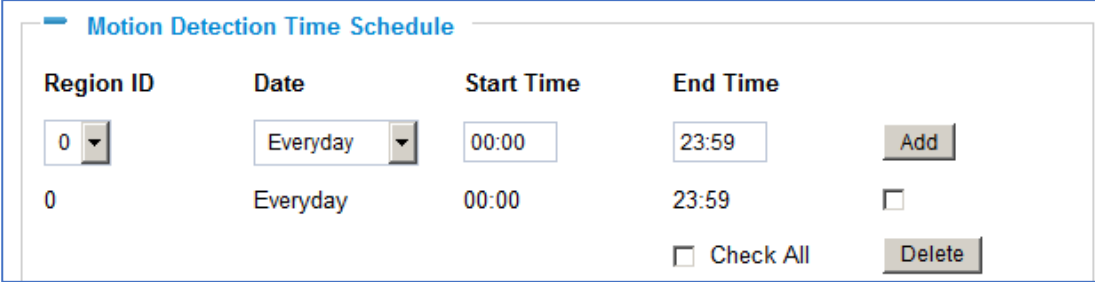




<b>Record Video From Pre Alarm up to XXX seconds to After Alarm Up to XXX seconds</b>	This setting to allow configure pre/post alarm video for applications to utilize. MJPEG is NOT supported for this feature.
<b>Voice Alarm to SIP Phone</b>	If a SIP server or peer IP device configured, check this will allow MD event to trigger alarm SIP call to pre-configured number.
<b>Alarm Output</b>	Select will allow MD to send alarm to Alarm Output interface.
<b>Upload to Alarm Center</b>	When checked, the alarm video will be transferred to Alarm Center, like Grandstream free GSurf_Pro VMS software, or other 3rd party Alarm Center.
<b>Upload to Alarm HTTP Server</b>	When checked MD alarm will be send to 3rd party HTTP server via programmed Grandstream HTTP API.
<b>Email and FTP upload JPEG</b>	When checked, snapshots of trigger moment will be emailed to pre-configured email account and also uploaded to FTP server if configured. The pre/post alarm snapshot numbers can be configured based on time (in second) to meet user's requirement.

### Motion Detection Time Schedule:

Click the “ + ” will expand the following interface to allow user to configure the Time Schedule for related Motion Detection region to take action.



The screenshot shows a configuration interface titled "Motion Detection Time Schedule". It features a table with columns for "Region ID", "Date", "Start Time", and "End Time".

Region ID	Date	Start Time	End Time	
0	Everyday	00:00	23:59	<input type="button" value="Add"/>
0	Everyday	00:00	23:59	<input type="checkbox"/>

At the bottom of the interface, there are two buttons: "Check All" (with an unchecked checkbox) and "Delete".

Figure 29: Motion Detection Schedule Configuration Page

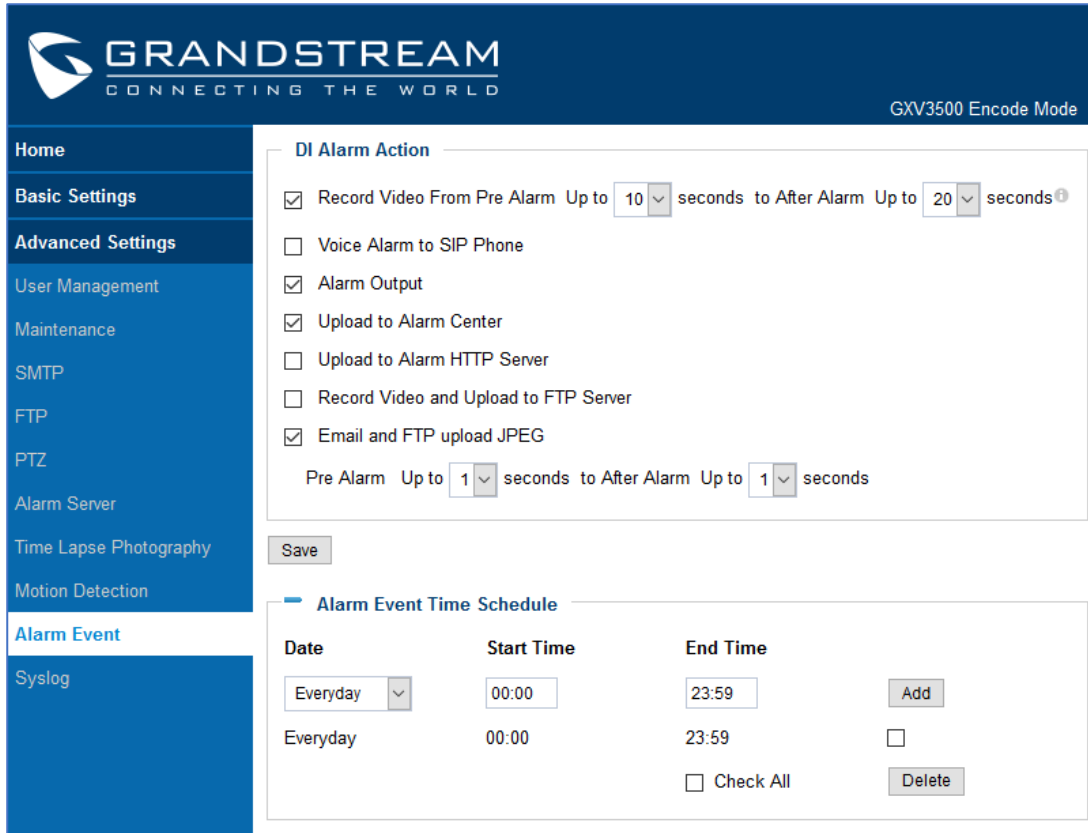
### Notes:

- As shown in Figure above, user can configure the Motion Detection Region with related Start and Stop time to control the motion detection operation.
- There are total 16 regions be available for MD configuration, from region 0 to 15.
- Select and highlight the number of region to configure the MD and the sensitivity.
- User has to configure the “Time Schedule”; otherwise the Motion Detection Alarm will not work if there is no time schedule configured.
- Grandstream free GSurf\_Pro V2 VMS software can be downloaded from:  
[http://www.grandstream.com/sites/default/files/Resources/GSurf\\_Pro\\_V2\\_1.0.3.19.zip](http://www.grandstream.com/sites/default/files/Resources/GSurf_Pro_V2_1.0.3.19.zip)



## Alarm Event

This page allows user to configure the Alarm\_In event and related actions.



The screenshot shows the 'Alarm\_In Action Configuration Page' with the following settings:

- DI Alarm Action:**
  - Record Video From Pre Alarm Up to 10 seconds to After Alarm Up to 20 seconds
  - Voice Alarm to SIP Phone
  - Alarm Output
  - Upload to Alarm Center
  - Upload to Alarm HTTP Server
  - Record Video and Upload to FTP Server
  - Email and FTP upload JPEG
  - Pre Alarm Up to 1 seconds to After Alarm Up to 1 seconds
- Alarm Event Time Schedule:**

Date	Start Time	End Time	Action
Everyday	00:00	23:59	<input type="button" value="Add"/>
Everyday	00:00	23:59	<input type="checkbox"/>

Check All

Figure 30: Alarm\_In Action Configuration Page

Table 17: Alarm\_In Action Configuration

<b>Pre/Post Alarm Recording (Record Video From Pre Alarm Up to XXX to After Up to XXX)</b>	Depending on 1st stream resolution, this allows internal buffer to store the pre/post alarm video for applications to utilize.
<b>Voice Alarm to SIP Phone</b>	Enabled will allow device to make SIP call after receiving Alarm_In. See below NOTE for example.
<b>Alarm Output</b>	Enabled will allow Alarm Output after receiving Alarm_In signal.
<b>Upload to Alarm Center</b>	Upload to alarm center like 3rd party VMS system.
<b>Upload to Alarm HTTP Server</b>	Upload to 3rd party HTTP server or application using HTTP API.
<b>Record Video and Upload to FTP Server</b>	Upload video recording to pre-configured FTP server.
<b>Email and FTP upload JPEG</b>	JPEG snapshot are sent via Email and uploaded through FTP when alarm is triggered.



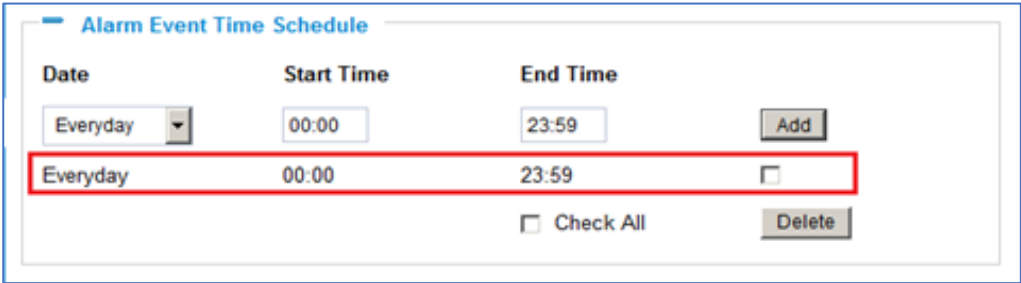
- Click “Save” to save the settings. Following bar will display if operation successful. Save successful!

**Notes:**

- Voice Alarm to SIP Phone: Application example: Intercom System, press button as Alarm\_In, the pre-programmed SIP number or peer IP device will be called. If the receiver is Grandstream Video phone, the callee can use DTMF PIN code to operate and Open Door.
- MJPEG is NOT supported for this feature.**

**Alarm Event Time Schedule:**

Click the “Alarm Event Time Schedule” will bring up following interface to allow user to configure the Time Schedule for the Alarm\_In to take action.



Date	Start Time	End Time	
Everyday	00:00	23:59	<input type="checkbox"/>

Check All   

Figure 31: Alarm Event Time Schedule Configuration Page

**Note:**

- User has to configure the “Alarm Event Time Schedule”; otherwise the Alarm In interface will not work if there is no time schedule configured.

**Syslog Settings**

This page allows user to enable the Syslog to help troubleshooting problems.

**Home**

**Basic Settings**

**Advanced Settings**

User Management

Maintenance

SMTP

FTP

PTZ

Alarm Server

Time Lapse Photography

Motion Detection

Alarm Event

**Syslog**

### SysLog Settings

Syslog Server:

Syslog Level: 

None

Debug

Info

Warning

Error

**Figure 32: Syslog setting page**

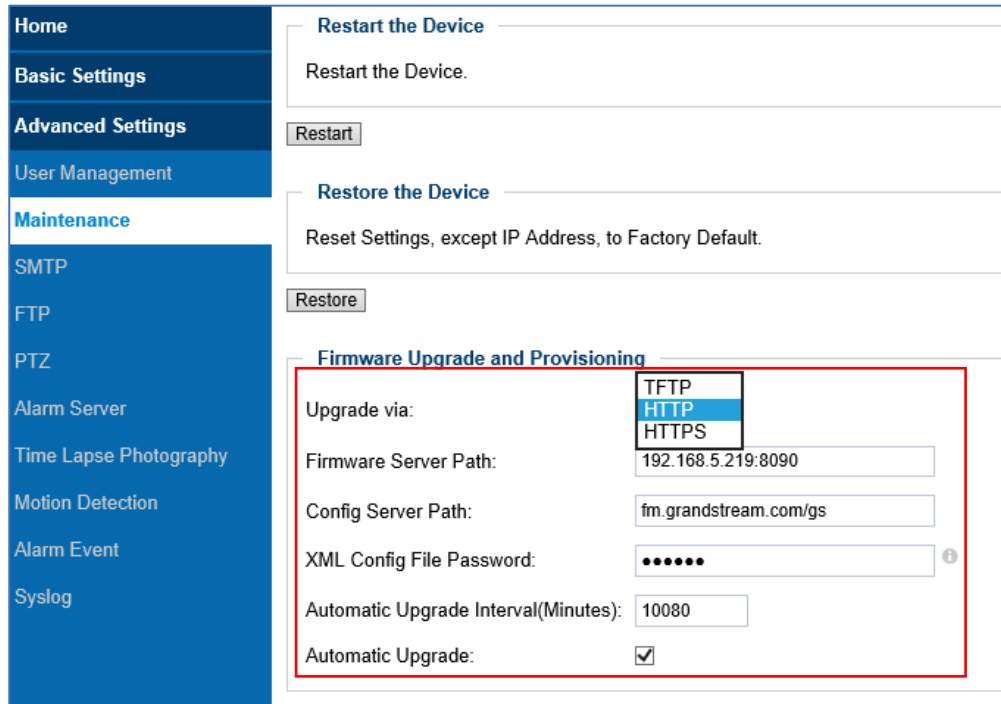
**Table 18: Syslog settings**

<b>Syslog Server</b>	Syslog server IP or Domain Name
<b>Syslog Level</b>	Lever of syslog message sent to the syslog server: <b>None, Debug, Info, Warning, Error.</b>

## SOFTWARE UPGRADE

This page allows user to configure firmware upgrade:

Software upgrade can be done via TFTP, HTTP or HTTPS. The corresponding configuration settings are in the ADVANCED SETTINGS configuration page.



<b>Home</b>	<b>Restart the Device</b>
<b>Basic Settings</b>	Restart the Device.
<b>Advanced Settings</b>	<input type="button" value="Restart"/>
<b>User Management</b>	<b>Restore the Device</b>
<b>Maintenance</b>	Reset Settings, except IP Address, to Factory Default.
SMTP	<input type="button" value="Restore"/>
FTP	<b>Firmware Upgrade and Provisioning</b>
PTZ	Upgrade via: <input type="text" value="TFTP"/> <input type="text" value="HTTP"/> <input type="text" value="HTTPS"/>
Alarm Server	Firmware Server Path: <input type="text" value="192.168.5.219:8090"/>
Time Lapse Photography	Config Server Path: <input type="text" value="fm.grandstream.com/gs"/>
Motion Detection	XML Config File Password: <input type="password" value="....."/>
Alarm Event	Automatic Upgrade Interval(Minutes): <input type="text" value="10080"/>
Syslog	Automatic Upgrade: <input checked="" type="checkbox"/>

**Figure 33: Firmware Upgrade and Provisioning**

**Notes:**

- Grandstream recommends end-user use the Grandstream HTTP server:  
**firmware.grandstream.com**
- For large companies, we recommend to maintain their own TFTP/HTTP/HTTPS server for upgrade and provisioning procedures. Instructions for local firmware upgrade using TFTP server:
  1. Unzip the file and put all of them under the root directory of the TFTP server.
  2. Load the TFTP server from the PC and make sure the device in the same LAN segment.
  3. Please go to File -> Configure -> Security to change the TFTP server's default setting from "Receive Only" to "Transmit Only" for the firmware upgrade.
  4. Start the TFTP server.
  5. In webGUI of IP camera, configure the Firmware Server Path with the IP address of the PC.
  6. Update the change and reboot the unit

End users can also choose to download the free HTTP server from <http://httpd.apache.org/> or use Microsoft IIS web server.



## CONFIGURATION FILE DOWNLOAD

Grandstream SIP Device can be configured via Web Interface as well as via Configuration File through TFTP or HTTP/HTTPS. “Config Server Path” is the TFTP or HTTP/HTTPS server path for configuration file. It needs to be set to a valid URL, either in FQDN or IP address format. The “Config Server Path” can be same or different from the “Firmware Server Path”.

A configuration parameter is associated with each particular field in the web configuration page. A parameter consists of a Capital letter P and 1 to 3 (Could be extended to 4 in the future) digit numeric numbers. i.e., P2 is associated with “Admin Password” in the ADVANCED SETTINGS page. For a detailed parameter list, please refer to the corresponding firmware release configuration template.

When Grandstream Device boots up or reboots, it will issue request for configuration file named “cfgxxxxxxxxxxxx.xml”, where “xxxxxxxxxxxx” is the MAC address of the device, i.e., “cfg000b820102ab.xml”. The configuration file name should be in lower cases.

### Notes:

- GXV3500 only support XML automatic provisioning.
- Grandstream recommends end-user use the Grandstream HTTP server:



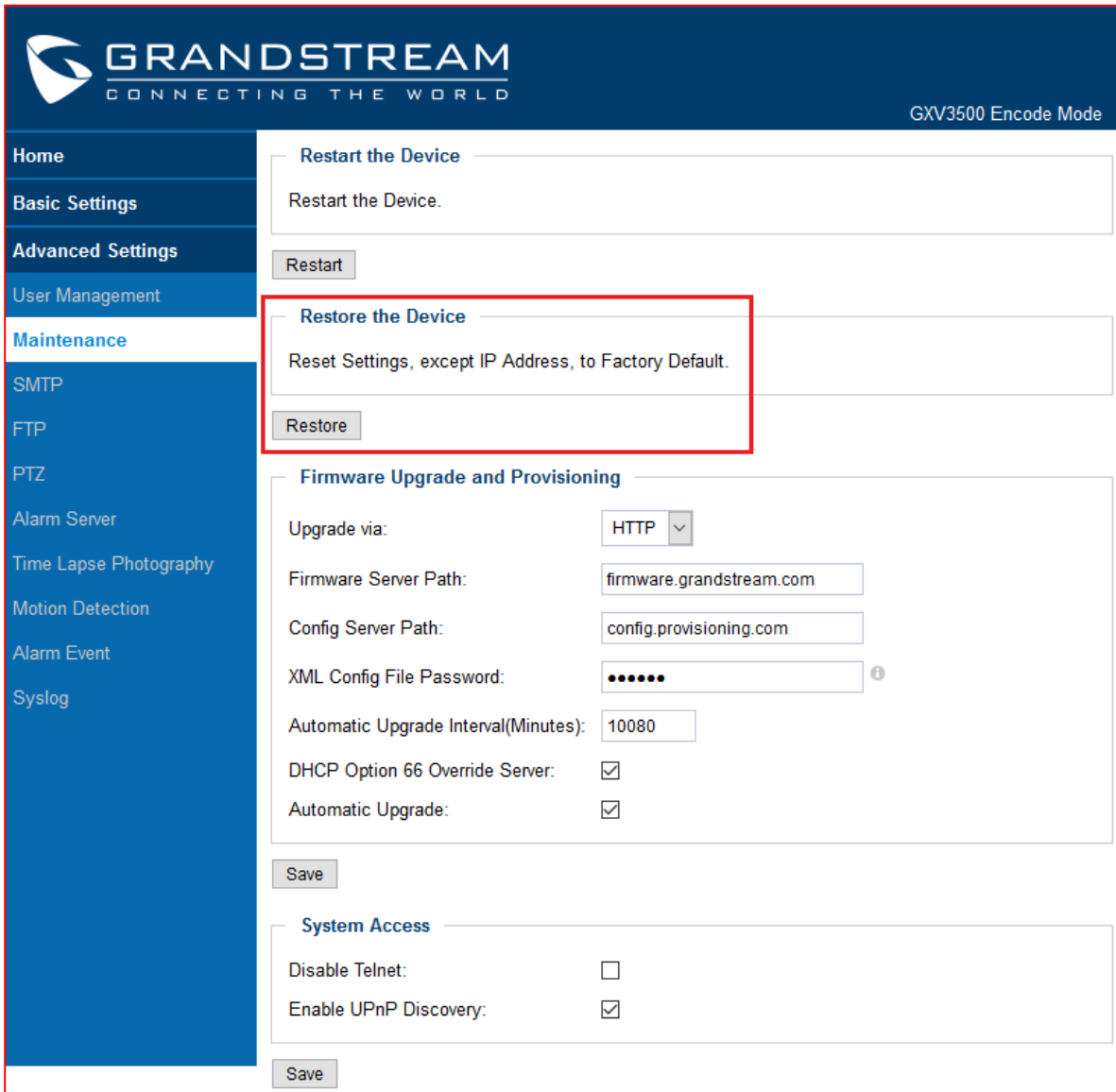
## RESTORE FACTORY DEFAULT SETTING

### WARNING!

Restoring the Factory Default Setting will DELETE all configuration information of the camera. Please BACKUP or PRINT out all the settings before approach to following steps. Grandstream will not take any responsibility if you lose all the parameters of setting or cannot connect to your VoIP service provider.

### Reset from Web Interface (Soft Reset)

This page allows user to configure dynamic network related parameters:



The screenshot shows the Grandstream web interface for a GXV3500 camera. The interface has a dark blue header with the Grandstream logo and the text 'CONNECTING THE WORLD' and 'GXV3500 Encode Mode'. On the left is a navigation menu with items: Home, Basic Settings, Advanced Settings, User Management, Maintenance, SMTP, FTP, PTZ, Alarm Server, Time Lapse Photography, Motion Detection, Alarm Event, and Syslog. The main content area is divided into sections: 'Restart the Device' with a 'Restart' button; 'Restore the Device' (highlighted with a red box) with the text 'Reset Settings, except IP Address, to Factory Default.' and a 'Restore' button; 'Firmware Upgrade and Provisioning' with fields for 'Upgrade via:' (HTTP), 'Firmware Server Path:' (firmware.grandstream.com), 'Config Server Path:' (config.provisioning.com), 'XML Config File Password:' (masked with dots), 'Automatic Upgrade Interval(Minutes):' (10080), 'DHCP Option 66 Override Server:' (checked), and 'Automatic Upgrade:' (checked), with a 'Save' button; and 'System Access' with 'Disable Telnet:' (unchecked) and 'Enable UPnP Discovery:' (checked), with a 'Save' button.

Figure 34: Factory Reset from Web Interface



## Reset via Button (Hard Reset)

To “hard” factory reset the camera, with the camera powered on, press and hold the “reset” button for 15 seconds until the IP camera reboot. The internal small red power LED will illustrate “On → Off → On”, meaning a successful hard factory reset.



Figure 35: GXV3500 Front View

1. **V\_IN, BNC Interface** : GXV3500 BNC interface, connect to analog camera as Video Input (Voltage: 1.0V p-p; Resistance 75  $\Omega$ )
2. **MIC\_IN**: 3.5mm socket for external 3<sup>rd</sup> party microphone input.
3. **RESET**: PIN hole, press & hold for 15 seconds to factory reset the device.




## GXV3500 HOME WEB PAGE (DECODE MODE)

Once click “Decode Home Page” from the Home page of the Encode mode, the device will prompt and reboot to switch itself from Encode Mode to Decode Mode.

Following Home Page of Decode Mode will be displayed once the device boots up:

### Home Page (Decode Mode)



**Decoder Settings**

Stream Format: RTSP

Default Stream: 1

Enable Patrol:

Video Output Type: Auto or NTSC

Real Size:

Save Start Patrol

No.	Patrol	RTSP URL	User Name	Password	Description	Time(s)
1	<input type="checkbox"/>	http://50.241.100.67:10002/4	admin	*****	GXV3672_FHD_36	15
2	<input type="checkbox"/>	rtsp://50.241.100.67:10001/4	admin	*****	GXV3611IR_HD	60
3	<input type="checkbox"/>	rtsp://192.168.22.112/4	admin	*****	GXV3662HD	30
4	<input type="checkbox"/>	rtsp://192.168.22.110/4	admin	*****	GXV3610_FHD	60
5	<input type="checkbox"/>	http://test.ipcam.com:8080	admin	*****	VLC-OK 3rd party IPC	60
6	<input type="checkbox"/>					60
7	<input type="checkbox"/>					60
8	<input type="checkbox"/>					60

Save

Figure 36: Decode Home Page

Table 19: Decode Home settings

#### Stream Format

Format of the data stream to be decoded:

RTSP: Decode RTSP data stream format.

SIP Phone: Decode SIP Phone call (UDP streaming).

HTTP: Decode HTTP data stream. (similar to VLC Player)



<b>Default Stream</b>	Select stream to be decoded, maximum 8 stream can be selected, but only one stream can be decoded at any given moment.
<b>Enable Patrol</b>	Click to select whether to run the decoding in Patrol Mode.
<b>Video Output Type</b>	Analogue Video Output Mode: Auto to NTSC; Auto to PAL; NTST; PAL.
<b>Real Size</b>	Select to display in Home Page the Real Size of the decoded video.

### Decode Setting Explanation:

- Patrol: Select to enable and add the stream to “Patrol” mode
- RTSP URL: Input the RTSP URL or HTTP URL stream for GXV3500 to decode
- User Name: User Name or ID if required to decode the related stream
- Password: Password if required to decode the related stream
- Description: Name used to describe or identify the stream decoded
- Times: Timer (in second) used in Patrol Mode for this particular stream

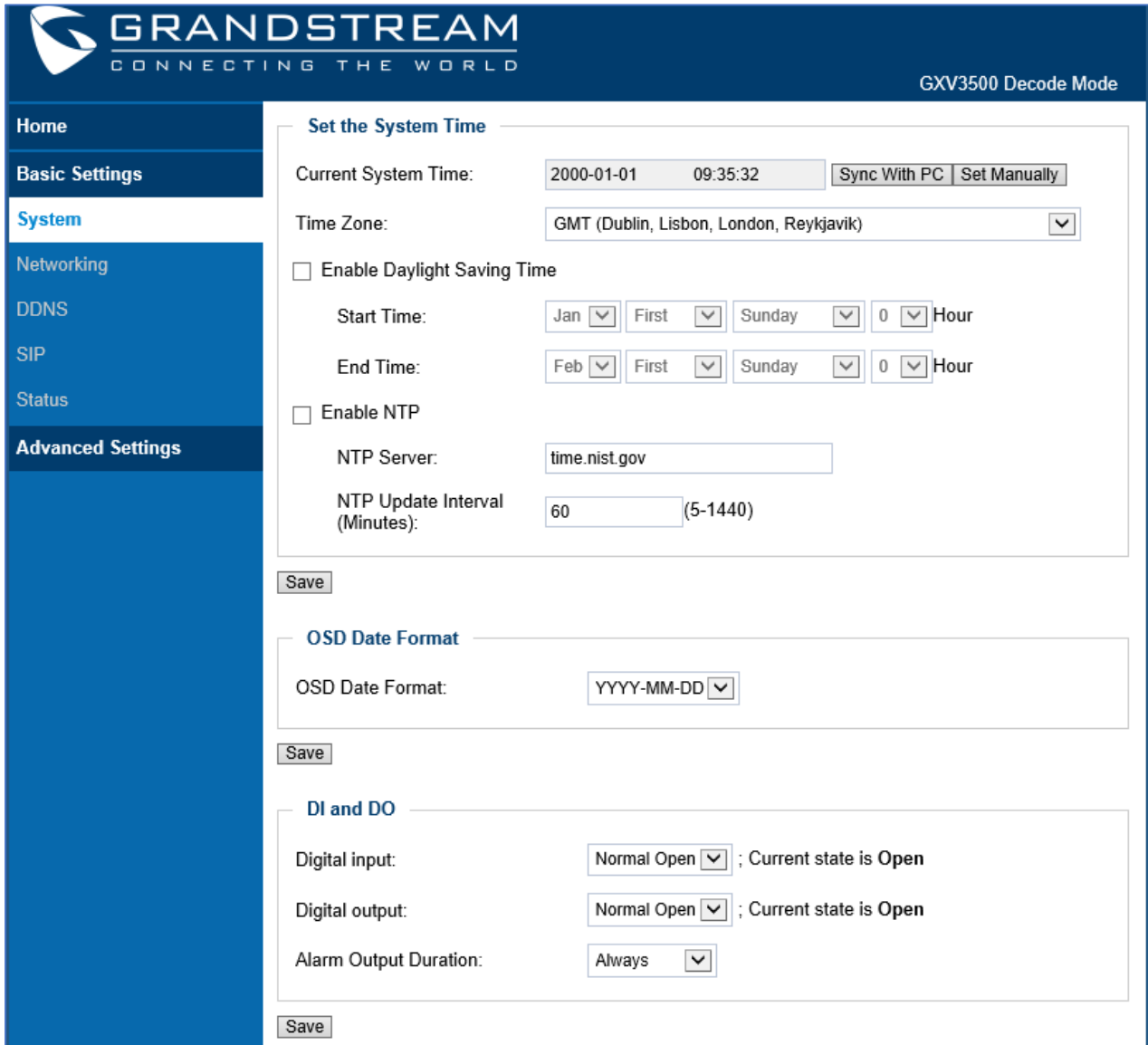
### **Notes:**

- ONLY H.264 supported. GXV3500 can NOT decode MJPEG stream
- ONLY support D1 max. Resolution. Therefore if remote side is Grandstream HD or FHD camera, it can NOT be displayed to TV output due to analogue limitation.
- The maximum decoding resolution is: 704x576, 704x480, and 640x480.
- For most Grandstream HD/FHD IP camera, this means GXV3500 will ONLY decode the second data stream, it can NOT decode resolution more than D1 or VGA, because of the limitation of analogue interface output.
- For 3<sup>rd</sup> party camera, the best way to try whether GXV3500 can decode it or not is using VLC Player to decode the 3<sup>rd</sup> party camera.
- If VLC can NOT decode and display the 3<sup>rd</sup> party stream, then GXV3500 will NOT do it either.
- VLC is Open Source media player, you can get from: <http://www.videolan.org/vlc/index.html>
- ❖ VideoLAN, VLC, VLC media player and x264 are trademarks internationally registered by the [VideoLAN non-profit organization](#). VideoLAN software is licensed under various open-source licenses: use and distribution are defined by each software license.



## Basic Settings Explanation (Decode Mode)

### System Setting Page (Decode Mode)



**GRANDSTREAM**  
CONNECTING THE WORLD

GXV3500 Decode Mode

**Home**

**Basic Settings**

**System**

Networking

DDNS

SIP

Status

**Advanced Settings**

---

**Set the System Time**

Current System Time: 2000-01-01 09:35:32

Time Zone: GMT (Dublin, Lisbon, London, Reykjavik)

Enable Daylight Saving Time

Start Time: Jan  First  Sunday  0  Hour

End Time: Feb  First  Sunday  0  Hour

Enable NTP

NTP Server: time.nist.gov

NTP Update Interval (Minutes): 60 (5-1440)

---

**OSD Date Format**

OSD Date Format: YYYY-MM-DD

---

**DI and DO**

Digital input: Normal Open  ; Current state is Open

Digital output: Normal Open  ; Current state is Open

Alarm Output Duration: Always

Figure 37: System Page (Decode)

Table 20: System settings

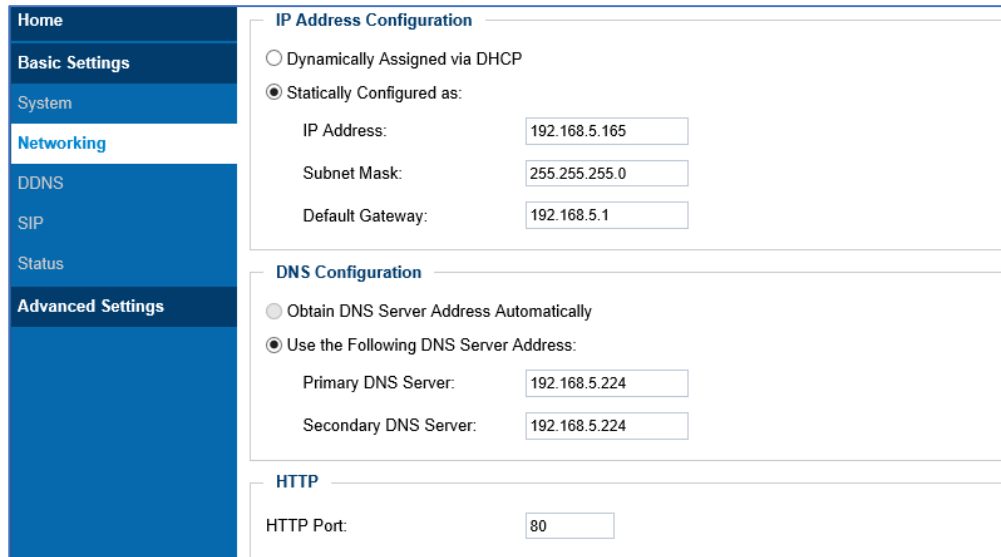
<b>Current System Time</b>	Display time current system is running at.
<b>Sync with PC</b>	Click to synchronize current time with computer.
<b>Set Manually</b>	Click to manually set the current time and date.
<b>Time Zone</b>	Select from pull down menu the time zone unit located.
<b>Enable DST</b>	Configure Day Light Saving Time.
<b>NTP</b>	Enable and configure NTP server and update interval.



<b>On Screen Display (OSD)</b>	Format to display the OSD date
<b>OSD Date Format</b>	OSD Date format, choose based on user preference.
<b>Device Name Setting</b>	Set the name of the camera which will be shown in the result of “Search Tool” of GSurf_Pro VMS program.
<b>DI and DO</b>	DI and DO initial status for Alarm In or Out operation.
<b>Digital Input</b>	State of Digital Input, normal at Open state.
<b>Digital Output</b>	State of Digital Output, normal at Open state.
<b>DO Duration</b>	Select operation of Alarm Output Duration from pull down list.

## Networking Setting Page (Decode Mode)

This page allows user to configure network related parameters:



The screenshot shows a web interface for network configuration. On the left is a navigation menu with options: Home, Basic Settings, System, Networking (highlighted), DDNS, SIP, Status, and Advanced Settings. The main content area is divided into three sections:

- IP Address Configuration:**
  - Dynamically Assigned via DHCP
  - Statically Configured as:
    - IP Address: 192.168.5.165
    - Subnet Mask: 255.255.255.0
    - Default Gateway: 192.168.5.1
- DNS Configuration:**
  - Obtain DNS Server Address Automatically
  - Use the Following DNS Server Address:
    - Primary DNS Server: 192.168.5.224
    - Secondary DNS Server: 192.168.5.224
- HTTP:**
  - HTTP Port: 80

Figure 38: Networking Page (Decode)

Table 21: Networking settings

<b>Dynamically Assigned via DHCP</b>	Default setting, DHCP server assign IP to camera.
<b>Statically Configured as</b>	Static IP address configuration (Preferred for Port FWD).
<b>DNS Configuration</b>	DNS server IP. Must be configured if using static IP.
<b>HTTP</b>	Web access TCP port, default 80.

### Notes:

- If camera behind SOHO router with port forwarding configuration for remote access, static IP or static DHCP has to be used to avoid IP address change after router reboot.

- TCP port above 5000 suggested if 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 not likely blocked.
- In addition to HTTP port, RTSP port is also required to configure via port forward, so that remote party can view the video stream.
- If revise the default TCP port 80 to port “A”, then RTSP port should be “2000+A” (changed from default TCP 554). Both TCP port “A” and “2000+A” should be configured for port forwarding in the router. For example, the HTTP port changed to 8088, the RTSP port now should be 10088, both TCP ports 8088 and 10088 should be configured for port forwarding in order for remote camera access: 8088 for web portal, 10088 for video streaming.

### DDNS Setting Page (Decode Mode)

This page allows user to configure dynamic DNS related parameters:

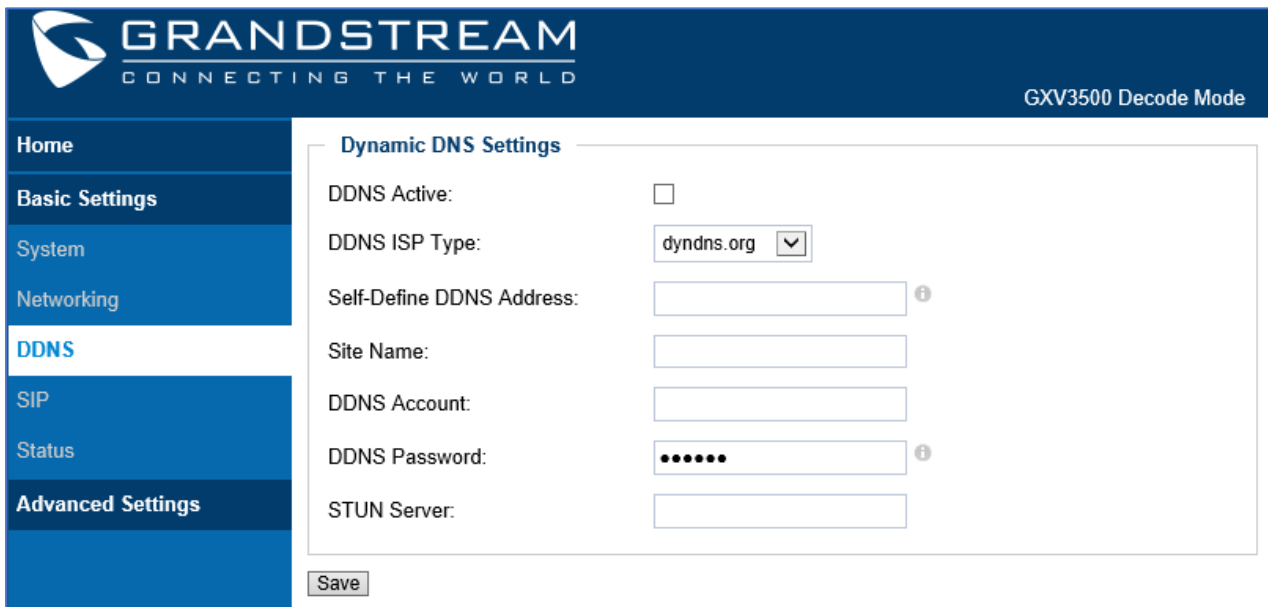


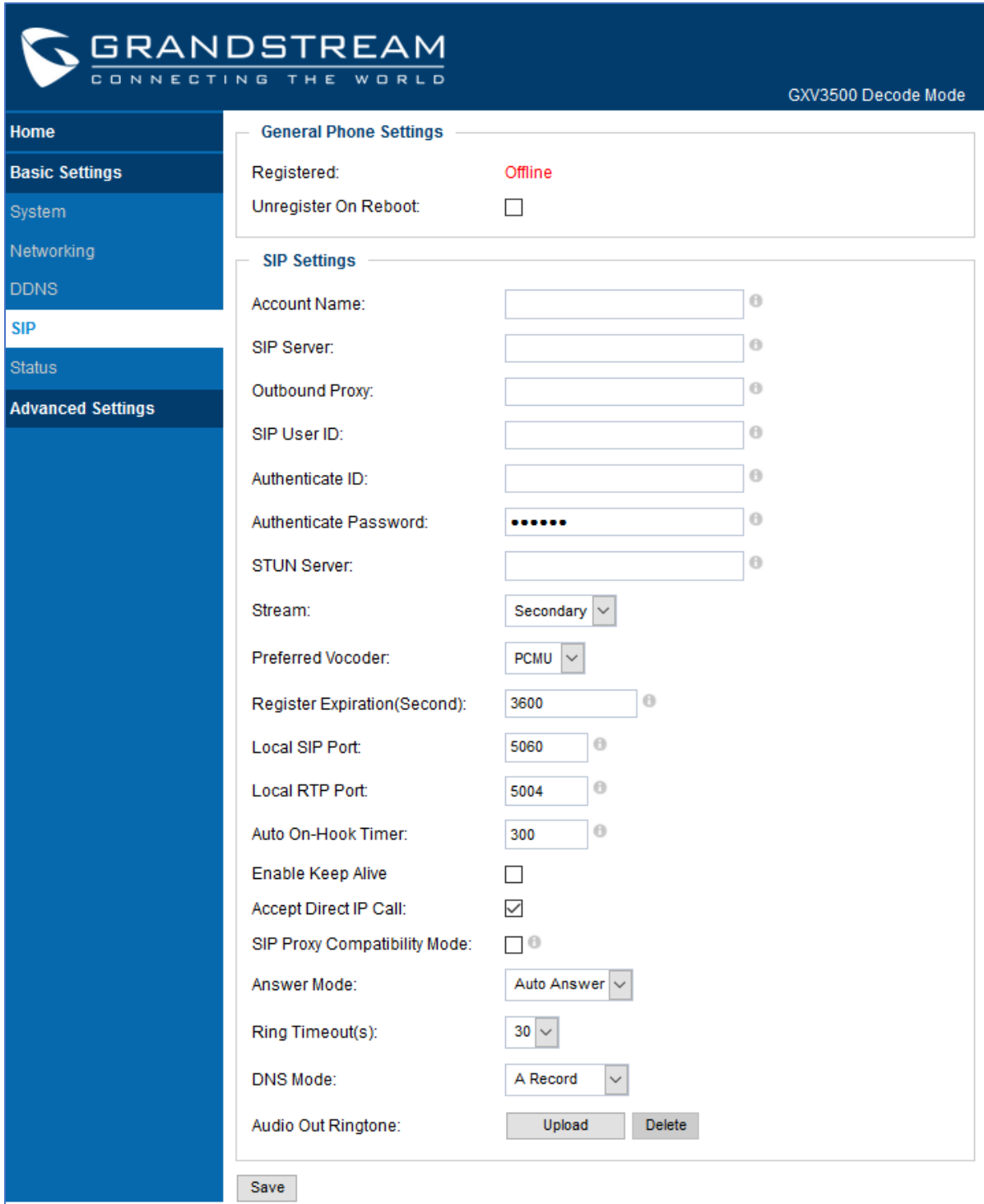
Figure 39: DDNS Setting Page (Decode)

Table 22: DDNS Setting

<b>DDNS Active</b>	Enable DDNS by check this field.
<b>DDNS ISP Type</b>	Select the DDNS service provider from the pull-down menu list.
<b>Self-Define DDNS Address</b>	Input the self-defined DDNS address.
<b>Site Name</b>	DDNS site name.
<b>DDNS Account</b>	DDNS account name
<b>DDNS Password</b>	DDNS password
<b>STUN Server</b>	Stun server FQDN or IP. If device behind a non-symmetric router, STUN server can help to penetrate & resolve NAT issue.

## SIP Setting Page (Decode Mode)

GXV3500 Decode can be configured as SIP endpoint to decode the video SIP call, showing remote SIP video phone or IP camera during SIP video call and displaying to audio and video to the connected big screen TV set.



The screenshot shows the Grandstream GXV3500 web interface in Decode Mode. The left sidebar contains navigation options: Home, Basic Settings, System, Networking, DDNS, SIP (selected), Status, and Advanced Settings. The main content area is divided into two sections: General Phone Settings and SIP Settings.

**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: Secondary
- Preferred Vocoder: PCMU
- Register Expiration(Second): 3600
- Local SIP Port: 5060
- Local RTP Port: 5004
- Auto On-Hook Timer: 300
- Enable Keep Alive:
- Accept Direct IP Call:
- SIP Proxy Compatibility Mode:
- Answer Mode: Auto Answer
- Ring Timeout(s): 30
- DNS Mode: A Record
- Audio Out Ringtone:

A Save button is located at the bottom left of the settings area.

Figure 40: SIP Setting Page (Decode)

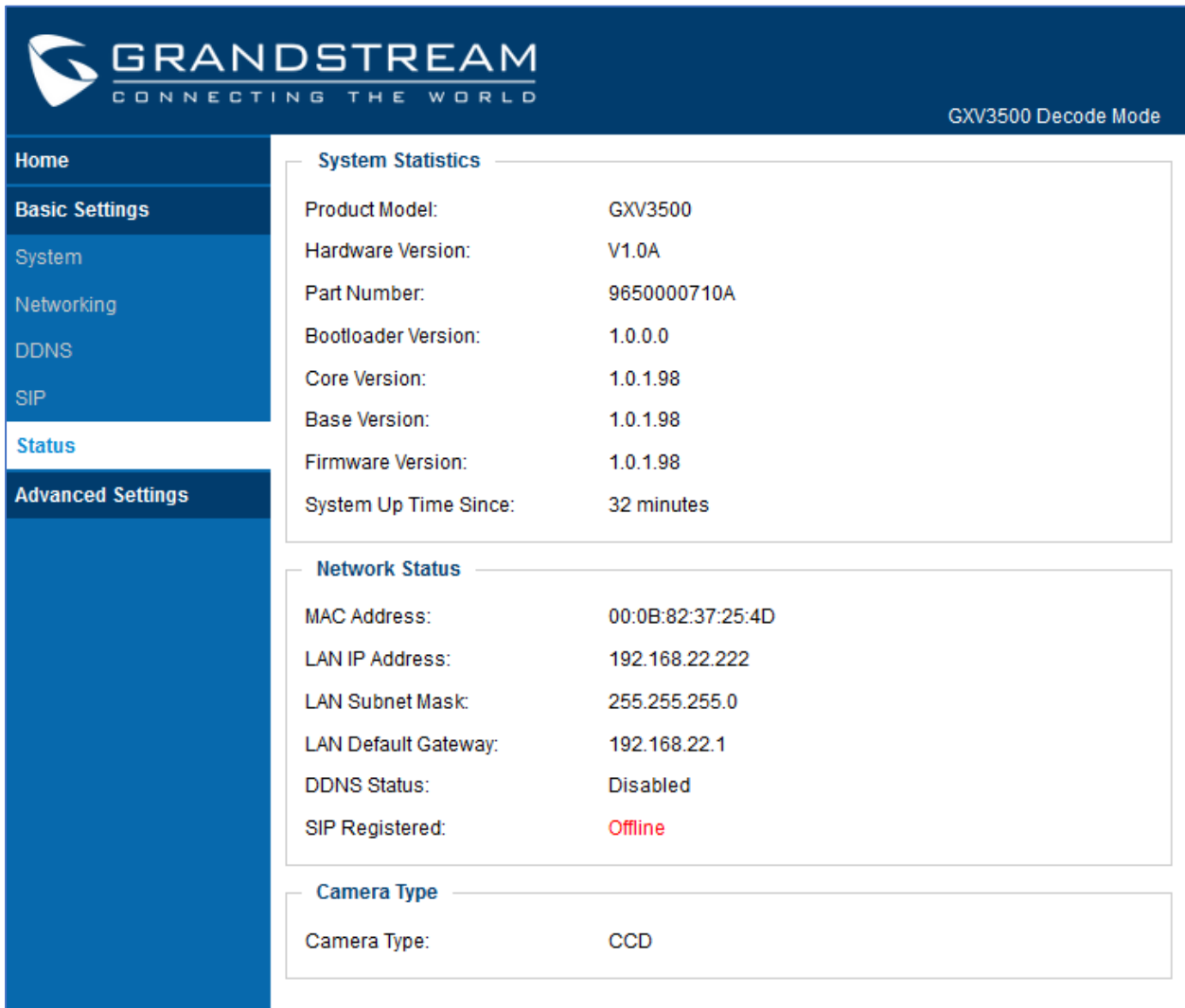
**Table 23: SIP Setting Page (Decode)**

<b>Registered</b>	SIP registration status. Display “Online” in Green, “Offline” in Red.
<b>Unregistered on Reboot</b>	If checked and SIP server support, reboot camera will unbind all registered end points using this SIP account.
<b>Account Name</b>	SIP account name used for self-identification.
<b>SIP Server</b>	FQDN or IP of SIP server from VoIP service provider.
<b>Outbound Proxy</b>	IP or FQDN of Outbound proxy server, helps penetrate NAT/Firewall.
<b>SIP User ID</b>	SIP username, or telephone number from ITSP.
<b>Authenticate ID</b>	Authenticate ID used by SIP proxy.
<b>Authenticate Password</b>	Authenticate password used by SIP proxy.
<b>STUN Server</b>	STUN server used to resolve NAT if have.
<b>Stream</b>	Which stream used for SIP call. Default <b>2nd stream and only 2<sup>nd</sup></b> .
<b>Preferred Vocoder</b>	Audio codec used for SIP call, only G.711 A or U supported.
<b>Registration Expiration</b>	Registration expiration time, default 3600 seconds.
<b>Local SIP Port</b>	Local SIP port, default 5060.
<b>Local RTP Port</b>	Local RTP port for media, default 5004.
<b>Auto On-Hook Timer</b>	Timer (in seconds) for automatic disconnecting SIP call. Default 300.
<b>Enable Keep Alive</b>	Checked to help NAT resolution, sending alive packets.
<b>Accept Direct IP Call</b>	Check to accept peer-to-peer IP call in LAN without SIP server.
<b>SIP Proxy Compatibility Mode</b>	Check to enable more proxy compatibility with cost of bandwidth, the SIP call will send both audio and video no matter what.
<b>Answer Mode</b>	Pulldown to select “Auto Answer” (Default) or “Ring” Mode.
<b>Ring Timeout(s)</b>	Pulldown selection of Ring Timeout timer in seconds. Range: 15-60 seconds. Default is 30 seconds.
<b>DNS Mode</b>	Selects DNS mode to use for the client to look up server. <ul style="list-style-type: none"> <li>• <b>A Record</b>: resolves IP Address of target according to domain name.</li> <li>• <b>SRV</b>: DNS SRV resource records indicate how to find services for various protocols.</li> <li>• <b>NAPTR/SRV</b>: Naming Authority Pointer according to RFC2915.</li> </ul> Default is A Record.
<b>Audio Out Ringtone</b>	Upload the correct formatted Audio Out Ringtone.



## Status Page (Decode Mode)

This page shows the GXV3500 Decode Mode operation status:



System Statistics	
Product Model:	GXV3500
Hardware Version:	V1.0A
Part Number:	9650000710A
Bootloader Version:	1.0.0.0
Core Version:	1.0.1.98
Base Version:	1.0.1.98
Firmware Version:	1.0.1.98
System Up Time Since:	32 minutes

Network Status	
MAC Address:	00:0B:82:37:25:4D
LAN IP Address:	192.168.22.222
LAN Subnet Mask:	255.255.255.0
LAN Default Gateway:	192.168.22.1
DDNS Status:	Disabled
SIP Registered:	Offline

Camera Type	
Camera Type:	CCD

Figure 41: Status Page (Decode)

### Notes:

- When SIP account registered, the status will display “Online” in Green.
- When SIP account unregistered, the status will display “Offline” in Red, as below.

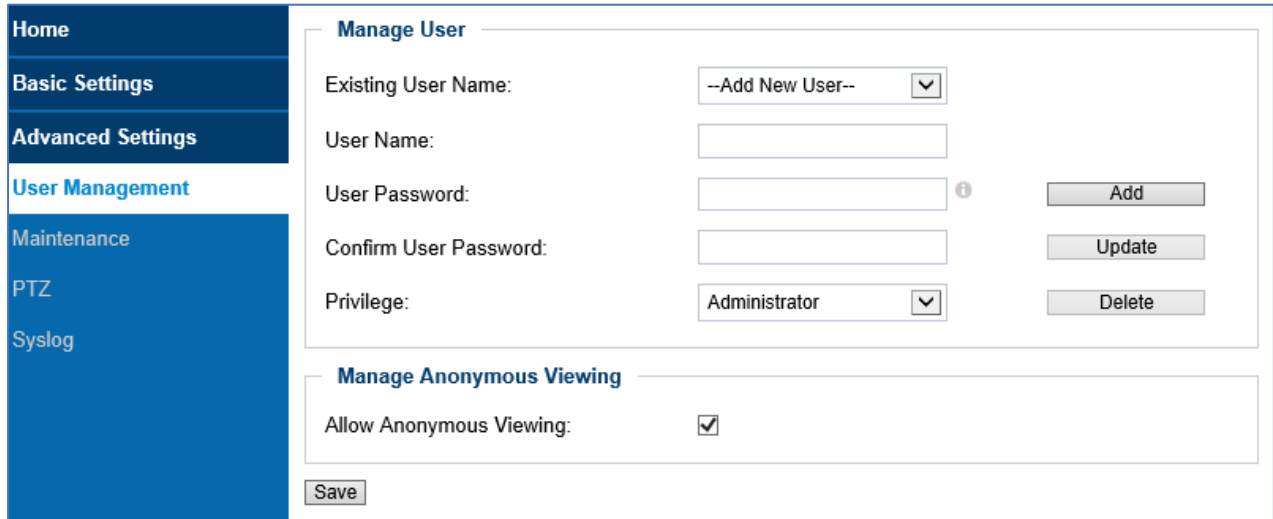
SIP Registered: Offline



## Advanced Settings Explanation (Decode Mode)

### User Management Page (Decode Mode)

This page allows customer to configure the user and related privilege



The screenshot shows a web interface for user management. On the left is a navigation menu with options: Home, Basic Settings, Advanced Settings, User Management (highlighted), Maintenance, PTZ, and Syslog. The main content area is titled 'Manage User' and contains the following fields and controls:

- Existing User Name:** A dropdown menu with the option '--Add New User--' selected.
- User Name:** A text input field.
- User Password:** A text input field with an information icon (i) to its right.
- Confirm User Password:** A text input field.
- Privilege:** A dropdown menu with 'Administrator' selected.
- Buttons:** 'Add', 'Update', and 'Delete' buttons are positioned to the right of the password and privilege fields.

Below the 'Manage User' section is the 'Manage Anonymous Viewing' section, which includes:

- Allow Anonymous Viewing:** A checkbox that is checked.

A 'Save' button is located at the bottom left of the form area.

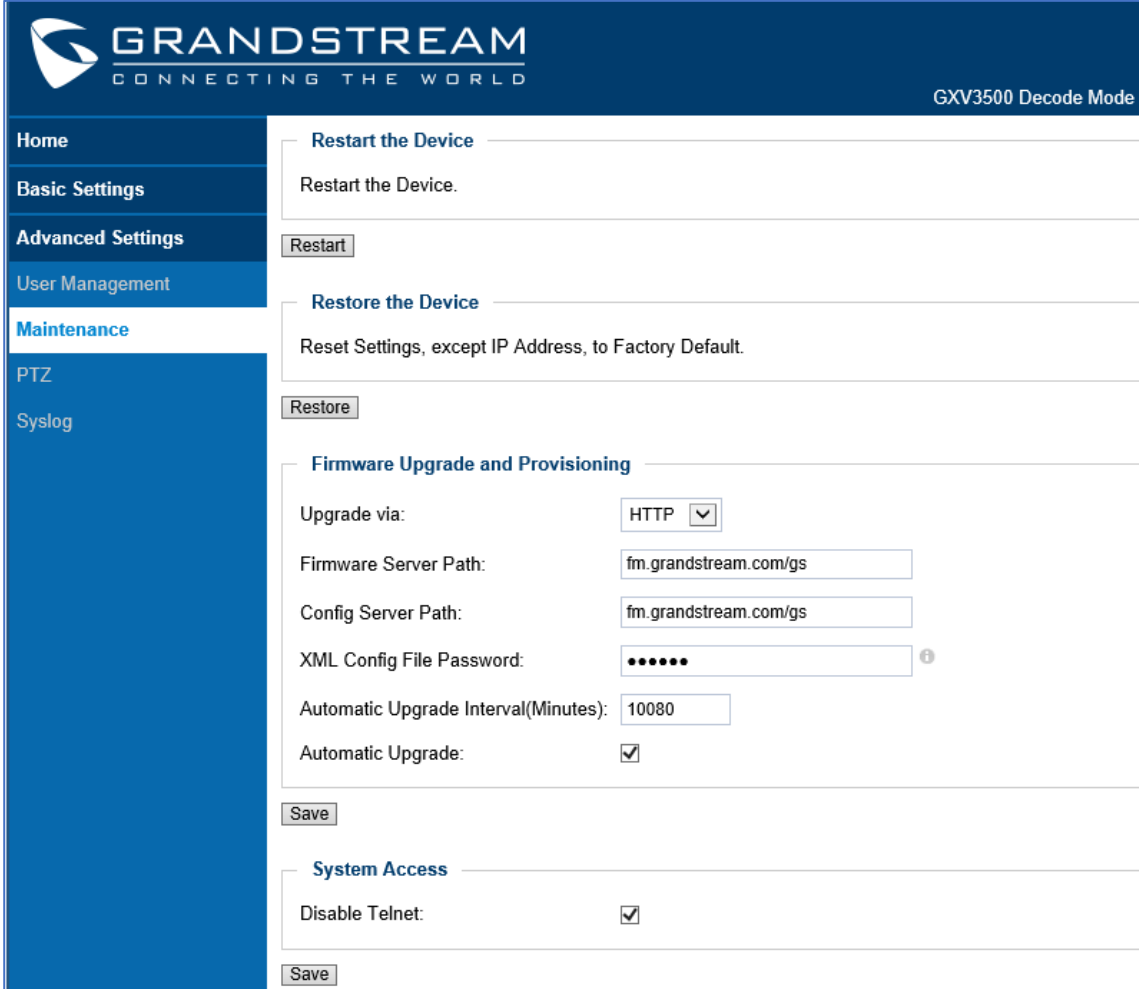
Figure 42: User Management Page (Decode)

Table 24: User Management (Decode)

<b>Existing User Name</b>	Allow revise existing user or add new user.
<b>User Name</b>	The name of users need to be revised.
<b>User Password</b>	New password if revise password.
<b>Confirm User Password</b>	Re-enter the new password for verification, must match.
<b>Privilege</b>	Choose user privilege. Two levers: Administrator, Viewer. Viewer cannot change any settings.
<b>Allow Anonymous Viewing</b>	When checked, no security enhanced. Any person can view the camera if knowing the IP or FQDN of the camera, but cannot change anything, just view ONLY.

## Maintenance Page (Decode Mode)

This page allows user to maintain the GXV3500 in Decode Mode:



**Figure 43: Maintenance Page (Decode)**

**Table 25: Maintenance Page (Decode)**

<b>Restart</b>	When clicked, the camera will reboot or restart (soft reboot).
<b>Restore</b>	When clicked, the camera will be reset to factory default, wiping out all the configurations (except IP address).
<b>Upgrade via</b>	Upgrade firmware via TFTP, HTTP or HTTPS.
<b>Firmware Server Path</b>	Server path holding the firmware.
<b>Config Server Path</b>	Server path holding the configuration file (auto provisioning).
<b>XML Config File Password</b>	Password for encrypt the XML based configuration file
<b>Automatic Upgrade Interval (Minutes)</b>	Time interval for automatic upgrade, default 10080.



<b>Automatic Upgrade</b>	Checked to enable automatic firmware upgrade and provisioning.
<b>Disable Telnet</b>	Check to disable Telnet to enhance security.
<b>Enable UPnP Discovery</b>	Used for UPnP automatic discovery of the device in related network environment. Default enabled.

**Note:**

- Only XML based automatic provisioning is supported by GXV3500.

### PTZ (Decode Mode)

This page allows user to configure GXV3500 (decode mode) to use its related RS-485 port as output control of 3<sup>rd</sup> party PTZ compatible device or TEXT output device via RS-485 port.



**Figure 44: PTZ Configuration Page (Decode)**

**Table 26: Configuration Page (Decode)**

<b>Protocol</b>	Pull-down to select supported PTZ protocol by connected analogue camera. Only Pelco-D or Pelco-P allowed.
<b>Baudrate</b>	The baudrate used by the analogue camera interface, select from the pull-down menu.
<b>Address ID</b>	Hardware Pelco-D or Pelco-P address ID used by the analogue camera, please refer to related camera user manual for this ID (or PIN switch in the UM), then fill in related matching address into this field.

**Notes:**

- The address ID has to be same and match the one used in the connected analogue camera. Otherwise the PTZ will not function or behave abnormal due to the wrong Pelco-D or Pelco-P address used.
- Detailed information of passing TEXT or CMD via RS-485 port, please refer to related 3<sup>rd</sup> party device connected, or refer to HTTP API for more information:

[http://www.grandstream.com/sites/default/files/Resources/grandstream\\_http\\_api\\_1.0.0.54.pdf](http://www.grandstream.com/sites/default/files/Resources/grandstream_http_api_1.0.0.54.pdf)

## Syslog Settings (Decode Mode)

This page allows user to enable the Syslog to help troubleshooting problems.

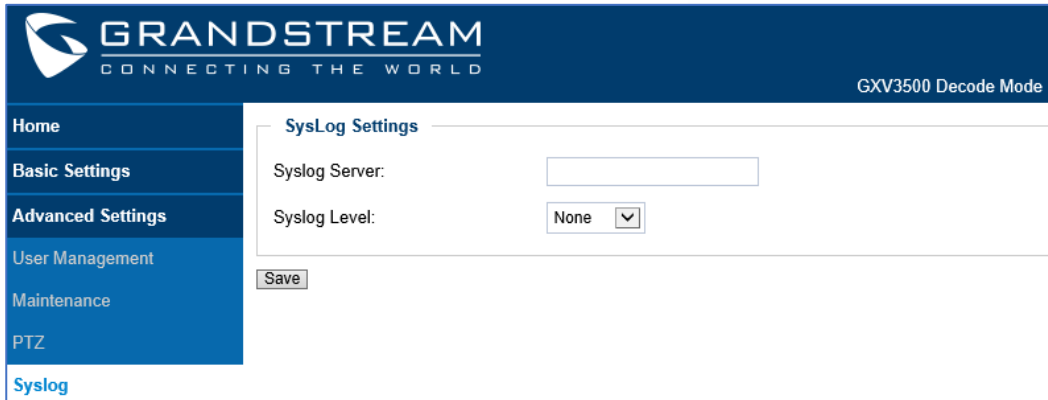


Figure 45: Syslog Page (Decode)

Table 27: Syslog (Decode)

<b>Syslog Server</b>	Syslog server IP or Domain Name.
<b>Syslog Level</b>	Lever of syslog message sent to the syslog server: <b>None, Debug, Info, Warning, Error.</b>

## Remote Alarm\_Out Peering with GXV3500 (Decode Mode)

The IP66 weather-proof IP cameras GXV3672, GXV3674 and GXV3610 series do not have built-in Alarm\_Out interface, but when peering with Grandstream GXV3500 encoder/Decode, the GXV3500's built-in Alarm\_Out interface (**running at Decode mode**) can behave as remote Alarm\_Out for those IP Cameras. The benefit of such peering is the Alarm\_Out circuit is not physically wired into the IP Camera anymore, with the Ethernet network behaving as wiring, the Alarm\_Out circuit can now be located to convenient places where GXV3500 located. This means IP Camera can be in location A, while the Alarm\_Out can be in location B (A and B can be in the same or different places as long as A and B can reach each other via network/internet). This will help a lot of users to monitor site remotely and take appropriate action, because there are situations where location A with cameras but actions have to be taken from location B. With Grandstream's solution, traditional A and B limitation by the cable length is now disappear.

The configuration of such remote Alarm\_Out is very simple:

### GXV3672/GXV3674/GXV3610 Side:

Same configuration as previous Motion Detection configuration, just make sure "Upload to Alarm Center" checked and selected:

**Alarm Action**

Record Video From Pre Alarm Up to  seconds to After Alarm Up to  seconds<sup>①</sup>

Voice Alarm to SIP Phone

Upload to Alarm Center

Upload to Alarm HTTP Server

Record Video and Upload to FTP Server

Email and FTP upload JPEG


Pre Alarm Up to  seconds to After Alarm Up to  seconds

**Figure 46: Remote Alarm\_Out IP Camera Configuration**

**GXV3500 (Decode Mode) Side:**


GXV3500 has to be running as **Decode Mode** when functioning as remote Alarm\_Out of the peering IP Camera. The configuration is as below:

- 1) Input the **2<sup>nd</sup> stream** (*H.264 Only, MJPEG NOT supported*) as the RTSP URL, with correct credentials, as shown below.
- 2) Only ONE stream (currently decoding stream) the Motion Detection can use the GXV3500 built-in Alarm\_Out interface if there are multiple RTSP URL configured in the GXV3500.



**GRANDSTREAM**  
 CONNECTING THE WORLD

GXV3500 Decode Mode



rtsp://192.168.11.69:10020/4      Stop

Encode Home Page | Configuration | Language

**Decoder Settings**

Stream Format:

Default Stream:

Enable Patrol:

Video Output Type:

Real Size:

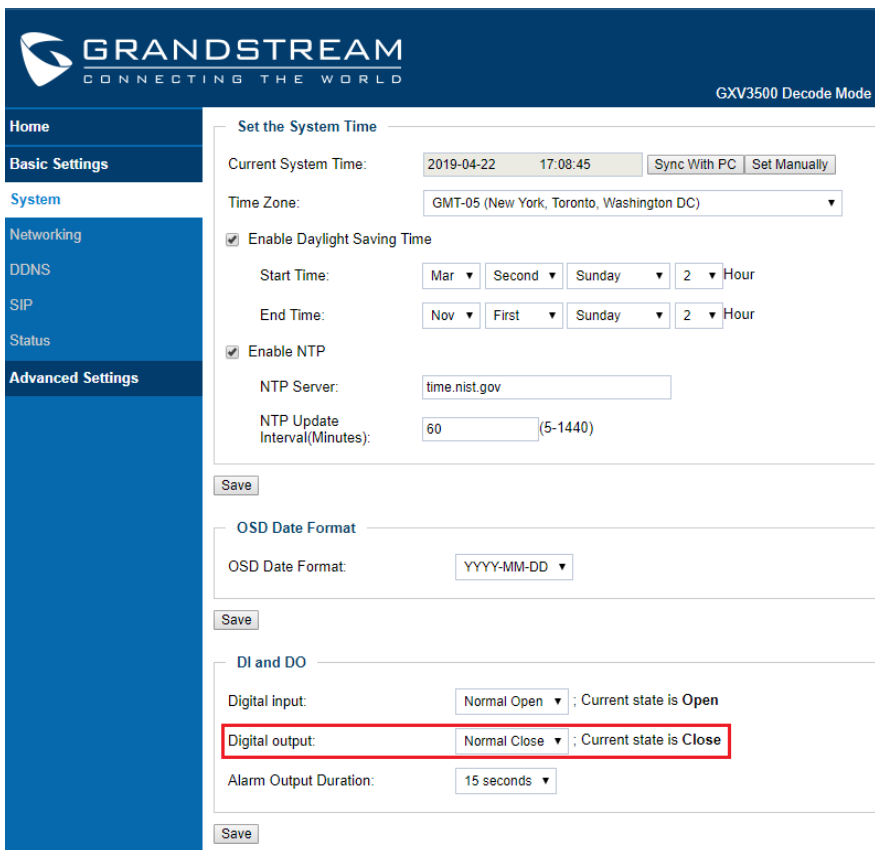
No.	Patrol	RTSP URL	User Name	Password	Description	Time(s)
1	<input type="checkbox"/>	<input type="text" value="rtsp://192.168.11.69:10020/4"/>	admin	*****	GXV3615WP_HD	60
2	<input type="checkbox"/>	<input type="text" value="rtsp://192.168.11.71:10060/4"/>	admin	*****	GXV3610_FHD	60
3	<input type="checkbox"/>	<input type="text"/>				60

**Figure 47: Remote Alarm\_Out peering GXV3500 Configuration**

**Notes:**

- GXV3500 is designed to work with **analogue camera**, with **maximum decode resolution 704x576**, this is why 2<sup>nd</sup> stream decoding used as peering for remote Alarm\_Out. The RSTP setting will be:  
**rtsp://IPCamera:Port/4** (4 is 2<sup>nd</sup> stream of GXV3672/GXV3674/GXV3610)
- 2<sup>nd</sup> stream also consume less bandwidth therefore good for internet transmission.
- H.264 video codec has to be selected because Motion Detection not supported via MJPEG.
- All Grandstream IP Cameras without built-in Alarm\_Out interface can peer with GXV3500 (Decode Mode) built-in Alarm\_Out interface for Motion Detection Remote Alarm\_Out. Alarm\_Out duration can be configured at “System” setting page of GXV3500 Decode. See below the figure. When Alarm\_Out taking action, the webpage will show the related action.

For example, below the “Digital Output Duration” is selected as “15 seconds” so the Alarm\_Out will act for 15 seconds before revert back to previous state. In below case, the default is circuit “Open”, when Motion Detection alarm triggered, the circuit state changed to “Close”, as illustrated below for 15 seconds and then switch back to previous “Open” state.



The screenshot shows the Grandstream web interface for GXV3500 Decode Mode. The left sidebar contains navigation links: Home, Basic Settings, System, Networking, DDNS, SIP, Status, and Advanced Settings. The main content area is titled 'Set the System Time' and includes fields for Current System Time (2019-04-22 17:08:45), Time Zone (GMT-05), and options to enable Daylight Saving Time and NTP. Below this is the 'OSD Date Format' section with a dropdown set to 'YYYY-MM-DD'. The 'DI and DO' section is highlighted with a red box and contains: Digital input (Normal Open, Current state is Open), Digital output (Normal Close, Current state is Close), and Alarm Output Duration (15 seconds). Each section has a 'Save' button.

**Figure 48: Remote Alarm\_Out peering GXV3500 Action Output Display**

Unlike the Alarm\_Out interface of Grandstream IP Camera (e.g.: GXV3611IR\_HD or GXV3662\_HF/FHD where the related Alarm\_Out interfaces are using relay switch), the GXV3500 Alarm\_Out is using photocoupler circuit.

If connecting to a multimeter, you will see the Ohm changed from unlimited to several hundred Ohms depending on GXV3500 HW version.

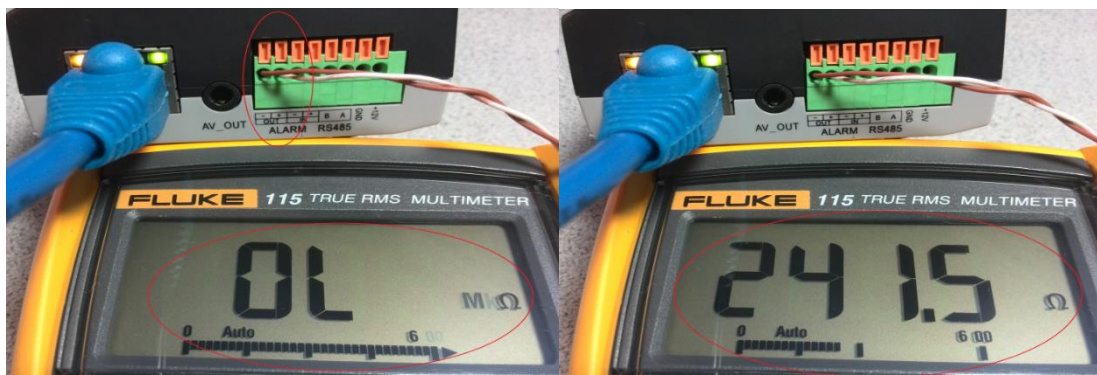
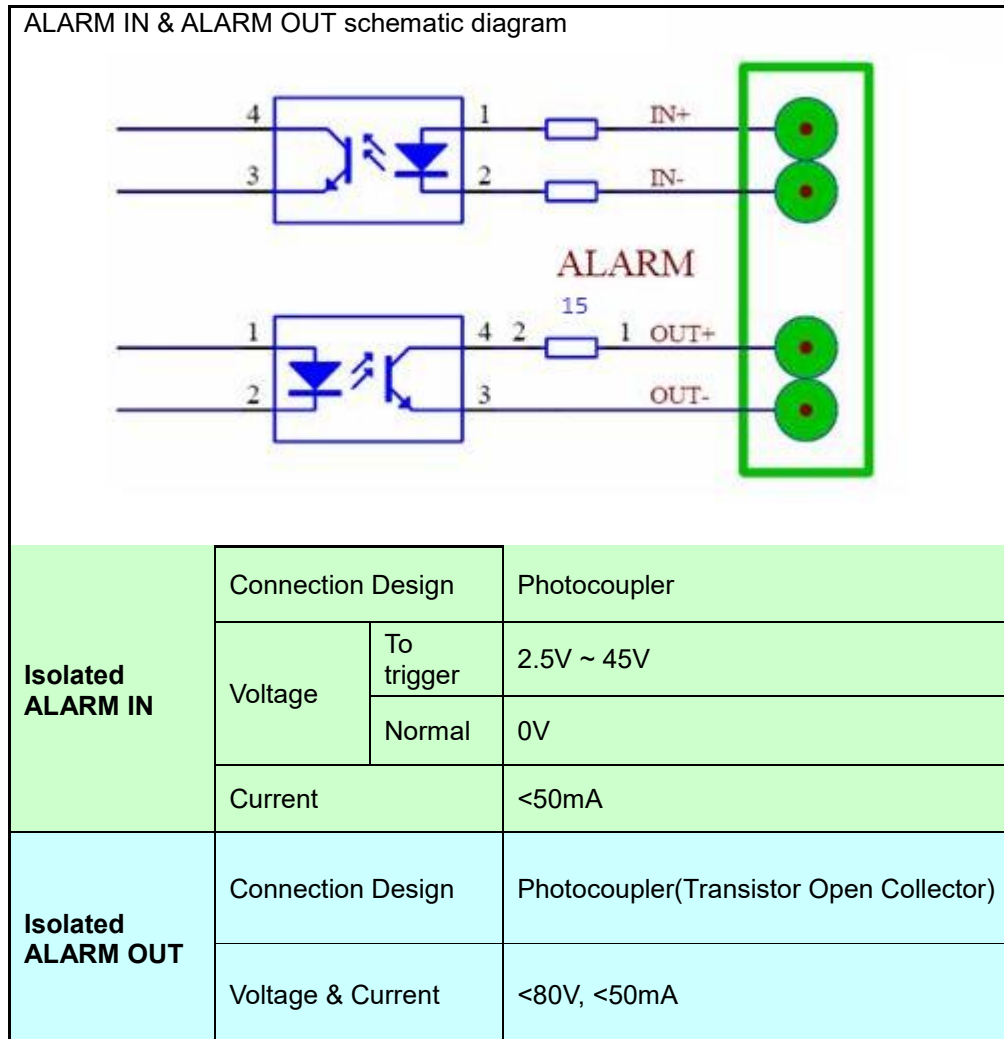


Figure 49: Peering GXV3500 Decode Alarm\_Out Circuit

The above method can be used for installers to check the functionality of this feature at lab or on field before the installation. With the help of GXV3500 Decode, customers can now free from the wiring limitation and have the Alarm\_Out feature for Grandstream IP66 weather-proof IP cameras.



## IP SURVEILLANCE FAQ

### **1. What is the default IP address of the GXV3500?**

The default IP configuration is DHCP or 192.168.1.168 after booting up 5 minutes.

### **2. Why can I not view the live video stream in Microsoft Internet Explorer?**

Please double check whether the Grandstream Plug-in/Active-X is installed correctly.

Once you log into the GXV3500 web interface, Internet Explorer will indicate that this website wants to install the following add-on: "GSViewer.cab" from Grandstream Networks, Inc. Please install this add-on when prompted by IE.

### **3. How do you manually uninstall the Grandstream video viewer add-on for IE?**

Please follow these steps to uninstall the add-on:

1. Delete the *GSViewerX Control* from *C:\WINDOWS\Downloaded Program Files* directory
2. Delete *GSNetClient.dll*, *GS\_Replay.exe*, *GSViewerX.ocx*, *hi\_h264dec\_w.dll*, *lik\_VoiceEngine\_dll.dll* and *GSViewerX.inf* from *C:\WINDOWS\system32*

### **4. Why can't I access the GXV3500 web configuration interface?**

Q 1: Is your internet service down?

A 1: Connect a PC to the internet to test the connection.

Q 2: Are the PC and the device in different subnets?

A 2: Check the subnet mask and default gateway of the device and PC.

Q 3: Is there a conflict with another IP address? A 3:

Try to change the IP address of the device.

Q 4: Has the HTTP port been changed?

A 4: Contact the administrator of the device for more information.

### **5. The GXV3500 web configuration page is not displayed correctly in IE8?**

In IE8, Compatibility View might need to be enabled for the GXV3500 web configuration page to load properly. To enable compatibility view, open IE8, click Tools, *Compatibility View Setting*, and add the GXV3500 web configuration pages to the Compatibility View.





**6. Why does IE indicate to install Grandstream Video Viewer add-on after a firmware upgrade?**

**The add-on was properly installed before the firmware upgrade process.** New firmware will often upgrade the add-on as well. To watch the live video stream, you must install the newest version of the add-on.

**7. How do you watch secondary video stream?**

Login to the home page of the GXV3500 web GUI, click Play to watch the video stream. To watch a secondary video stream, right click on the video, and select *Secondary Stream* on the pop-up menu. Try reinstalling the Grandstream Viewer add-on for IE if you cannot see the video stream.

**8. What is DDNS? Is it important for IP surveillance product to have DDNS support?**

DDNS is an acronym for Dynamic Domain Name Service. It is important to choose an IP network camera that has DDNS support for dynamic IP addresses. Chances are that the network has a dynamic IP address (which changes with every log on). A DDNS service makes sure that the camera's IP address always matches up to the current server address. DDNS also allows a website to be linked to the IP camera that is constantly updated with the correct information and has a reliable feed.

**9. Why is Windows Media Player unable to play the recorded video files?**

The GXV3500 uses the H.264 video codec. Windows Media Player may lack the proper H.264 Decode to play the recorded video. Please download the Microsoft FFDSHOW H.264 Decode from <http://sourceforge.net/projects/ffdshow-tryout/> and install it.

**10. Alarm Triggered Events do not work with GSurf\_Pro?**

Please double check the Alarm Action on your GXV3500. Login to the web GUI of the GXV3500, go to the Motion Detection or Alarm Events page, and make sure option Upload to Alarm Center is checked.

**11. Recommended to save the video files in different directories when using GSurf\_Pro?**

It is better to save video files in different directory to prevent accidental deletion of the recorded files you need.

**12. How to use a cell phone to watch the GXV3500 video stream?**

You must set the video resolution to QCIF to watch the GXV3500 video stream from a cell phone. Make sure to set the bit rate to 64kbps to ensure the best video quality.

**13. What Smartphone application should I use to view the video?**

There are free applications and paid version application for this, you can find them in Google Play for Android phone and Apple Store for iPhone, like: IP Cam Viewer:



<http://hit-mob.com/>



**14. Why the IP address of the device NOT reset when clicking the “Restore” button?**

The GXV3500 could be installed in areas that are not easy to access. For example, it could be installed on the roof of a building or the ceiling of an office. This makes it difficult to reinstall the device, therefore the “Restore” function will not clear the IP address.

**15. Why can't the live video stream be viewed using a mobile phone or GSurf\_Pro after changing the HTTP Port of the device?**

Make sure that the RTSP port of the device is set to 2000 plus the HTTP Port number. For example, if the HTTP port is 88, then the RTSP port of the device that you configured on GSurf\_Pro or mobile phone should be 2088.

**16. Port forwarding**

Two ports must be forwarded on your router to watch video from a GXV3500 that is located on a private network from a PC in a public network. The web port (HTTP) and the RTSP port. Please make note that the RTSP port number changes according to the web port. If the web port is 80, then the RTSP port is 554. If the web port is not 80, then the RTSP port equals the web port +2000. For example, if the web port is 88, then the RTSP port will be 2088.

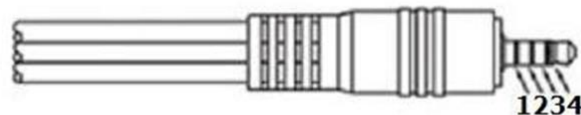
**17. What is the “Pin Out” for the 3.5mm AV cable used in GXV3500?**

The “Pin Out” layout for the supplied 3.5mm AV cable used in GXV3500 is the 1<sup>st</sup> one (highlight in **Blue**) in below table.

Basically: **1: Ground; 2: Video (Yellow); 3: Audio Right (Red); 4: Audio Left (White).**

Same as the AV cable used in Apple iBook.

**3.5mm 4-Pole to RCA**



	1	2	3	4
Archos, Gigabeat, Creative Zen Vision Series, Cown iAudio, Apple iBook	Ground	Video	Right	Left
Standard Camcorder Cable, Topfield TFP20, Maxian T600	Right	Ground	Video	Left
iPod Video	Video	Ground	Left	Right
Zune	Video	Ground	Right	Left

### **17. Will the GXV3500 Decode/Encoder be compatible with third party cameras?**

- *Encode Mode: (Analogue Camera)*

Generally, most 3rd party analogue cameras will be digitized to IP Camera when connecting to GXV3500 BNC port at Encode Mode.

- *Decode Mode: (IP Camera)*

Whether GXV3500 can decode the data stream from a 3rd party IP camera is dependent on how the stream was encoded. GXV3500 utilizes the RTSP stream and is capable ONLY H.264 formats decoding (so MJPEG is out of luck). General rule of thumb is if the RTSP stream of 3rd party IP Camera can be viewed by [VLC Media Player](#) (free open source media player software), the GXV3500 will very likely be able to decode the stream, but no guarantee due to the variety of H.264 encoding implementation by different IP Camera vendors.



## EXPERIENCING THE GXV3500

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 [product related documentation](#), [FAQs](#) and [User and Developer Forum](#) 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.

Thank you again for purchasing Grandstream SIP Speaker, it will be sure to bring convenience and color to both your business and personal life.

