Grandstream Networks, Inc.

GVR3550/GVR3552 Network Video Recorder

User Manual

GVR3550/GVR3552 User Guide

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CHANGE LOG

Only major new features or major document of the GVR3550/GVR3552 updates are listed here. Minor updates for corrections or editing are not documented here.

GVR3550

Firmware Version: 1.0.10.72

- This is the initial version.

GVR3552

Firmware Version: 1.0.10.72

- This is the initial version.

WELCOME

Thank you for purchasing Grandstream GVR3550/GVR3552 NVR (Network Video Recorder). GVR3550/GVR3552 is a next generation of high performance, high capacity network video recorder appliance. It offers small to medium-size businesses, cost-effective, all-in-one recording solution for IP cameras. GVR3550/GVR3552 integrates storage management, event indexing and searching, and local/remote playback into an easy to use appliance.

This user manual is designed to help customers to understand how to configure and manage the GVR3550/GVR3552 with detailed instruction including advanced settings and operating, such as alarm settings and record settings.

PRODUCT FEATURES

- 24 cameras 720P HD or 14 cameras 1080p HD audio/video real-time recording.
- Multi-cameras simultaneous remote playback, digital zoom in full screen mode, and up to 24 cameras simultaneous remote preview.
- Supporting Grandstream GXV36xx cameras and 3rd party ONVIF compliant cameras.
- Automatic discovery for IP cameras on the local network.
- Fully customizable recording rules: time based, event based or manual.
- Patent-pending storage system design that is resilient against power interruptions.
- Automatic recording resume on system boot up after power failure.
- Automatic recycle of recording files when the storage is full.
- Complete security features including access control, event alarm, system logs and encrypted recording file.
- Easy-to-use search features based on date time, event, camera and types.
- Recording backup to USB or eSATA external drives or network/cloud storage.
- 1 RJ45 10M/100M/1000M network interface.
- 1 HDMI and 1 VGA output for FHD local playback.
- Supporting up to 4 SATA hard drives and 1 eSATA with with RAID 0 and RAID 1configuration.

SAFETY COMPLIANCE

These instructions are intended to assist users with the operation of the GVR3550/GVR3552, avoid dangerous situations or damage the device.

Warning: May cause serious injury or death if any of the warnings below are neglected.	**Caution**: 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 +50oC 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.
Hereby, Grandstream declares that this device is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.

WARRANTY

If the GVR3550/GVR3552 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.

Warning:

Please do not use a different power adaptor with the GVR3550/GVR3552 as it 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/products/surveillance/GVR3550/documents/GVR3550_UM_EN.pdf

http://www.grandstream.com/products/surveillance/GVR3550/documents/GVR3550_UM_EN.pdf

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INSTALL GVR3550/GVR3552

GVR3550/GVR3552 EQUIPMENT PACKAGE

The GVR3550 package contains:

Table 1 GVR3550 Package List

Name	Number
Main Case	1
12V Power Adapter	1
Ethernet Cable	1
Power Cable	1
Green Phoenix (Wire holder)	2
SATA Data Cables	4
Wire Clampers	2
Remote Control (No Battery)	1
Mount Brackets	4
Mount Brackets Screws	12
HDD Installation Screws	18
Quick Installation Guide	1
GPL license	1

The GVR3552 package contains:

Table 2 GVR3552 Package List

Name	Number
Main Case	1
12V Power Adapter	1
Ethernet Cable	1
HDD Installation Screws	8
Quick Installation Guide	1
GPL license	1

To establish a working surveillance system, users have to get following equipment based on own requirement. The following table is for reference only.

Table 3 Optional Equipment List

Device Name	Number	Explanation
Video Display Device	1	Monitor, display or TV (either OK but at least one required)
IP Cameras	1 (Minimum)	IP Network Cameras
Keyboard	Optional	USB Keyboard
Mouse	Optional	USB Mouse
Hard Disk Driver	1 (Minimum)	Compatible SATA HDD, Max. capacity 4TB.
Audio Device	Optional	Audio In/Out Device: microphone, speaker, pickup.
Alarm Device	Optional	Alarm In/Out Device: smoke sensor, IR sensor, magnetic sensor, siren, etc.
Green Phoenix (Wire holder)	Optional	GVR3552 should prepare itself. To connect to external input/output alarm

GVR3550 PRODUCT APPEARANCE

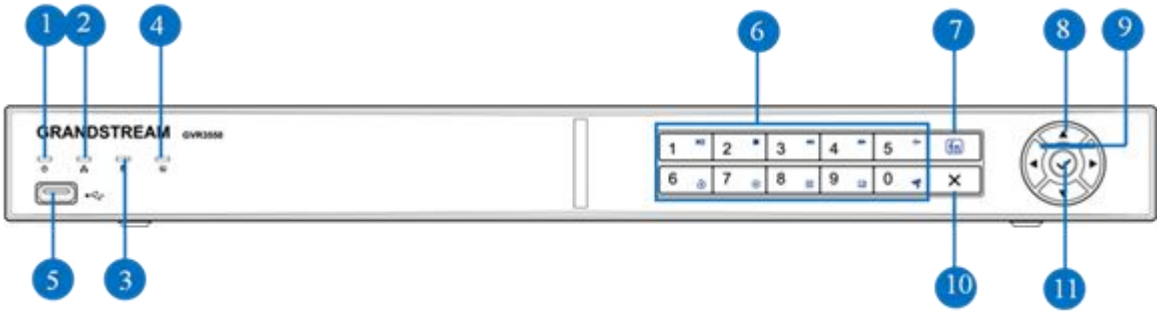


Figure 1 GVR3550 Front Panel

Table 4 GVR3550 Front Panel Buttons Explanation

No.	Buttons	Explanation
①		**Power indicator.**
②		**Network Indicator**. • Dark: Abnormal network connection or has no access to network • Green: Normal network connection • Flashing: Transmitting data...
③		**HDD Indicator.** • Solid green: HDD perfectly working • Flashing: Reading data... • Nark: No HDD detected

④	fn	**Function Status Indicator.** To indicate whether the numeric buttons are being used as functional button once pressed the function button. • Green: Functional status • Nark: Numerical status
⑤		**USB Interface.** To connect to USB devices like mouse, keyboard and USB flash drive.
⑥		**Numeric Buttons.** To input numbers and switch previews. Once pressed the function button, the numeric buttons will be used as functional buttons. Number 0-9 are corresponding to the following functions: Enable PTZ, Start/Pause, Stop, Fast Backward, Fast Forward, Single Frame Jump, Playback, Record Mode Setting, Menu, Switch preview windows,
⑦	fn	**Function Button.** To switch between numeric mode and function mode. The button fn indicates the status of the function button.
⑧		**Up and Down Navigation Buttons** To switch among the activated controls
⑨		**Left and Right Navigation Buttons** • To switch among the activated controls • Controls the progress bar when playback.
⑩		**Cancel Button** Back to the previous menu or cancel operation.
⑪		**Confirm Button** • Confirm. • Switch to the default button. • Enter menu. • Select a check box or enable toggle ON/OFF button. Pause/Resume auto patrol when auto patrol preview.

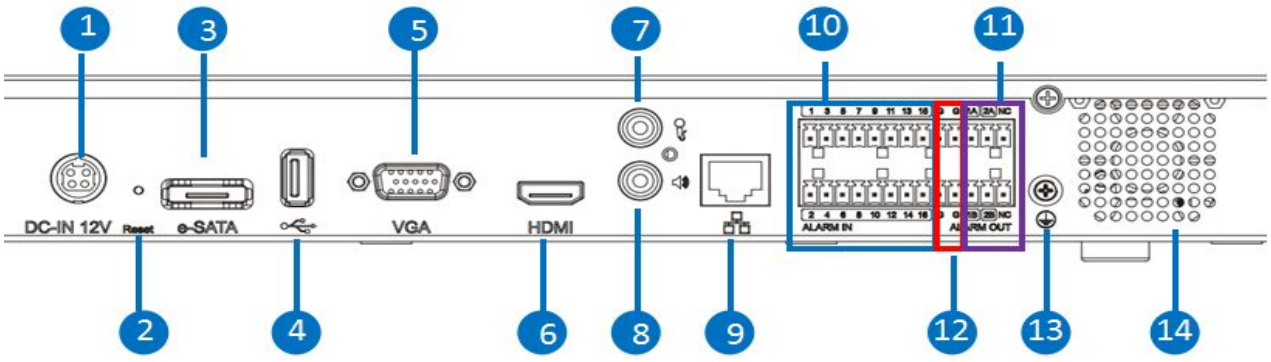


Figure 2 GVR3550 Back Panel

Table 5 GVR3552 Back Panel Buttons Explanation

Icon	Buttons	Explanation
①	DC-IN 12V	**Power Input.** Input 12V DC
②	Reset	**Reset Button.** To reboot device or reset factory. • Long press for more than 10 seconds: factory reset • Press when power on: reset when the GVR is abnormal
③	e-SATA	**eSATA Interface.** To connect eSATA device
④		**USB Interface.** To connect to USB devices like mouse, keyboard and USB flash drive
⑤	VGA	**VGA Video Output.** To output analog video signal, connecting to a monitor to view record
⑥	HDMI	**HDMI.** HD audio/video output interface, transmit uncompressed HD video and multichannel audio data to display device with HDMI interface
⑦		**Audio Input.** Receiving analog audio signal from microphone, pickups and other devices
⑧		**Audio Output.** Output analog audio signal to device like speaker
⑨		**Network Port.** 10M/100M/1000M adaptive Ethernet interface
⑩	ALARM IN	**Alarm Input Interfaces 1-16.** 16 alarm input interfaces receiving binary signals from external alarm sources like normally-closed alarm and normally-open alarm.
⑪	ALARM OUT	**Alarm Output Interfaces 1-2.** 2 set of alarm output interfaces, output alarm signal to external alarm device, power supply is required for external alarm device
⑫	--	**Alarm Grounding.**
⑬		**Grounding.**
⑭		**FAN.** For heat dissipation

GVR3552 PRODUCT APPEARANCE

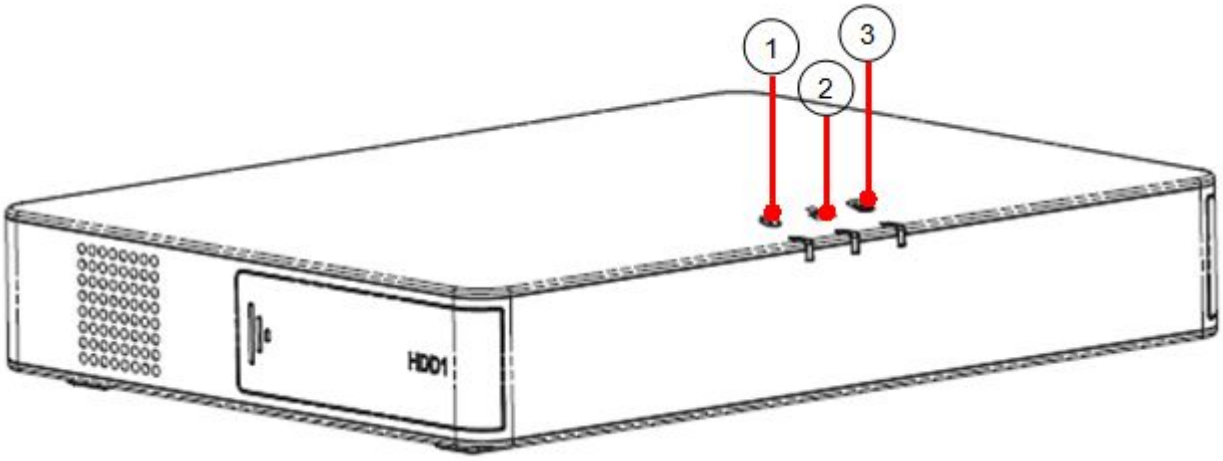


Figure 3 GVR3552 Front Panel

Table 6 GVR3552 Power Indicator Explanation

No.	Buttons	Explanation
①		**Power indicator.**
②		**Network Indicator**. • Dark: Abnormal network connection or has no access to network • Green: Normal network connection • Flashing: Transmitting data...
③		**HDD Indicator.** • Solid green: HDD perfectly working • Flashing: Reading data... • Nark: No HDD detected

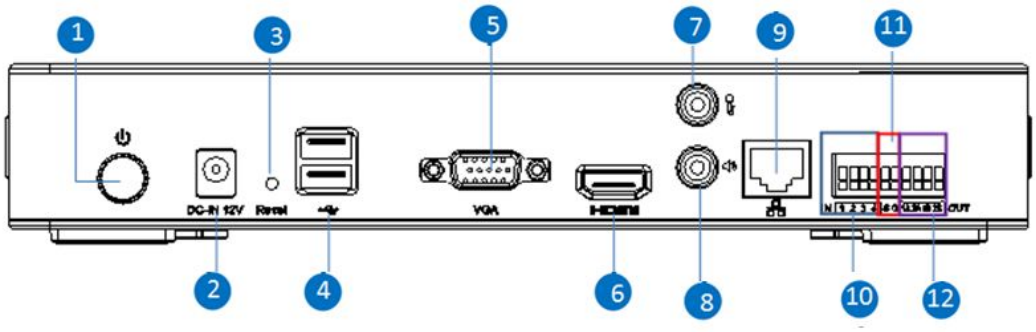


Figure 4 GVR3552 Back Panel

Icon	Buttons	Explanation

①	**POWER**	Power switch
②	DC-IN 12V	**Power Input.** Input 12V DC
③	Reset	**Reset Button.** To reboot device or reset factory. • Long press for more than 10 seconds: factory reset • Press when power on: reset when the GVR is abnormal
③	e-SATA	**eSATA Interface.** To connect eSATA device
④		**USB Interface.** To connect to USB devices like mouse, keyboard and USB flash drive
⑤	VGA	**VGA Video Output.** To output analog video signal, connecting to a monitor to view record
⑥	HDMI	**HDMI.** HD audio/video output interface, transmit uncompressed HD video and multichannel audio data to display device with HDMI interface
⑦		**Audio Input.** Receiving analog audio signal from microphone, pickups and other devices
⑧		**Audio Output.** Output analog audio signal to device like speaker
⑨		**Network Port.** 10M/100M/1000M adaptive Ethernet interface
⑩	ALARM IN	**Alarm Input Interfaces 1-16.** 16 alarm input interfaces receiving binary signals from external alarm sources like normally-closed alarm and normally-open alarm.
⑪	ALARM OUT	**Alarm Output Interfaces 1-2.** 2 set of alarm output interfaces, output alarm signal to external alarm device, power supply is required for external alarm device
⑫	--	**Alarm Grounding.**

INSTALLING GVR3550 HDD

The GVR3550 contains no HDD with packaging, the first-time users need to check the device and install HDD. Please install the GVR3550 HDD according to the following procedures:

1. Twist four screws gently on the bottom of HDD, do not twist too tight;
2. Remove the fixed screws on the back and side panel of the main case, open the cover plate to find the HDD installing position;
3. Side put the main case, aims HDD with four screws on at the corresponding 4 screw holes on the baseplate and then twist the screws;
4. Repeat the previous steps to install other HDDs;
5. Connect HDD data lines and power cables to the interfaces of the mainboard;
6. Put the cover plate back and twist back the screws.

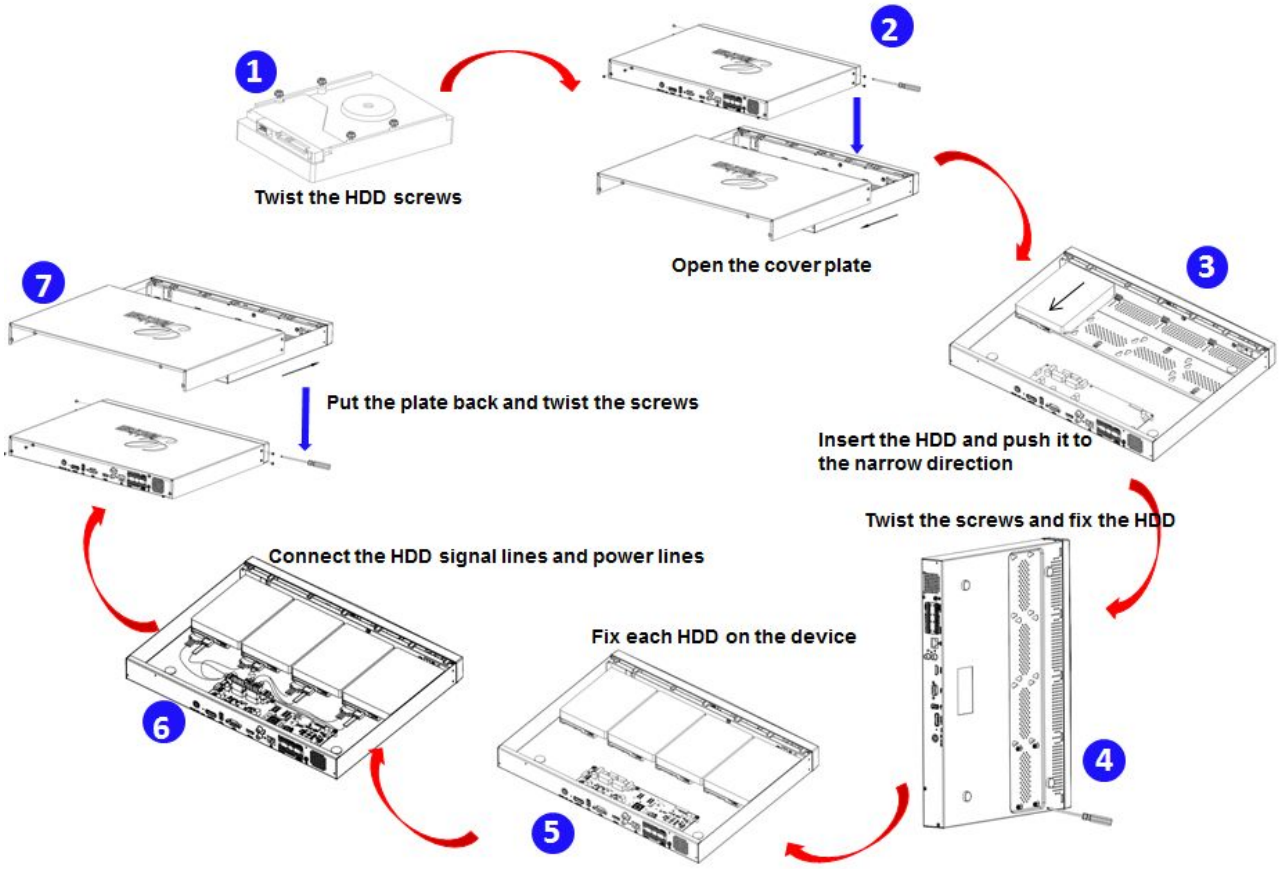


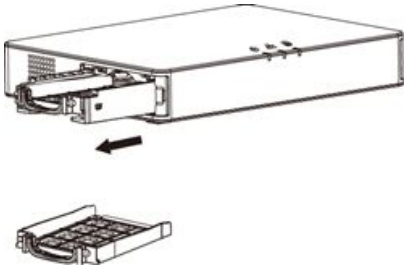
Figure 5 GVR3550 HDD Installation Diagram

INSTALLING GVR3552 HDD

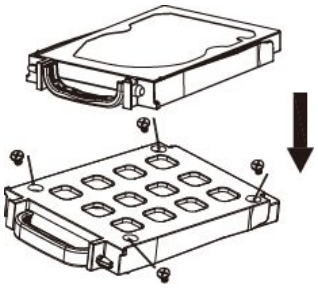
Please install the GVR3552 HDD according to the following procedures:

1. Open the device by pushing forward the front panel cover of HDD;

2. Take out the HDD case;



3. Put the 2.5" HDD into the HDD case in upright position then tighten the screws to install the HDD;



4. Push the HDD case into the slot in upright position until "click" sound heard;

5. Close the front cover panel;

6. Repeat the above steps to install 2nd HDD.

NOTE:

- *It is Recommended to use at least 7200rpm HDD or higher. Dedicated PC HDD is not recommendable. Unqualified HDD may unable to work properly.*
- *GVR3550/GVR3552 does NOT support HDD hot swap. When GVR3550/GVR3552 is running, plug the HDD may cause fail to read /write HDD data or unable to identify the data. Grandstream will take no responsibility for the damage caused by wrong operations.*

CONNECT GVR3550/GVR3552

Please connect the GVR3550/GVR3552 according to the following procedures:

1. Install the GVR3550/GVR3552 HDDs by following the steps in chapter ***Installing GVR3550/GVR3552 HDD***;
2. Plug in the network cables and connect the device to the display device;
3. Connect the mouse, keyboard, alarm input and output devices (optional);

4. Power up GVR3550/GVR3552 and the optional devices after connecting power cable;
5. The power indicator will be on if the GVR3550/GVR3552 is on, if all devices have been powered up successfully, the connection is done.

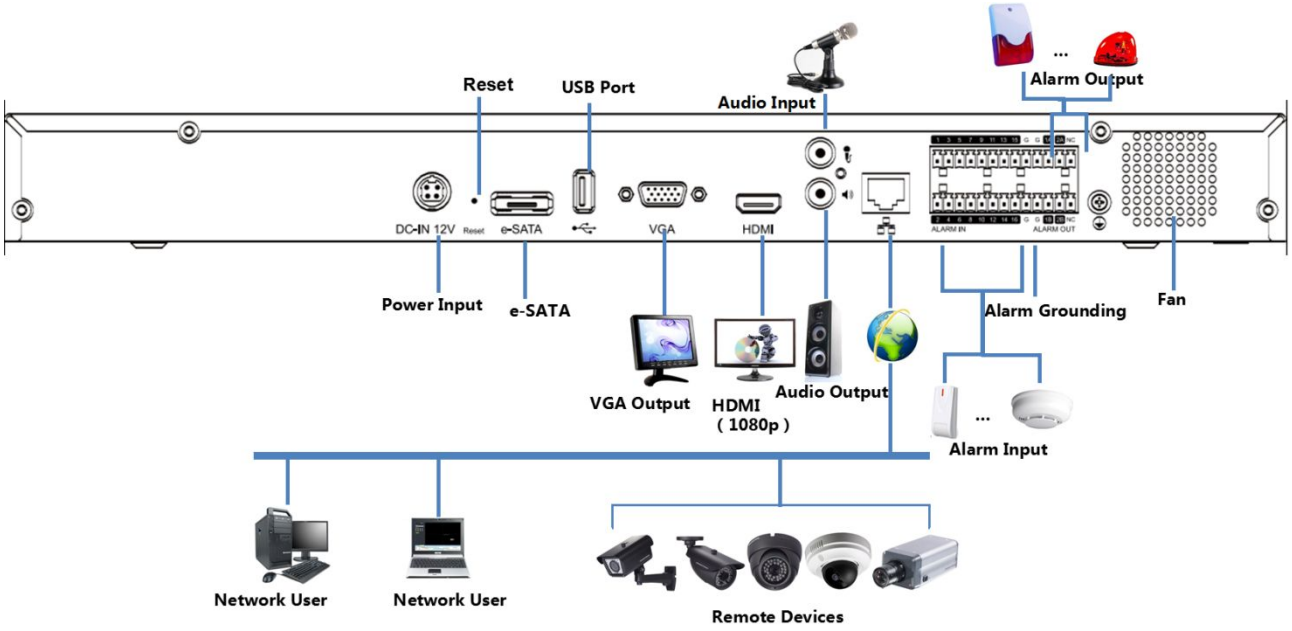


Figure 6 Connect GVR3550 Diagram

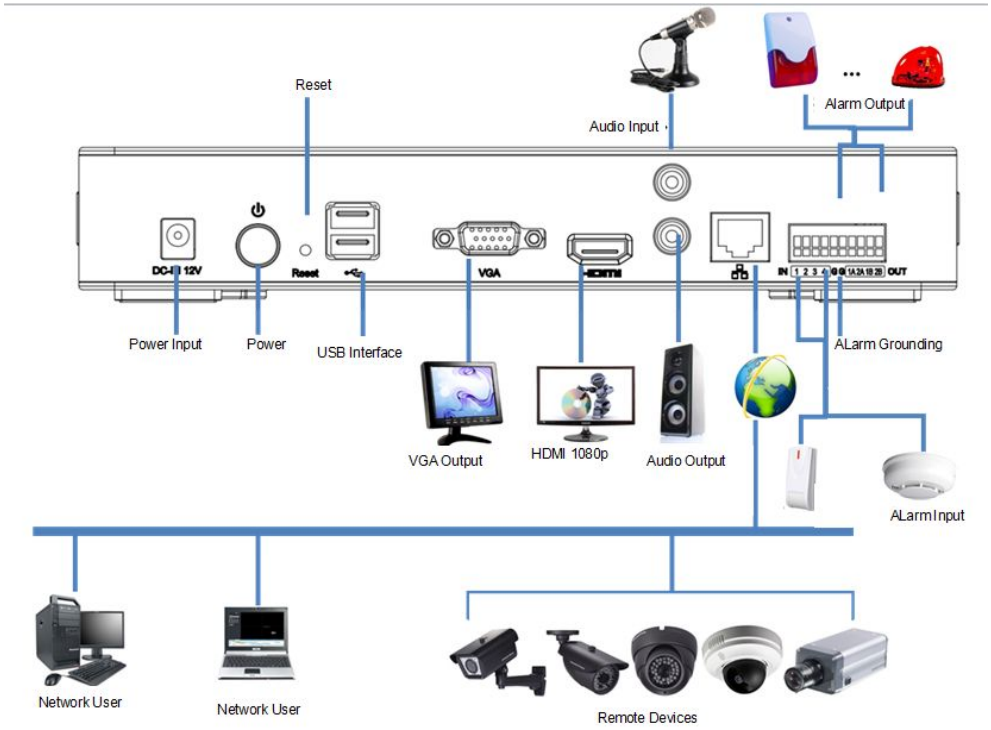


Figure 7 Connect GVR3552 Diagram

NETWORK CONNECTION

Users could log in the Web page with the administrator account after plugging in the network cable to GVR3550/GVR3552, go to Menu ->Status-> Network Status to view the network status like IP address and network sending/receiving rate. For details, please refer to the chapter ***Network Info***.

EXTERNAL USB DEVICE

GVR3550/GVR3552 USB interface could be connected to mouse and keyboard, or a USB storage device.

NOTE:
- *The USB interface voltage on the front panel of the GVR3550 is a little higher than the one on the back panel, it is suggested that the USB interface on the back panel connect to mouse and keyboard while the one on the front panel connect to USB storage devices.*

PLUG IN USB MOUSE/KEYBOARD

Users could check whether the mouse and keyboard are installed successful after plugging in them. The mouse or keyboard might be not compatible with GVR3550/GVR3552. If can't be detected, please replace the mouse or keyboard and try again.
When the USB mouse is plugged into GVR3550/GVR3552, users could make the following operations with the mouse.
Single click the left mouse:

- Access a functional menu.
- Select one option in a drop-down box.
- Confirm one operation like soft keyboard input after put the cursor in the input box.
- Bring out quick action bar when select preview screen.

Double click the left mouse:

- Switch between one window display in fullscreen and Multi-windows when preview.
- Save the alarm area and go back to the main menu.

Single click the right mouse:

- Bring up the shortcut menu in real-time monitoring mode.
- Go back to the preview screen on main menu or the playback screen.
- Save the alarm area and go back to the main menu.

Press the left mouse and drag:

- Drag one preview screen to another screen and switch their positions.
- Drag digital amplified area or alarm area.
- Drag the playback progress bar to set time point.
- Drag the action box (PTZ, Image config, Encoding Config) on preview screen.

NOTE:

- *If in a rare case that the mouse is not detected, the mouse might not compatible with the GVR3550, please replace the mouse.*

PLUG IN USB STORAGE DEVICE

Users could click right mouse to check if there is "Uninstall" option in the menu after plugging in the USB device correctly. The option means the USB device is normal for use. Users could also go to Settings->System Settings->Basic System Settings, click "Refresh" button to check the USB device status.

INSTALLING eSATA

Plug in the eSATA cable to the corresponding interface on the back panel of GVR3550, power up eSATA or electrify it with USB cable (according to eSATA specific situation). Users could go to Settings->System Settings->HDD Management to view details like HDD Space, Free Space, HDD Status, HDD Type after installing eSATA. For details, please refer to the chapter ***HDD Management***.

CONNECT HDMI MONITOR

Connect one end of the HDMI cable to the interface on the back panel of the GVR3550/GVR3552, and the other end to the corresponding interface of the HDMI monitor. Once powered up, users could see the preview screen of GVR3550/GVR3552 on HDMI monitor. GVR3550/GVR3552 can automatically adapt to HDMI monitor with 1080p and 720p resolution.

CONNECT VGA MONITOR

Connect one end of the VGA cable to the interface on the back panel of the GVR3550/GVR3552, and the other end to the corresponding interface of the VGA monitor. Once powered up, users could see the boot screen of GVR3550/GVR3552 on VGA monitor.

- **NOTE**:
  - *VGA does not support automatic resolution matching, users have to manual set it.*
  - *There is only one valid output when connect to VGA and HDMI monitor the same time. HDMI is valid while VGA is not by default.*
  - *HDMI supports automatic resolution matching with 1080p and 720p resolution only when set display to "auto".*
  - *When set display to "auto", if reboot GVR3550/GVR3552 without connecting to any displays, VGA output will be displayed by default. Connect to one HDMI display then reboot GVR if you want it to display HDMI output.*
  - *Go to System Settings->Display to set parameters.*

CONNECT ALARM DEVICE

Alarm input/output connection procedures are as follows:

1. Connect the alarm input device to the alarm input port;
2. Connect the alarm output device to the alarm output port;
3. Enter GVR3550 menu, configure alarm input/output parameters on Alarm Settings page. Alarm serial No.1 corresponds to the first alarm input on GVR3550 I/O interface, the following numbers keep to the same matching sequence. Set normally-opened alarm and normally-closed alarm according to the corresponding VIH /OV when alarm;
4. Set alarm output on Alarm Settings page. Alarm output 1 corresponds to the first alarm output; the following numbers keep to the same matching sequence.

GVR alarm input/output ports on back panel could be connected to alarm input/output devices via the proprietary green phoenix.

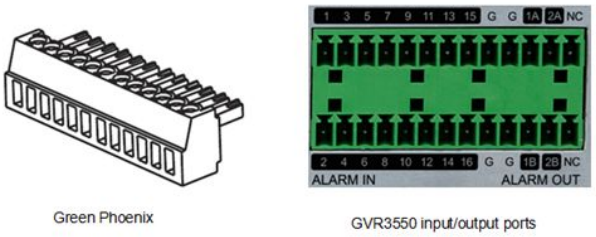


Figure 8 Connect Input/Output Device With Phoenix

16 alarm input ports: One alarm input is consisting of one alarm input pin and one (public) G port.
2 set of alarm output ports: One alarm output is consisting of 1A and 1B, while 2A and 2B make the second alarm output.
Connect cables according to the port instruction on the back panel of GVR3550.

- Connect the first cable from alarm input device to ALARM IN 1, and the second cable to G port.
- Connect the first cable from alarm output device to ALARM OUT 1A, and the second cable to ALARM OUT 1B.

Connect other ports in the same way, see the connection diagram below.

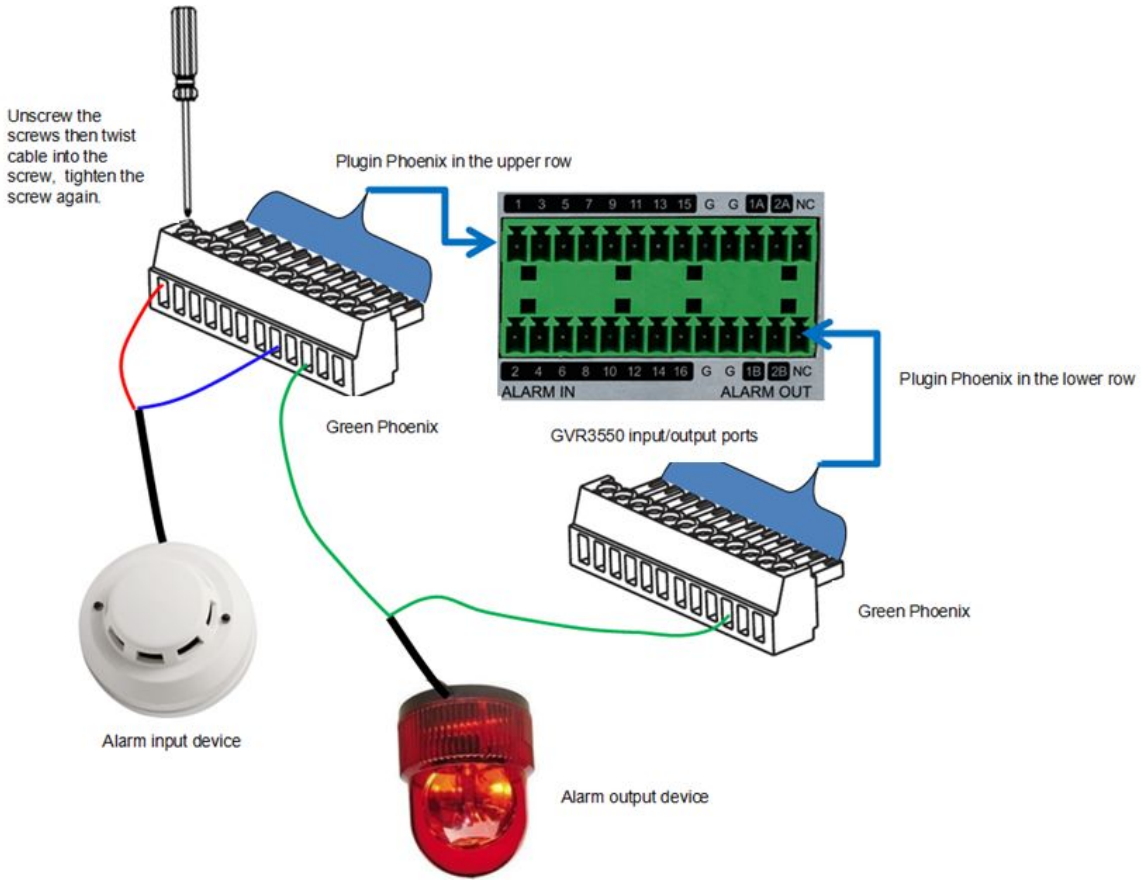


Figure 9 Alarm Device Connection Diagram

You need an external power source when connecting to an output device.

- Prepare a DC12V external voltage when need external DC power supply.
- Prepare an external relays when need external AC power supply, or it may destroy the device and there might be a potential security liability.

NOTE:

- *When power the alarm input device with an external power supply, the device should be common-grounded with GVR3550.*

EXTERNAL INTERCOM DEVICE

GVR3550/GVR3552 supports web paging and local paging.

1. Connect the audio-input device like microphone or pickups with RCA interface to the audio input interface on the back panel of GVR;
2. Connect the audio-output device like speaker or stereo with RCA interface to the audio output interface on the back panel of GVR.

(The steps above ensure the GVR3550/GVR3552 could input or output audio);

3. Connect the microphone to PC audio input interface, while the earphone or stereo is being connected to PC audio output interface to make PC input/output audio.

Connect the audio input/output devices to the compatible cameras to input/output audio.

NOTE:

- *Only supports RCA audio input/output devices.*

PRODUCT OVERVIEW

GVR3550/GVR3552 SPECIFICATIONS

Table 7 GVR3550/GVR3552 Software Specifications

Specification	GVR3550	GVR3552
Video Recording	Supports synchronous 24 cameras 720p (with 1280x720 resolution) record or 12 cameras 1080p (with 1920x1080 resolution) record	Supports synchronous 16 cameras 720p (with 1280x720 resolution) record or 8 cameras 1080p (with 1920x1080 resolution) record
Recording Rate	Supports up to 48 Mbps recording rate	Supports up to 32 Mbps recording rate
Recording Mode	Supports schedule record ,alarm record and manual record	Supports schedule record ,alarm record and manual record
Audio Compression	G.711 a/u law	G.711 a/u law
Audio Recording	Synchronized Audio and Video recording	Synchronized Audio and Video recording
Video Compression	H.264 BP/MP/HP	H.264 BP/MP/HP
Local Live Preview	4 cameras 720p or 2 cameras 1080p output simultaneously, 16 cameras VGA output, up to synchronous 24 cameras remote live preview	4 cameras 720p or 2 cameras 1080p output simultaneously, VGA output, up to synchronous 24 cameras remote live preview
Playback	4 cameras simultaneous local and remote playback	4 cameras simultaneous local and remote playback
Trigger Event Alarm	Motion detection alarm, I/O alarm, event alarm and abnormal alarm	Motion detection alarm, I/O alarm, event alarm and abnormal alarm
Intelligent Search	Time & date, recording type, cameras, tag	Time & date, recording type, cameras, tag
Total Storage	Grandstream customized	Grandstream customized
RAID	RAID 0 and RAID 1. It is recommend not to use more than 16 cameras when using RAID1	RAID 0 and RAID 1. It is recommend not to use more than 16 cameras when using RAID1
Redundancy	Supports record backup to USB external devices	Supports record backup to USB external devices
QoS	Layer 2 QoS (802.1Q, 802.1p) and Layer 3 QoS (ToS, DiffServ, MPLS)	Layer 2 QoS (802.1Q, 802.1p) and Layer 3 QoS (ToS, DiffServ, MPLS)

IP Camera	All Grandstream GXV36xx series IPCs, GXV35xx DVS or compatible ONVIF IPCs	All Grandstream GXV36xx series IPCs, GXV35xx DVS or compatible ONVIF IPCs
Provisioning	Supports HTTP, HTTPS, ONVIF	Supports HTTP, HTTPS, ONVIF
Network Protocols	TCP/UDP, RTP/RTCP/RTSP, HTTP/HTTPS, ARP, ICMP, DNS, DDNS, DHCP (client and server), NTP (client and server), SSH, PPPoE, LLDP, ONVIF 2.2	TCP/UDP, RTP/RTCP/RTSP, HTTP/HTTPS, ARP, ICMP, DNS, DDNS, DHCP (client and server), NTP (client and server), SSH, PPPoE, LLDP, ONVIF 2.2
Security	HTTPS, 802.1x (pending), SSH	

Table 8 GVR3550/GVR3552 Hardware Specifications

Name	GVR3550	GVR3552
Interface	1 HDMI interface 1 VGA interface 1 x 10M/100M/1000Mbps auto-sensing RJ45 port 1 RCA Audio Input interface 1 RCA Audio output interface	1 HDMI interface 1 VGA interface 1 x 10M/100M/1000Mbps auto-sensing RJ45 port 1 RCA Audio Input interface 1 RCA Audio output interface
Alarm In	Terminal 16 inputs (NO/NC), Vin 2.5V~12V,Iin 2.5mA~30mA	Terminal 4 inputs (NO/NC), Vin 2.5V~12V,Iin 2.5mA~30mA
Alarm Out	Terminal 2 outputs (Relay), 0.5A at 125 VAC; 2A at 30 VDC	Terminal 2 outputs (Relay), 0.5A at 125 VAC; 2A at 30 VDC
UPS	UPS management via USB or USB-Serial	UPS management via USB or USB-Serial
USB Interface	2 2.0 USB interfaces	2 2.0 USB interfaces
eSATA	1 eSATA interface	No eSATA interface
LED Indicator	Power, LAN Link/Activity, Hard Drive Activity, Keyboard	Power, LAN Link/Activity, Hard Drive Activity
Remote Control	Supports IR remote control	Not support IR remote control
RTC	Supports RTC	Supports RTC
Internal HDD	Up to 4 SATA hard drives with maximum 16TB storage, the maximum capacity of each hard drive is 4Tb (Hard drive is not included in GVR3550 packaging)	Up to 2 SATA hard drives with maximum 4TB storage, the maximum capacity of each hard drive is 2Tb (Hard drive is not included in GVR3552 packaging)
Universal Power Supply	Input: 100~240V 50/60Hz; Output: 12V/5A 60W	Input: 100~240V 50/60Hz; Output: 12V/5A 60W
Environmental	Operation: 0°C to 50°C Storage: -20°C to 60°C (not include HDD temperature) Humidity: 10% to 90% non-condensing	Operation: 0° C to 50° C Storage: -20° C to 60° C (not include HDD temperature) Humidity: 10% to 90% non-condensing

Mounting	1U rack mount with front brackets	Supports desktop installation
Compliance	FCC: Part 15 (CFR 47) Class B CE: EN 55022,EN 55024, EN 61000-3-2 ,EN 61000-3-3, EN 60950 RCM: AS/NZS CISPR22, AS/NZS CISPR24,AS/NZS 60950 Comply with R & TTE, RoHS & WEEE	FCC: Part 15 (CFR 47) Class B CE: EN 55022,EN 55024, EN 61000-3-2 ,EN 61000-3-3, EN 60950 RCM: AS/NZS CISPR22, AS/NZS CISPR24,AS/NZS 60950 Comply with R & TTE, RoHS & WEEE

IR REMOTE CONTROL

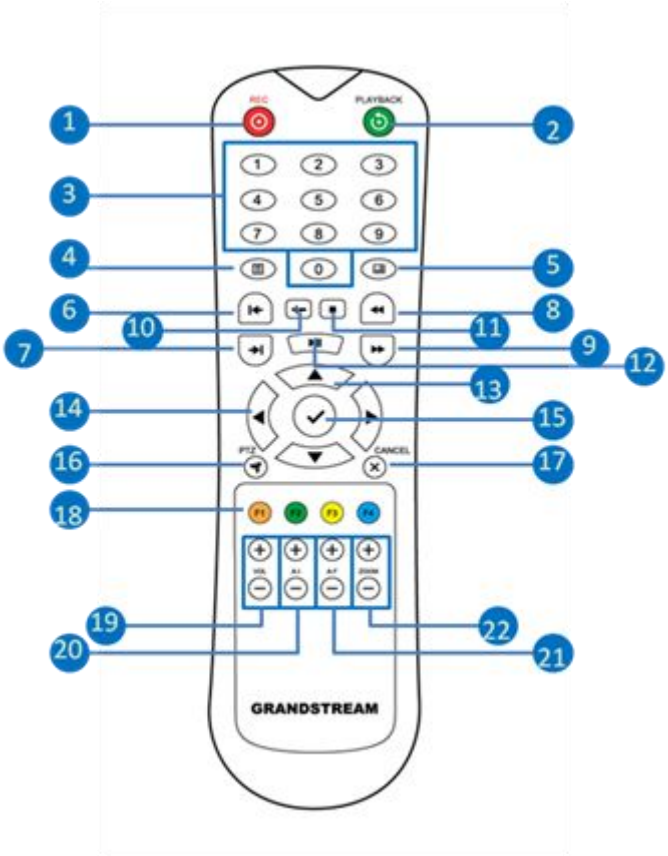


Figure 10 IR Remote Control

Table 9 GVR3550 Remote Control Icons Explanation

Icon	Name	Explanation
	REC Button	Manual start/stop recording. Use REC button and the navigation buttons to select the camera to record in t he recording menu.
	Playback Button	Enter playback screen.
	Numeric Buttons	Features the same function as the numeric buttons on the front panel (only numeric function) to switch preview screen.
	MENU Button	Enter menu.

	Multi-windows Button	Switch the screen to a single window or multi-windows.
	Single-frame back Button	Single frame playback of the video.
	Single-frame Step Button	Single frame forward of the video.
	Fast Backward Button	Various fast backward speeds and normal playback mode, the speed would be displayed on the playback screen.
	Fast Forward Button	Various fast forward speeds and normal playback mode, the speed would be displayed on the playback screen.
	Skip Button	Switch to skip mode. User it with the Up and Down buttons to choose when to play videos.
	Stop Button	Stop playing recorded video.
	Play/Pause Button	• Press the button to resume video playback. • Press the button to pause video playback.
	Up and Down Navigation Buttons	• Switch the activated controls to move up or down. • Switch cameras to up or down when preview. • Auxiliary function (e.g.: Control and operate the PTZ menu).
	Left and Right Navigation Buttons	• Switch the activated controls to move left or right. • Switch cameras to left or right when preview. • Control the progress bar when playback video. • Auxiliary function (e.g.: Control and operate the PTZ menu).
	OK Button	• Confirm operations. • Switch to the default button.
	PTZ Control Button	Enable/Disable PTZ Control.
	Cancel Button	Back to the previous page, or cancel operations like close the top-level page or controls).
	Function Buttons 1-4	F1, F2, F3 and F4 Function buttons.
	Vol Button +-	Adjust the cameras volume when preview.
	A-I Button +-	Adjust aperture at PTZ control.
	A-F Button +-	Adjust focus at PTZ control.

	Zoom Button +-	• Electronic zoom adjustment at PTZ control. • Electronic zoom adjustment when one camera playback video at full screen.

The correct way to use IR remote control: Batteries must be installed before use. Please aim the remote control at the IR receiver on the GVR3550 then make operations. If the GVR3550 receives the control's command, you can use the control to manipulate the GVR3550. If failed, please check whether the following reasons are the causes:

- Check the battery polarities.
- Check whether the battery power.
- Check whether the remote sensor is obscured.
- Check whether a fluorescent lamp is being used nearby.

If the remote still can't function normally beyond the above situations, please change a remote and try again, or contact the device provider.

INPUT METHOD

GVR3550/GVR3552 supports English and Chinese input methods; the input interface is as shown below.

Figure 11 Soft Keyboard—English Input Method

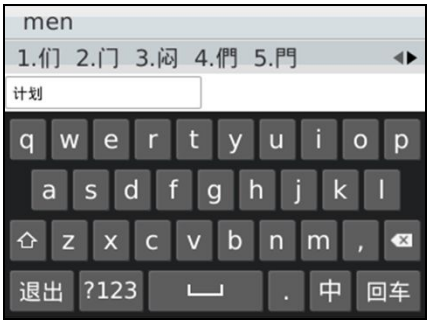


Figure 12 Soft Keyboard—Chinese Input Method

Figure 13 Soft Keyboard—Symbols and Numbers

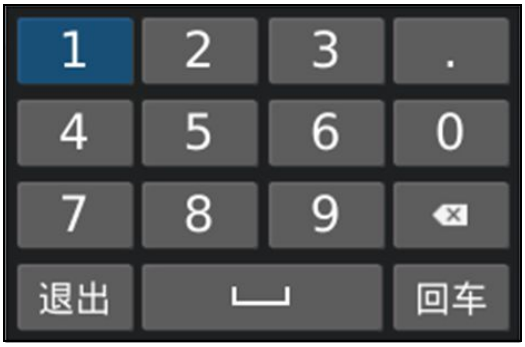


Figure 14 Soft Keyboard—Numeric Keyboard

Table 10 Soft Keyboard Specifications

Icon	Specifications
abc	Input lowercase
⇧	• Switch CapsLock • Switch between symbols and numbers
Exit	Exit keypad
?123	Switch to Symbols & Numbers
EN	English input method. Tap again to switch to Chinese input method.
␣	Space
CH	Chinese input method. Tap again to switch to English input method.
Enter	Enter
⌫	Backspace

LOCAL OPERATIONS

In this chapter, we take using the mouse as an example.

USING THE WIZARD

Users could start the GVR via the wizard for basic configuration to make it work properly.

1. Enter administrator password (the default is "Admin") to log in the GVR. Check to confirm whether to enable the wizard next time when boot up the device;
2. Click on "Next" to access Basic Settings page to configure language and time. Set time zone and system time;
3. Click on "Next" to access Network Settings page to set IP address, subnet mask and gateway parameters;
4. Click on "Next" to access HDD Management page to set HDD array and HDD full strategy;
5. Click on "Next" to access Camera Management page to add camera;
6. Click on "OK" to finish setup.

LOGIN

The factory default username is "admin", the password is "admin". Users have to login again if timeout without operations. Password change is recommended after the initial login.

After logging in the GVR local page, users could click on the menu button in the lower left corner of the page to login, or click right mouse and then select any item in a pop-up menu to bring up the GVR login page.

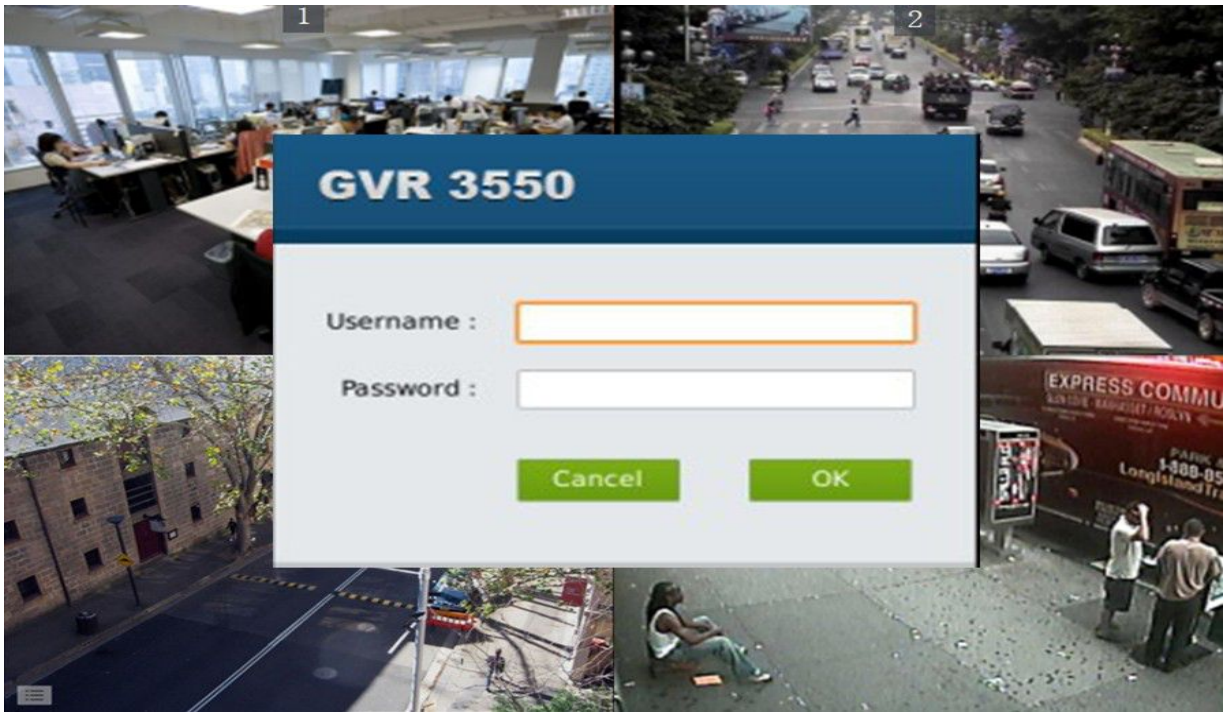


Figure 15 Local Login Page

Figure 16 Live Preiew Page–Right Click Menu

LOCAL PREVIEW

GVR3550/GVR3552 would directly enter live preview screen once booted up, users could preview the live preview screen without login but unable to make any operations. Only after logged in users could make basic preview operations and other setups.

PREVIEW STATUS

Preview camera status: The camera has not been added, camera preview, connecting the camera, camera connection failed.

Table 11 Preview Page – Camera Status Explanation

Icon	Name	Explanation
	Add camera	If there is no existing camera, click this button to quick enter the camera settings page to add camera.
--	**Camera preview**	Display camera preview page.
	Camera connection Failed	Failed to connect camera.
	Stop preview when recording Failed	The insufficient performance of GVR may cause preview failure. Tap on the icon to preview the closed page.

On the preview page, the recording and alarm status of each camera could be distinguished by the tag on the top right corner of each camera.

Table 12 Preview Status Explanation

Icon	Name	Explanation
	Motion Detection Alarm	Alarm when detecting dynamic motion in detection area.
	I/O Alarm (camera)	Alarm when the remote camera is connected to IO alarm device.
	Signal Loss	Alarm when no signal detected.
	Recording	The monitoring camera is in recording mode.

A dialog box will pop up in the center page to prompt the users if there is an abnormal alarm or local I/O alarm (go to Settings page to set first), as shown in figure 16.

Figure 17 Abnormal Alarm Prompt

Alarm prompt can be minimized to the lower right corner of the page; you can click to view the alarm details. If there always been alarm triggers, the prompt will pop up in the center of the page every 5 minutes.

Table 13 Abnormal Alarm Explanation

Icon	Name	Explanation
	Disconnection Alarm	Alarm when the network is disconnected.
	HDD Empty Alarm	Alarm when no HDD detected.
	HDD Error Alarm	Alarm when HDD is abnormal.
	HDD Full Alarm	Alarm when HDD is full.
	IP Conflict Alarm	Alarm when detecting the IP address of another device is in conflict with the GVR in the network.
	Local I/O Alarm	Alarm when detecting I/O alarm on GVR3550.

BASIC PREVIEW OPERATION

If need to make basic operations to one specified camera, users could access the preview page and click left mouse to bring up the menu bar as shown in Figure 17. Click the buttons on the menu bar to make corresponding operations.

Figure 18 Basic Preview Operations

Table 14 Basic Preview Operations Explanation

Icon	Name	Explanation
	Close Recording	The camera is not recording now.
	Auto Recording	The camera is in schedule record mode.

	Manual Recording	The camera is in manual record mode.
	Capture	Capture preview screenshots. The external storage devices like USB need to be connected first and users should configure the save path.
	Mute/Unmute	When the volume in on, if the remote camera is installed with audio input device, users could listen in to the remote party.
	Start /Stop Intercom	When the intercom in on, if the remote camera is installed with audio output device, users could speak to the remote camera via local audio input device.
	PTZ Control	Click to enable PTZ control to configure PTZ preset, patrol and pattern.
	Switch to Full Screen	Switch the current screen to full screen, or click to exit full screen.
	Instant Playback	Playback the video in preset time. It will prompt "The selected camera has no video "if has no existing recording. Users could set the preset time in ***Basic System Settings*** chapter.
	Image Config	Enter the corresponding page to adjust the current window image.
	Encoding Config	Enter the corresponding page to configure camera encoding parameters.
	Digital Zoom	Only available when in fullscreen mode.

NOTE:

- *Start intercom will open sound of the camera the same time. Close the intercom to go back to its previous status.*
- *If one camera has opened sound or enabled intercom, if you want to open sound or start intercom of the second camera, turn off the previous camera first. If you close sound or disable intercom of the second camera, the first camera will not go back to the previous status.*
- *If one camera has opened sound or enabled intercom, you can open sound of the second camera and the sound of the first camera will be closed while its intercom is still on.*

IMAGE CONFIG

Click on the image config button to bring up the dialogue box as shown in figure 18. Users could adjust brightness, contrast, saturation and hue by clicking the corresponding Plus/Minus icon or click on button to access the editing mode. Press the Reset button to restore defaults.

Figure 19 Image Config Page

PTZ CONTROL

Click the PTZ control button to bring up the PTZ control page, as shown in Figure 19.

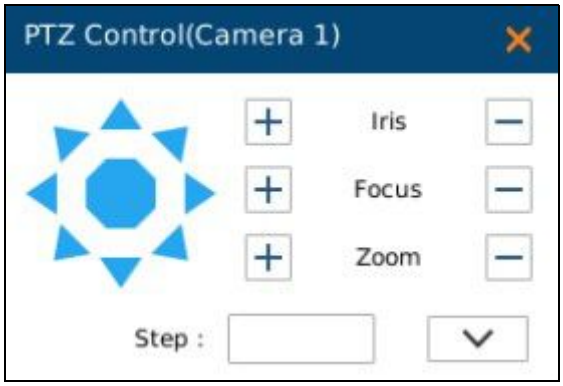


Figure 20 PTZ Control Page

Table 15 PTZ Control Parameters Explanation

Name	Explanation
PTZ Navigation Buttons and Reset Button	8 PTZ navigation buttons to control the corresponding eight PTZ directions. Press the reset button to restore to the original position.
Iris+	Increasing Iris.
Focus+	Increasing Focus.
Zoom+	Increasing zoom. Only available in fullscreen mode.
Iris-	Reducing Iris.

Focus-	Reducing Focus.
Zoom-	Reducing zoom. Only available in full screen mode.
Step	Control PTZ rotational speed, e.g.: Step 8 is much faster than step 1. (The step value can be adjusted by clicking left mouse on digital soft panel or pressing the buttons on the front panel.. Step 8 is the maximum speed.)
More	Opening more PTZ control parameters.
PZT Control	• Set PTZ to preset will bring up preset setting page and the operation panel. • Set PTZ to patrol will bring up patrol setting page and the operation panel. • Set PTZ to pattern will bring up contrail setting page and the operation panel.
Exit	Click to exit the PTZ control page.

NOTE:
- *GVR3550/GVR3552 only supports PTZ control with ONVIF Protocol, the IP camera should be connected and the PTZ device should be configured properly. Please make sure the RS-485 cable between PTZ decoder and IP camera is connected correctly.*

PRESET

When set PTZ to preset, users could add/delete/edit preset on the control panel below. The procedures are shown in figure 20.

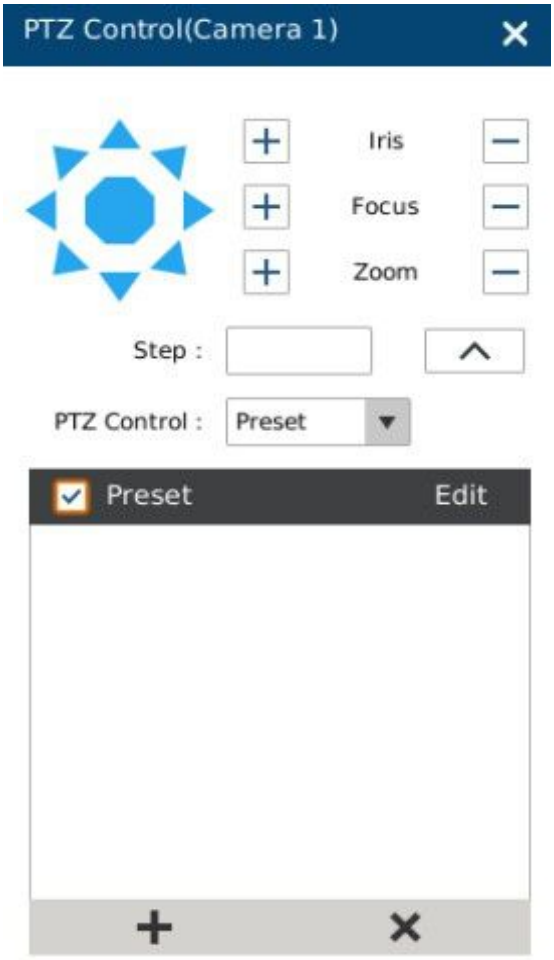


Figure 21 PTZ Control Page—Preset

1. Adjust the remote camera position via the PTZ navigation panel;
2. Click on to add a new preset;
3. Enter the preset name in the input box or just use the default name;
4. Click the check button to save the preset, or click on the right side of the preset to edit name;
5. Double click one preset with mouse (or press the OK button on the front panel, or press the OK button on the remote control) to activate it;

Users could click below the control panel to delete the preset.

NOTE:

- *Grandstream protocol does not support preset setting..*

PATROL

When set PTZ to patrol, users could edit and use patrol path on the control panel. The factory default setting is 4 empty patrol paths. See figure 21.

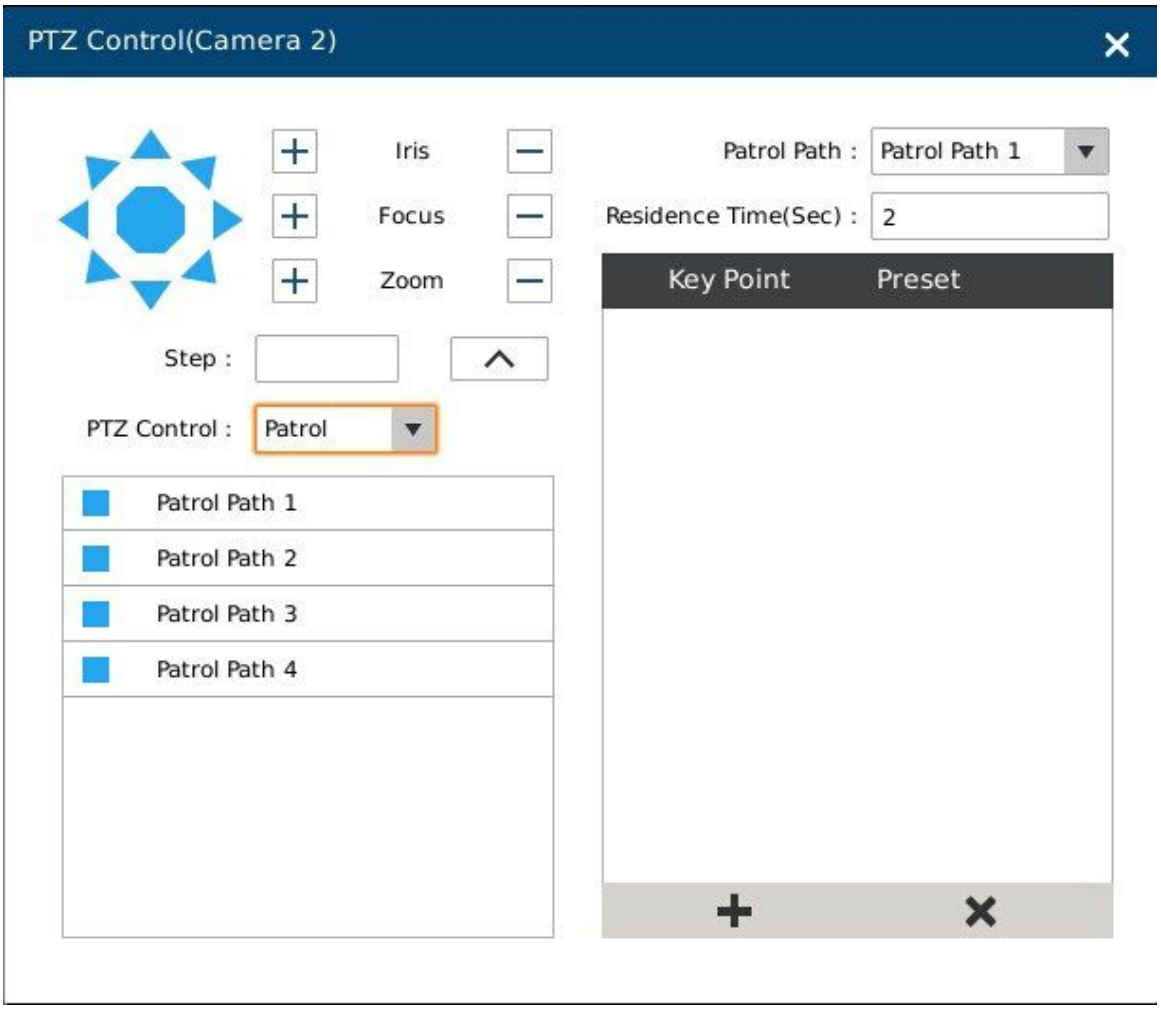


Figure 22 PTZ Control Page—Patrol

1. Set PTZ to patrol;
2. Select the patrol path;
3. Set the residence time the patrol path stays at each preset;
4. Click on + to add key point and set it as one preset. Users could click on ✕ to delete the preset;
5. Click on ■ before the patrol path, when it turns to a triangle ▶, PTZ will rotate according to the path. Click ▶ again to stop patrol.

PATTERN

When set PTZ to pattern, users could edit and use pattern on the control panel. The factory default setting is 3 empty patterns. See figure 22.

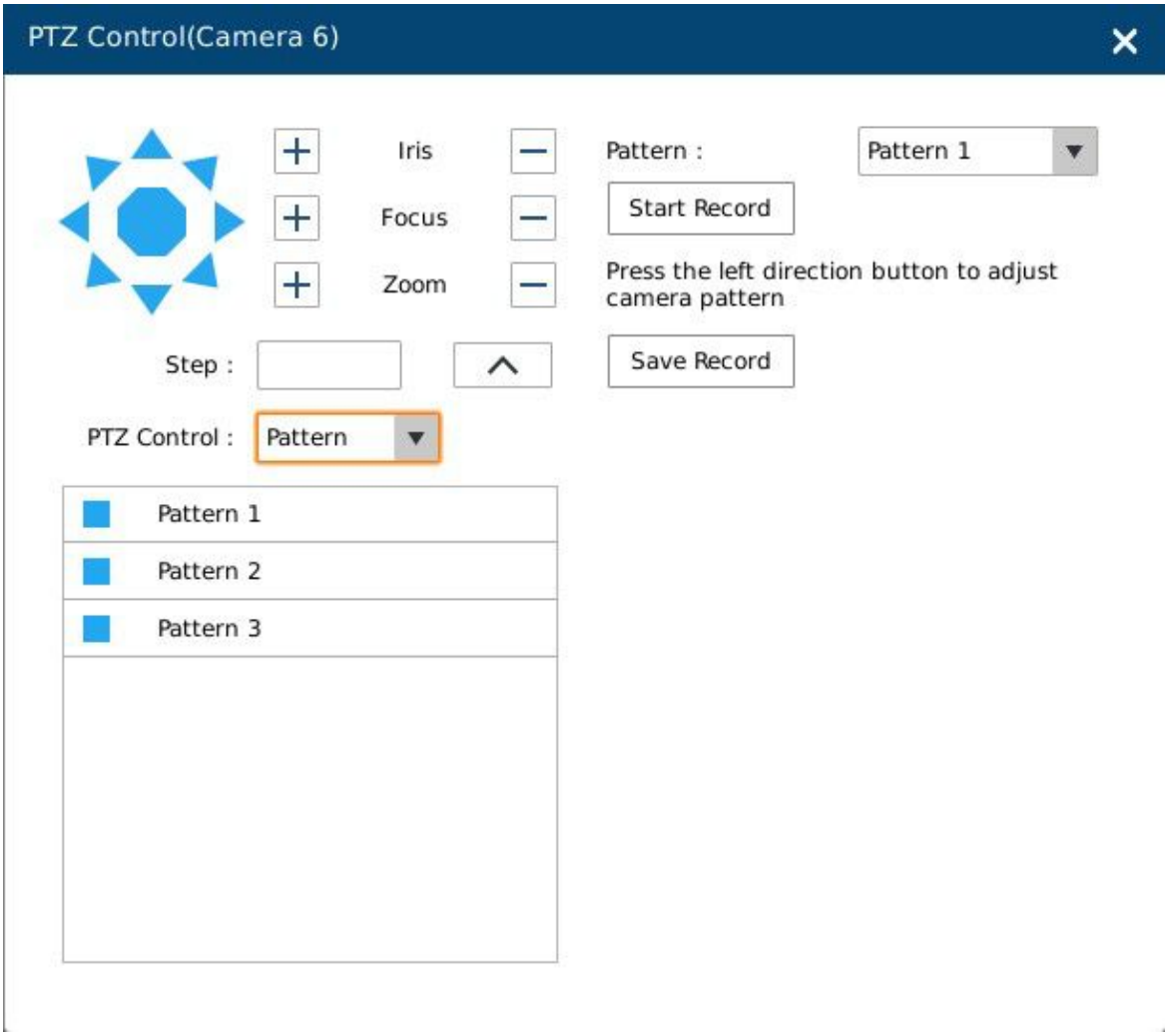


Figure 23 PTZ Control Page—Pattern

1. Set PTZ control to pattern;
2. Select the pattern name;
3. Click the "Start Record" button to adjust the pattern of remote camera via PTZ navigation panel;
4. Click the "Save Record" button save the pattern;
5. Click on ■ before the pattern, when the button turns to a triangle ▶ , the PTZ will rotate according to the pattern. Click ▶ again to stop.

RIGHT-CLICK

Click the right mouse to bring up the right-mouse menu.

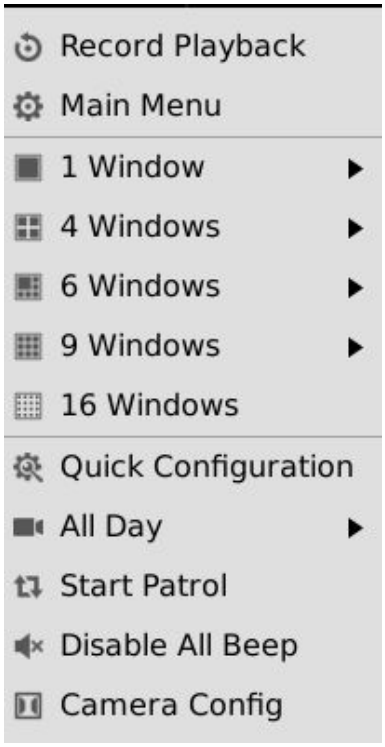


Figure 24 Right Click Mouse Menu

Table 16 Right Click Mouse Menu Parameters Explanation

Name	Explanation
Record Playback	Enter video playback page.
Main Menu	Enter system settings page.
1 window	Switch to one camera to preview.
4 windows	Switch to 4 windows: IMG One-to-Four, IMG Five-to-Eight, IMG Nine-to-Twelve, IMG Thirteen-to-Sixteen, IMG Seventeen-to-Twenty, IMG Twenty-one-to-Twenty-four
6 windows	Switch to 6 windows: IMG One-to-Six, IMG Seven-to-Twelve, IMG Thirteen-to-Eighteen, IMG Nineteen-to-Twenty-four.
9 windows	Switch to 9 windows: IMG One-to-Nine, IMG Ten-to-Eighteen, IMG Nineteen-to-Twenty-four.
16 windows	Switch to 16 windows: IMG One-to-Sixteen, IMG Seventeen-to-Twenty-four.
Quick Configuration	Quick access the corresponding setting page.
All Day	Start/Stop all day recording. Once enabled, all existing cameras will start recording.
Start Patrol	Enable/Disable patrol. Once enabled, the menu item turns to” Stop Patrol", Click to stop patrol then stay on the current screen.

Disable All Beep	Disable all beeps in linkage alarm.
Camera Config	Quick access the corresponding setting page.

NOTE:
- *The default patrol interval is 20 seconds. You can go to Menu->System Settings->Local View Control to change.*
- *Patrol would pause if users make any operations in the process of patrol, abort the operations to resume patrol.*

SHORTCUT BUTTON

Click on the shortcut button in the lower left corner of the preview page to bring up the shortcuts options as shown in figure 24. Users can enter the playback page or the main menu, login /logout or reboot the device.

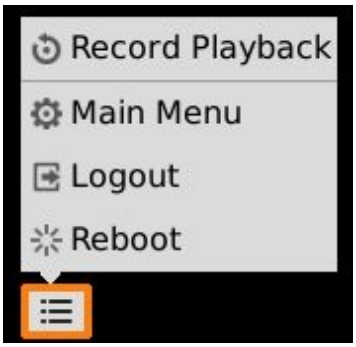


Figure 25 Preview Page Shortcut Button Menu

LOCAL PLAYBACK

Click right mouse and select Video Playback to enter the playback page, as shown in figure 25. Users could make operations like Search, Playback, Tagging, Start Clipping, etc.

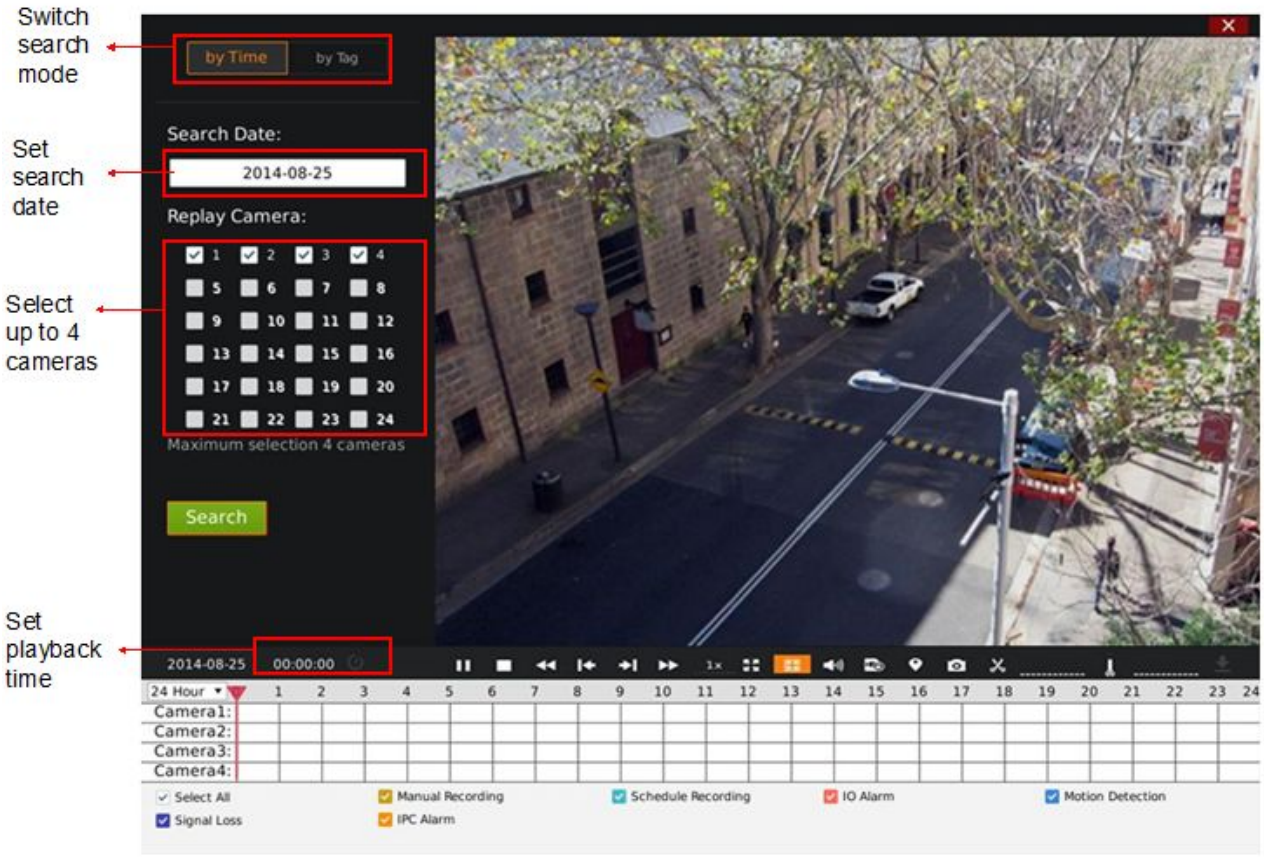


Figure 26 Video Playback Page

SEARCH RECORD

Users could search video by time or by tag.

SEARCH BY TIME

Select camera (up to 4 cameras the same time) after selecting the recording date, then click the "Search" button to search. The matching video would be displayed in the status toolbar as shown in figure 26.

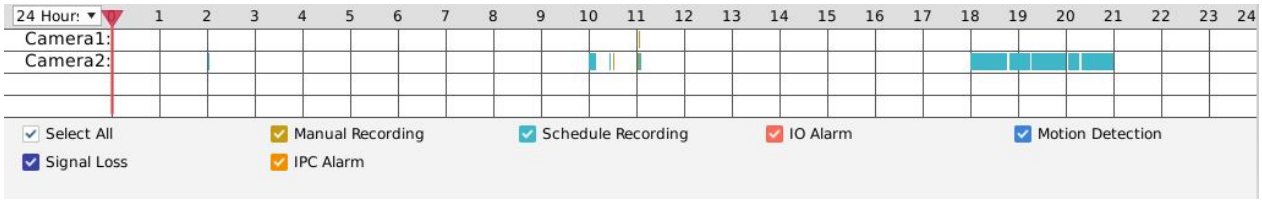


Figure 27 Video Playback—Video Status Toolbar

There are color descriptions about the video status on the bottom. As figure 26 shows, the video with higher priority will be displayed on top with marked colors. Select "Search by Time" and click the check boxes with different colors to set whether to display the corresponding video.

Table 17 Video Status Parameters Explanation

Icon	Name	Explanation
	Select All	Display all recording types
	IO Alarm	Marked as IO alarm video file on GVR
	IO Alarm (IPC)	Marked as IO alarm (IPC) video file on GVR
	Motion Detection	Marked as motion detection video file on GVR
	Singal Loss	Marked as signal Loss video file on GVR
	Manual Recording	Marked as manual recording file on GVR
	Schedule Recording	Marked as schedule recording file on GVR

SEARCH BY TAG

Select "by Tag" and input the keyword in the search query box, click "Search" to bring up the page as shown in figure 27. Click to playback. The color in "Type" option represents video types as the same function on video playback page.

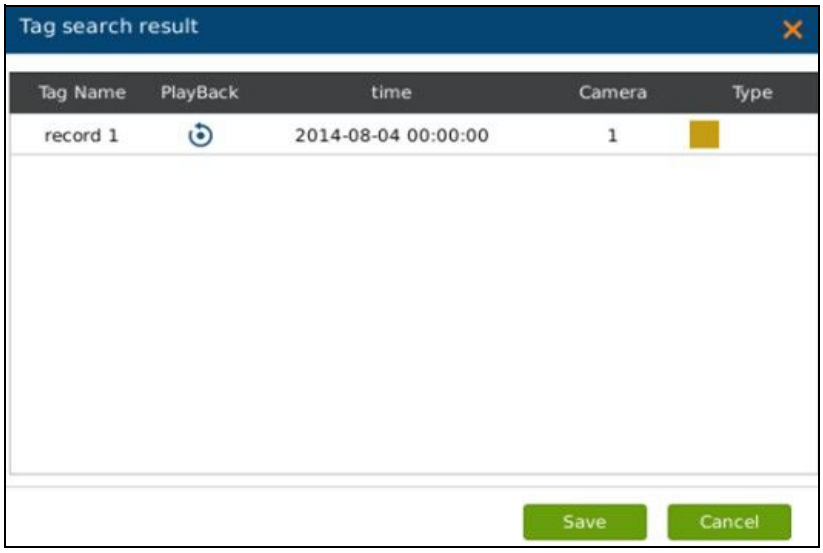


Figure 28 Video Playback—Search by Tag

Click "Tag Management" button to access the Tag Management page as shown in figure 28, users could edit or delete tag(s).

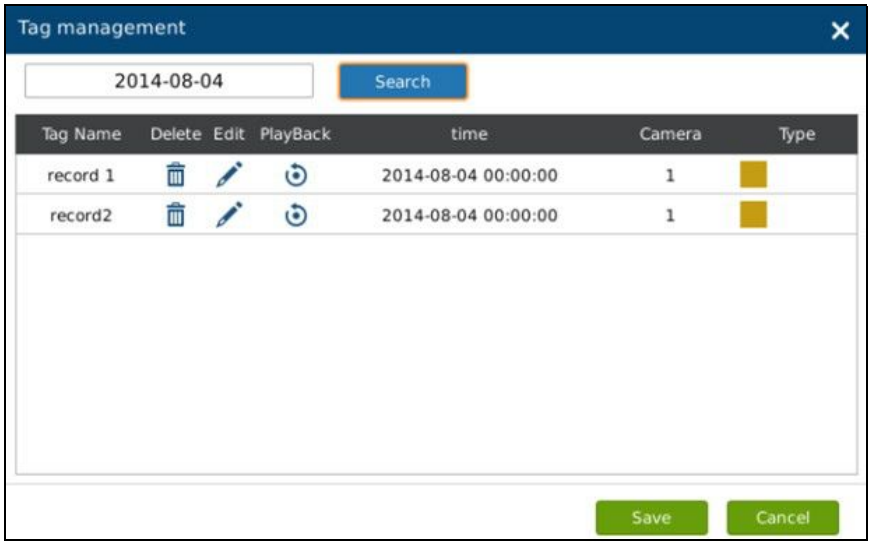


Figure 29 Tag Management Page

NOTE:

- *When HDD is full, the corresponding tag will be deleted.*

VIDEO PLAYBACK

GVR3550/GVR3552 support synchronous 4 cameras playback, users can specify the camera and playback date, or make operations like rewind, single frame rewind/ forward, capture, tagging, etc.
The playback toolbar is shown in figure 29.

Figure 30 Video Playback Toolbar

Table 18 Video Playback Toolbar Explanation

Icon	Name	Explanation
	Manual Set Time	Click to enter the time setting page to set when to play video.
	Play/Pause	Play/pause video.
	Stop	Stop playing video.
	Rewind	Play backward at certain speed, only available when being played by single camera.
	Single Frame Rewind	Single frame play backward, only available when being played by single camera.
	Single Frame Forward	Single frame play forward, only available when being played by single camera.

	Speed Adjustment	To adjust playback speed, support 2 times, 4 times, 8 times, 16 times, 1 time, 1/2 time, 1/4 time, 1/8 time and 1/16 time fast forward. Only available being played by single camera.
	Full Screen	To enter fullscreen mode. Click the screen to bring up the toolbar on the bottom of screen. The mouse located outside the toolbar without any operations in three seconds would be hidden automatically.
	Digital Zoom	Only available being played by single camera. Click to enter PIP screen and the lower right corner will display the main screen.
	Capture	Snapshot the current screen and save the image to the external storage device. Please insert the USB device then go to Main Menu->System Settings->Basic System Settings to set the save path. If there is no USB device, the capture will be fail, a prompt will be shown as in figure 30.
	Volume	Click the button to bring up the volume control bar, drag the slider to adjust the volume. Click the button again to close the control bar. Volume playback is only available when one window is being played at normal speed.
	Tagging	Click the button to bring up the tagging page as shown in figure 31. Fill in the "Tag Name" input box and then click the "Save" button.
	1 Window	Click one window to display.
	4 Windows	Click to enter 4 windows .
	Locked Video	Click the button to enter Locked Recording page as shown in Figure 32. Users could preview all videos and the locked videos of the day. Click oN to lock video and the locked video is labeled with icon , click on to unlock video. Users could also click on the playback button to playback video.
	Start Clipping	Click the button to set the current play time as clipping start time.
	End Clipping	Click the button to set the current play time as clipping end time.
	Download Clippings	Click the button to bring up the video save path Setting page as shown in figure 33 below. Click on the "Save" button to download video after setting the path.

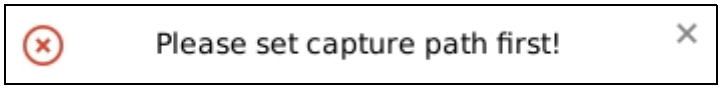


Figure 31 Save Snapshot Failed Prompt

Figure 32 Tagging Management Page

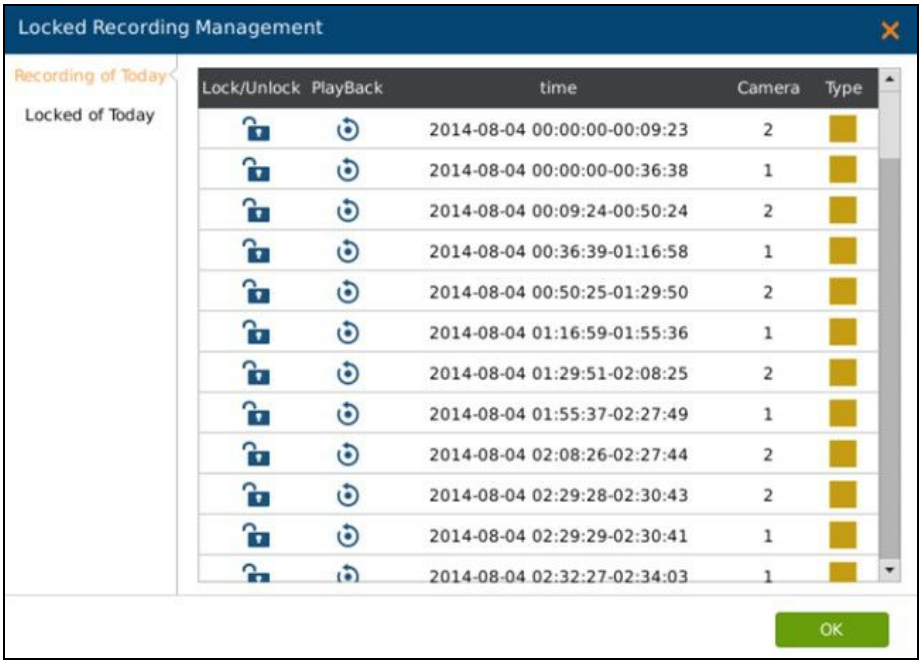


Figure 33 Locked Video Management Page

Figure 34 Video Save Path Setting Page

NOTE:

- *The default path would be invalid if the external storage device is changed, the corresponding failure prompt would pop up if users click the "Capture" or "Download" button. Users could go to Main Menu->System Settings->Basic System Settings to set the default path to save snapshots and download file.*
- *Please do not disconnect the USB device when downloading the clipping files or it may cause download failure or error.*
- *High camera parameters may cause insufficient GVR performance; it will automatically stop playback and alarm. When performance returns to normal, you can replay again.*
- *Users could click* 24 Hour *to set time range: 3 hours, 6 hours or 12 hours. Click one time slot to replay the video.*
- *Click the time bar to playback video at one certain time.*

MAIN MENU

Right click the mouse to enter GVR3550/GVR3552 main menu page, see figure 34.

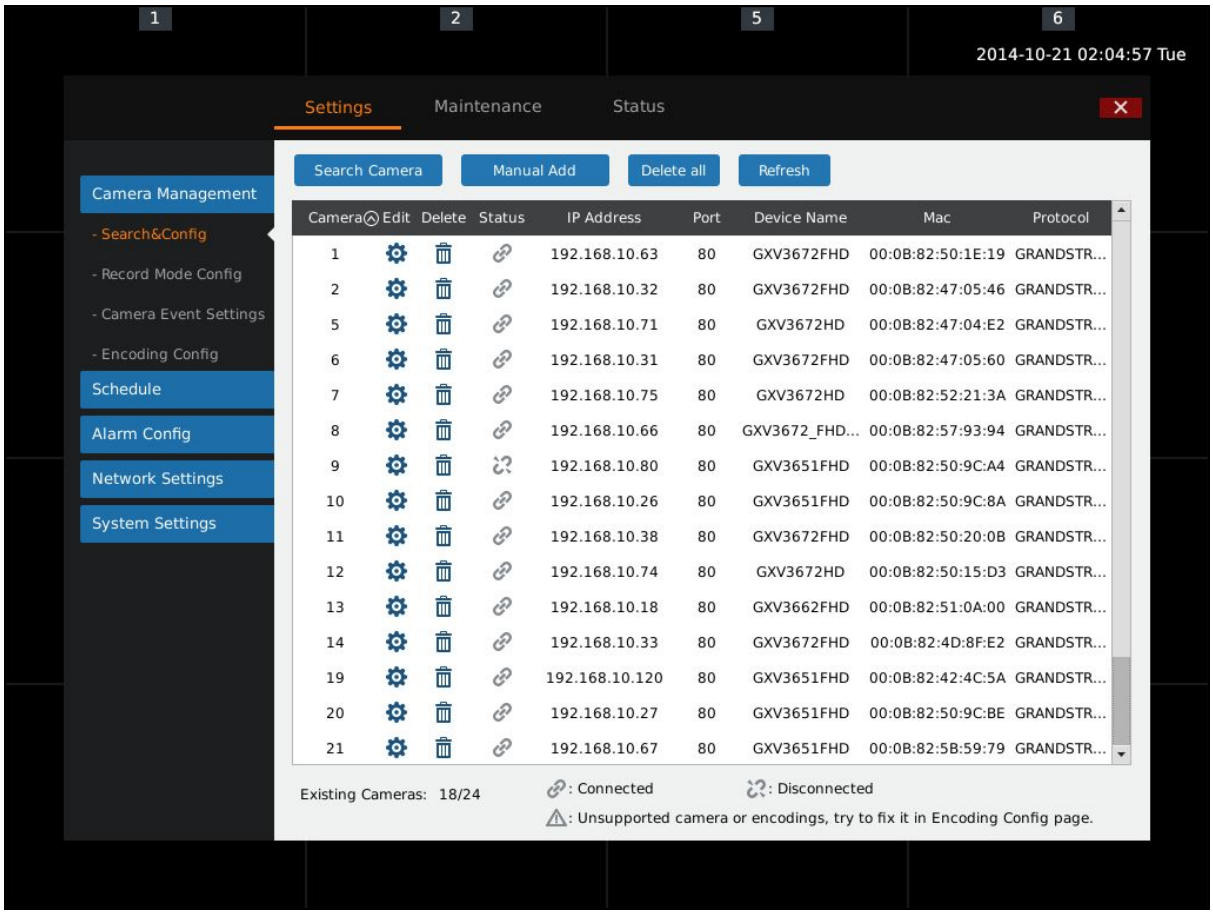


Figure 35 Main Menu Page

The configuration items varied based on different user authority. Administrator users have access to Settings, Maintenance and Status page.

SETTINGS

CAMERA MANAGEMENT

Camera management includes Search & Config, Record Mode Config, Camera Event Settings and Encoding Config.

SEARCH & CONFIG

Click on "Search Camera" button to search out all available cameras within the same LAN as shown in figure 35.

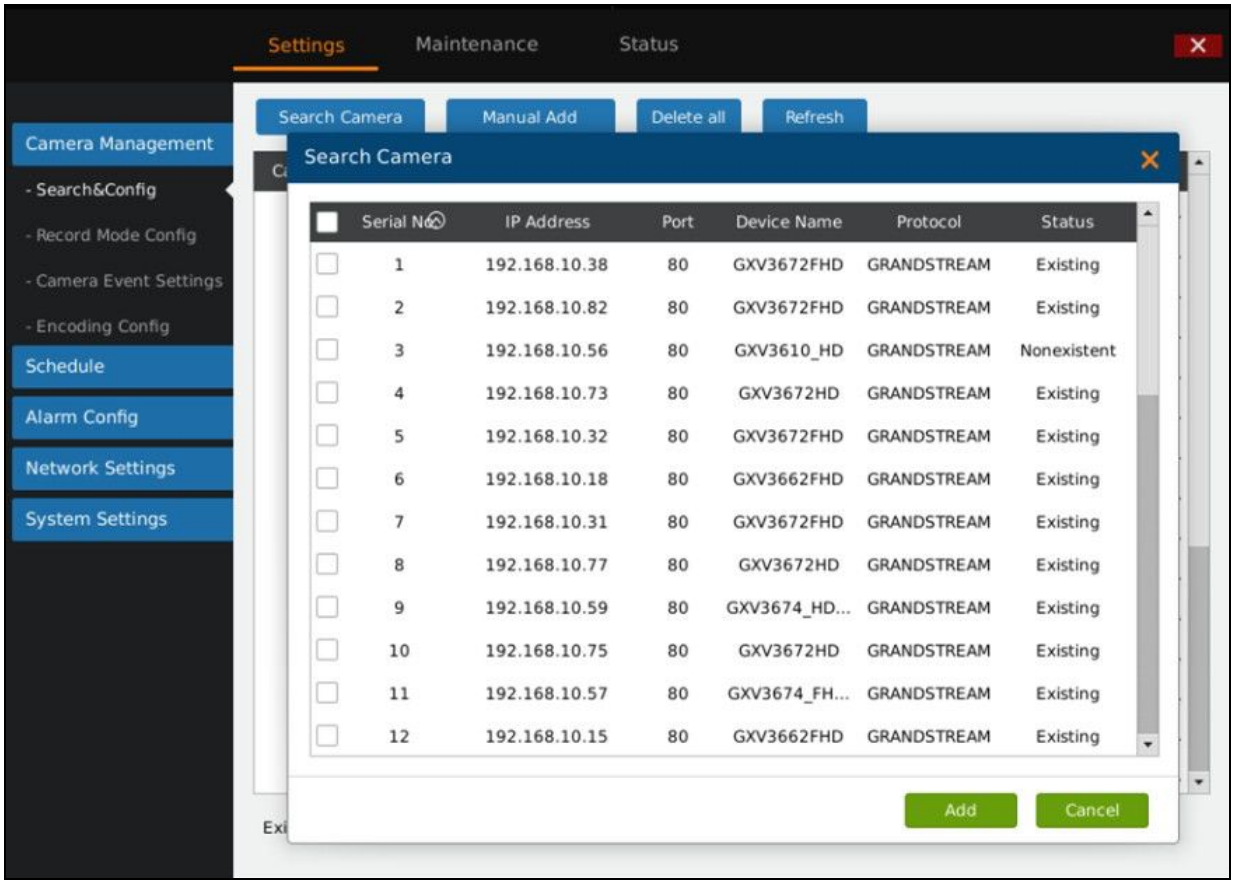


Figure 36 Search Camera Page

Check the camera and click on "Add" button to add it to the camera list.

If unable to search out the camera you need automatically, users could manual add the camera to the camera list. See figure 36.

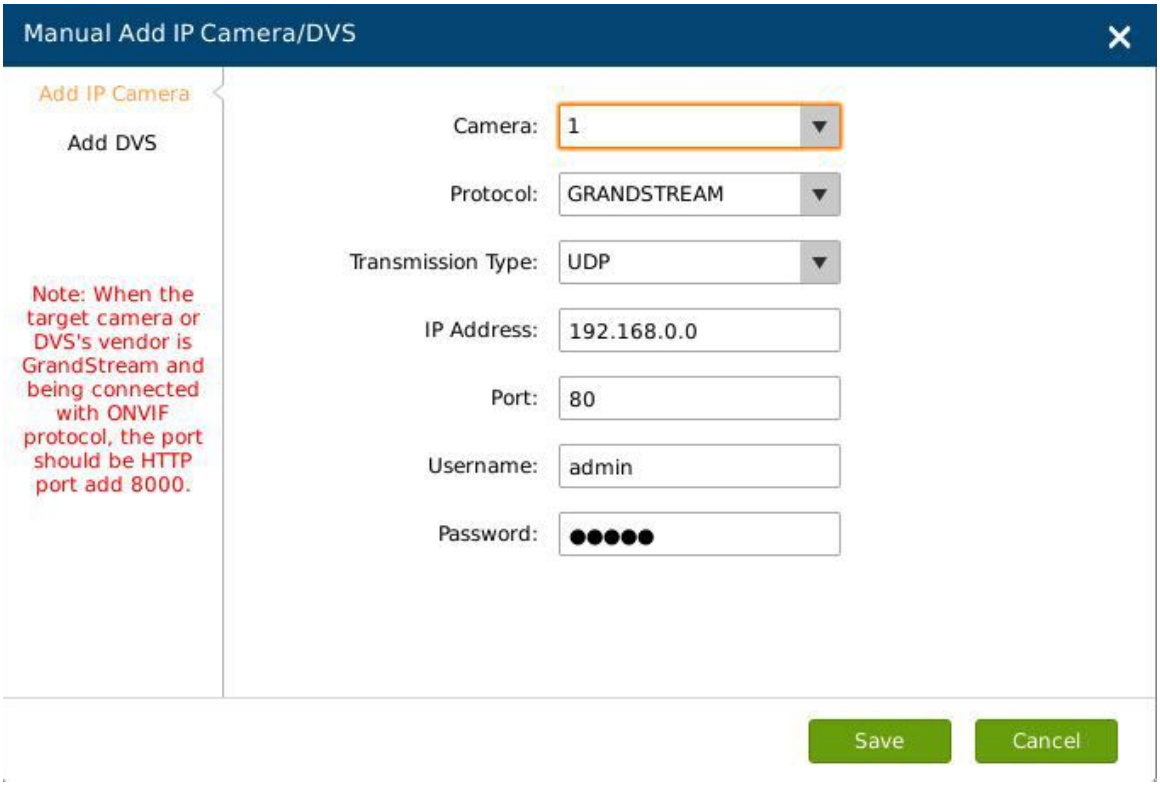


Figure 37 Manual Add Camera Page—Add Camera

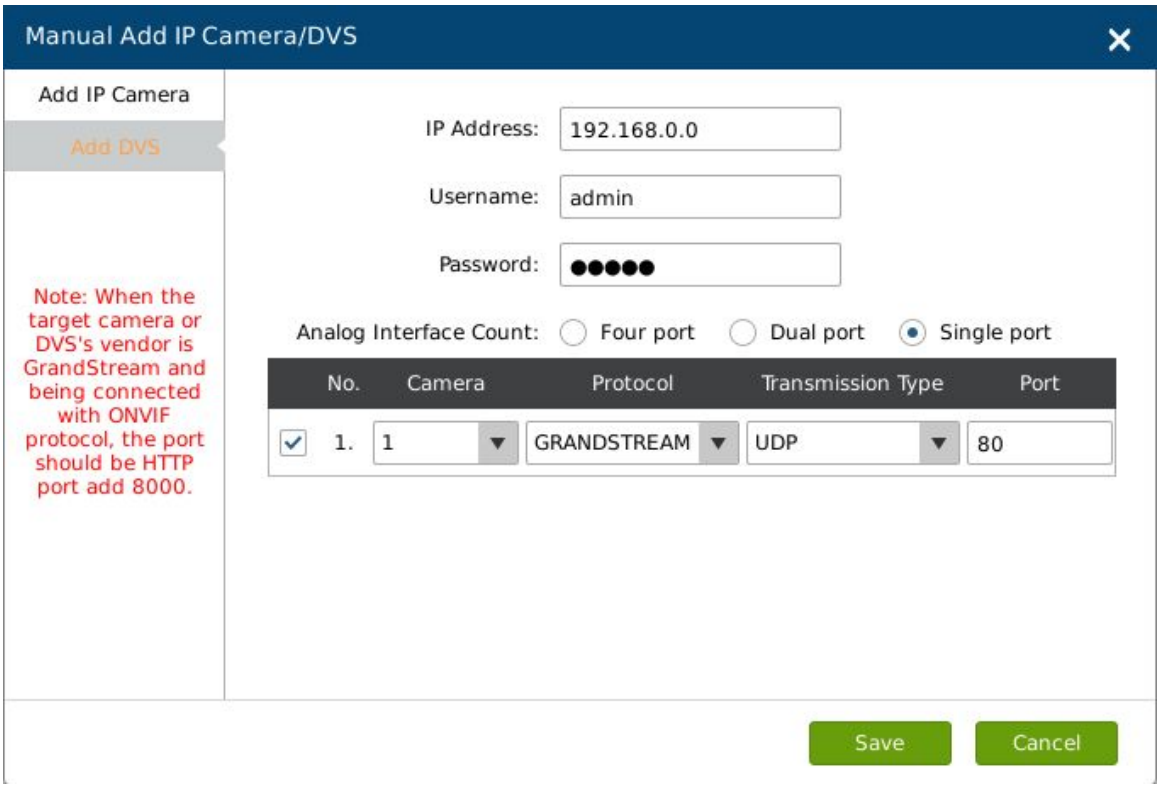


Figure 38 Manual Add Camera Page—Add DVS

Table 19 Camera Parameters Setting Explanation

Parameter	Explanation
Camera	Select camera. You cannot select the existing camera.
Protocol	Supports Grandstream series cameras and cameras compatible with ONVIF protocol.
Protocol (IP)	Set the protocol to TCP or UDP.
IP Address	Set the IP address of the remote IP camera.
Port	Set the port number of the remote IP camera. The default is "80".
Username	Set the username to connect the remote IP camera. The default is "admin".
Password	Set the password to connect the remote IP camera. The default is "admin".

NOTE:

- *When trying to connect to the remote IP camera, the username and password the GVR3550/GVR3552 use are both default, if not, the connection may fail. Please manual modify the remote IP camera username and password.*

Table 20 DVS Parameters Setting Explanation

Parameter	Explanation
IP Address	Set the IP address of the DVS device.
Username	Set the username to connect the DVS device. The default is "admin".
Password	Set the password to connect the DVS device. The default is "admin".
Analog Interface Count	Configures DVS analog interface count. You could see the list of interfaces if there exist more than one interface.

RECORD MODE CONFIG

Record Mode Configuration page is as shown in figure 36, users could click one camera to set Close Record, All Day Record and Schedule Record.

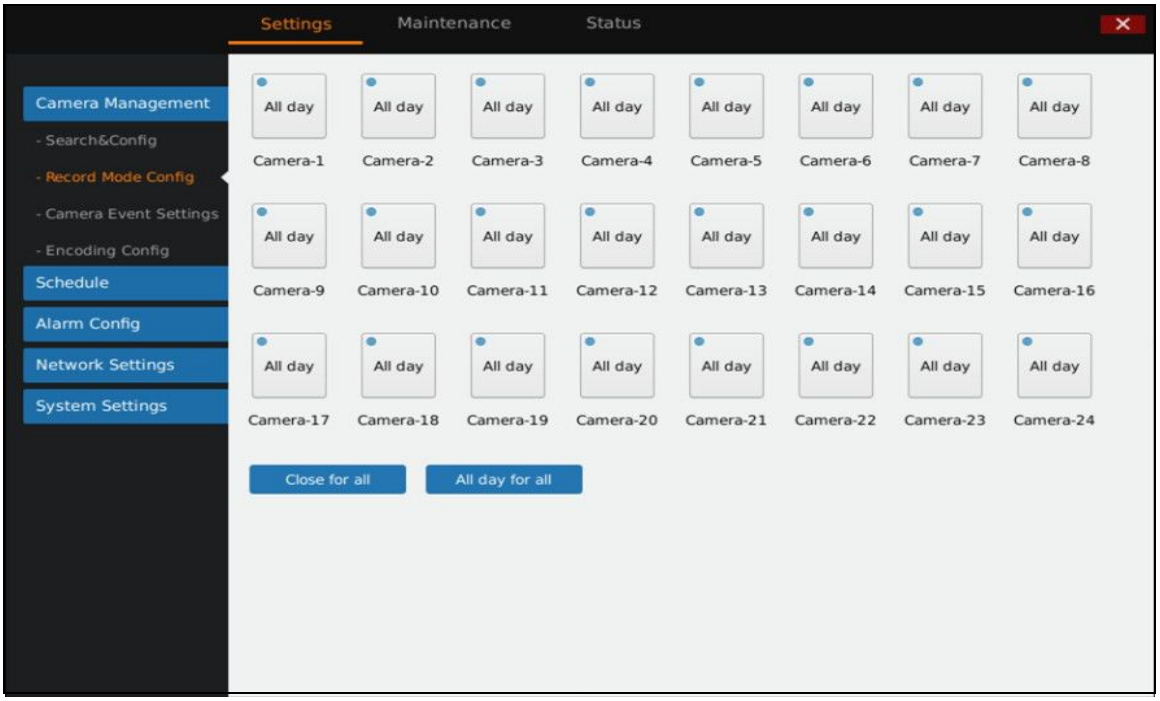


Figure 39 Record Mode Config Page

Table 21 Record Mode Config Parameters Explanation

Parameter	Explanation
All Day Record	Enable all cameras to record all day.
Schedule Record	Enable auto record.
Close Record	Stop record.

When set to "Schedule", users should select schedule in the drop-down list. Tap on ⊕ to add new schedule or Go to Settings->Schedule->Schedule Config->New Schedule to add.

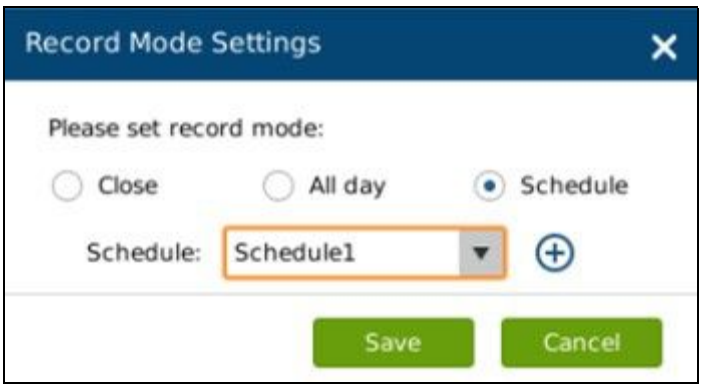


Figure 40 Record Mode Settings Page

CAMERA EVENT SETTINGS

Camera event settings page is as shown in figure 40, Users could set different alarm types to each camera.

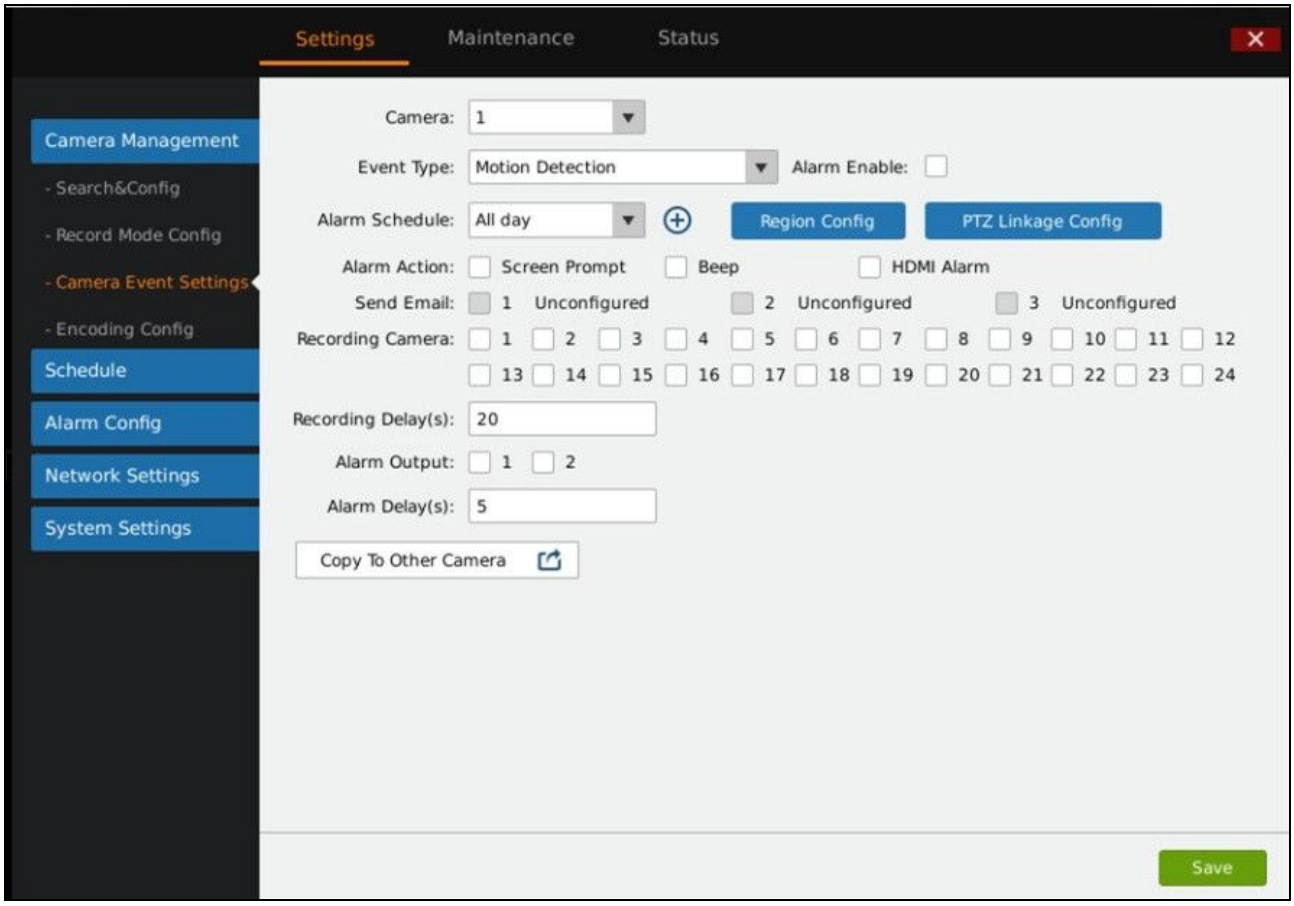


Figure 41 Camera Event Settings Page

Table 22 Camera Events Settings parameters Explanation

Parameter	Explanation
Camera	Select camera.
Event Type	Motion Detection, Signal Loss, IPC External Alarm.
Alarm Enable	Check to enable/unable alarm.
Alarm Schedule	Select schedule in the drop-down list. Tap on ⊕ to add a schedule.
Region Config	Set detection area to IPC with motion detection function. Users could set up to 16 areas. Click left mouse to draw an area, then release the mouse to confirm. Click on "X" in the upper right corner of the area to delete it, Double click or right click mouse to save the area and exit.
PTZ Linkage Config	Only available to camera with PTZ linkage function. For different camera and event type, users could set various alarms: Screen Prompt, Beep, HDMI Alarm,

	Send Mail, Alarm Output, Alarm Delay (s), or copy the alarm to other cameras.
Alarm Action	Set different alarm mode.

Table 23 Camera Alarm Parameters Explanation

Parameter	Explanation
Screen Prompt	Display prompt on screen when alarm.
Beep	Beep when alarm.
HDMI Alarm	Alarm If the GVR is connected to an HDMI display device.
Send Email	Send email to one mailbox when alarm. Go to Settings ->System Settings -> Email Settings to set.
Recording Camera	Select camera to record when alarm.
Record Delay (s)	When the alarm end, the alarm recording will last for a period of time before stops, the range is 10~180 seconds.
Alarm Output	The alarm output interface when alarm.
Alarm Delay (s)	When the alarm end, the alarm output will last for a period of time before stops, the range is 1~600 seconds.
Copy to Other Camera	Copy the alarm parameters of one camera to other cameras.

ENCODING CONFIG

Encoding Config page is as shown in figure 41.

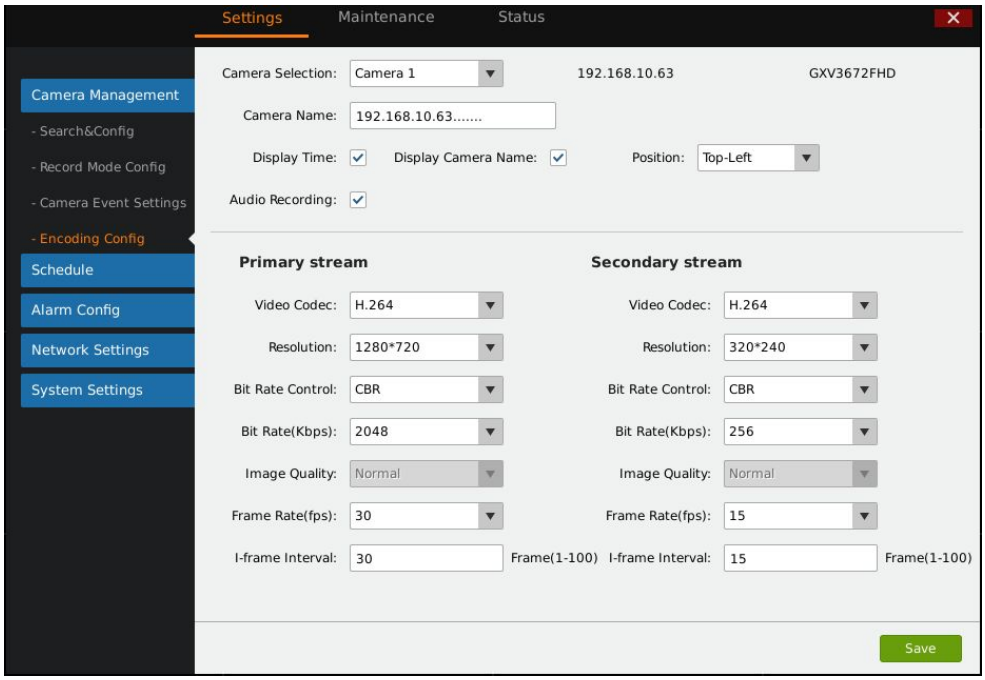


Figure 42 Encoding Config Page

Table 24 Encoding Config Parameters Explanation

Parameter	Explanation
Camera Selection	Select camera. Once selected, it will display the camera's IP and model.
Camera Name	Display camera name on preview screen.
Display Time	Defines whether to display time on preview screen.
Display Camera Name	Defines whether to display camera time on preview screen.
Position	Displaying camera's name and time on Top-Left or Bottom-Left on preview screen.
Audio Recording	Defines whether to record audio when recording.
Primary Stream	Configure parameters.
Secondary Stream	Configure parameters.
Video Codec	Select the Codec the camera supports. Beta version just supports H.264.
Resolution	Configure the resolution for each camera. Supports no more than 1920*1080P.
Bit Rate Control	When set to CBR, the image quality is inalterable; If set to VBR, configure the image quality based on the range the camera provides.
Image Quality	When the bite rate is set to VBR, configure the image quality based on the range the camera provides.
Bit Rate (kpbs)	Set the bite rate to change image quality, greater bit rate brings better image quality. The range is 256~8192Kbps.
Frame Rate (fps)	The range is1~30fps or auto.
I - frame Interval	The range is 1~100s.

SCHEDULE

SCHEDULE CONFIG

Users could add new schedule and manage schedule record and alarm event of each camera. Users could add up to 16 schedules, see figure 42.

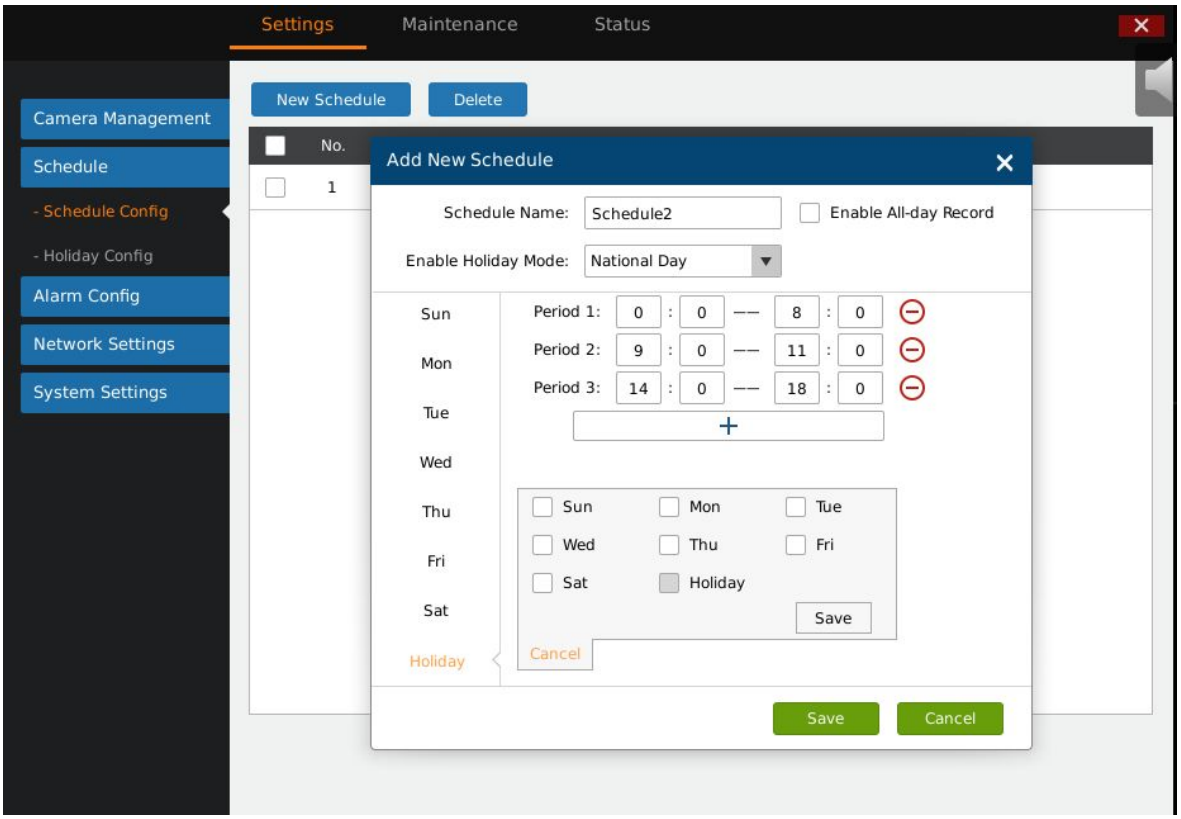


Figure 43 Schedule Config Page

ADD SCHEDULE

Follow the steps below to add schedule.

1. Tap on "New Schedule" and input schedule name in figure 43.

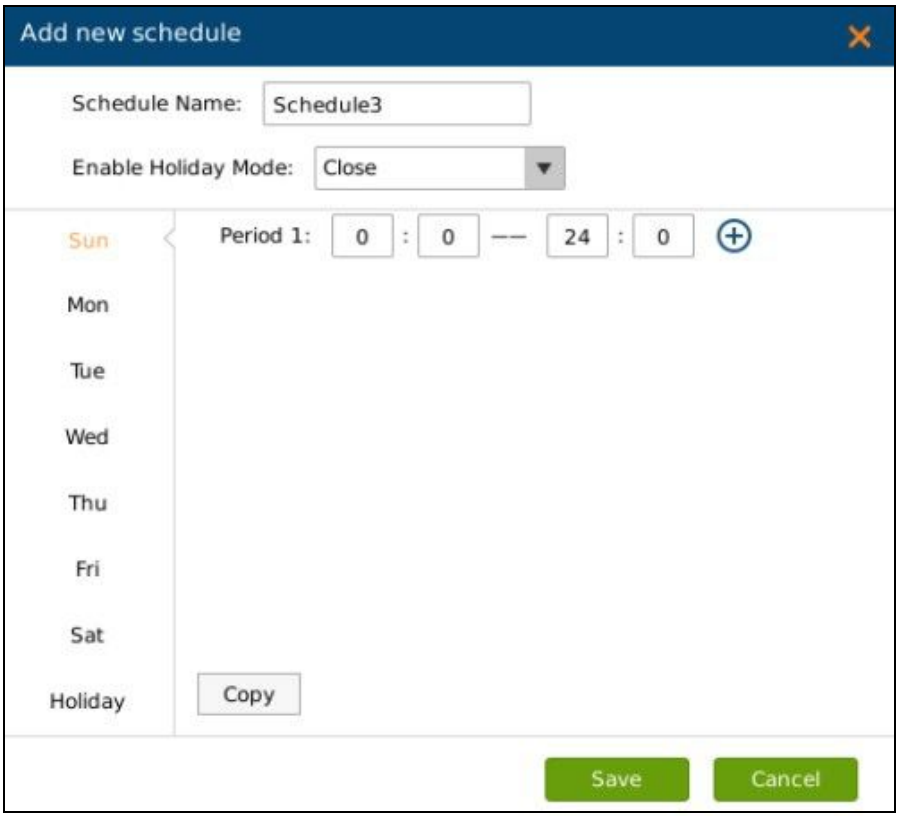


Figure 44 Add New Schedule Page

2. Schedule on weekly basis: at least set one period and you could set up to 16 periods. Users could copy the periods of one week to other weeks. See Figure 44.

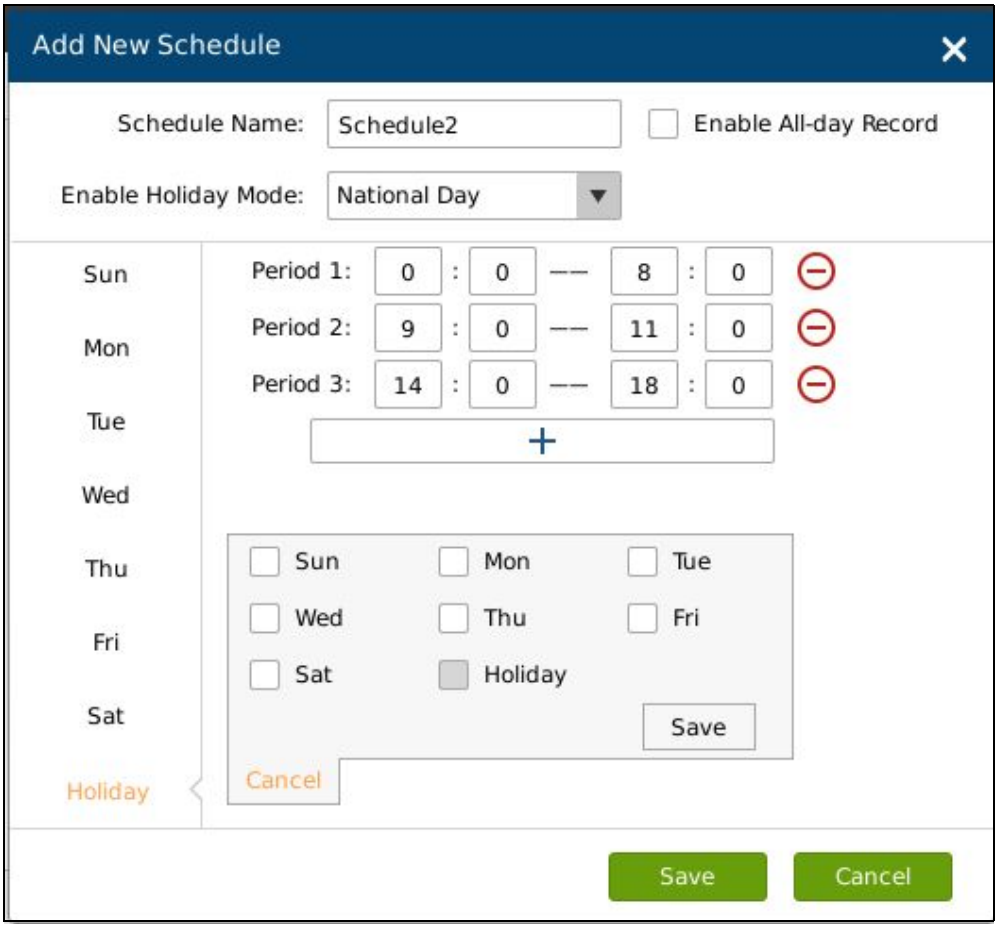


Figure 45 Schedule Config—Add New Schedule—Copy to Other Period

3. Select "Enable Holiday mode" if you want to use the schedule on holidays
4. Click on "Save".

NOTE:

- *If select "Enable All-day Record", record all day except the periods on holiday mode.*
- *Please configure holiday first if you want to use "Enable Holiday mode". Please refer to* ***Holiday Config*** *Chapter for more details.*

VIEW SCHEDULE

Tap on ⊙ behind schedule to view details. Tap the icon again to hide the status bar.

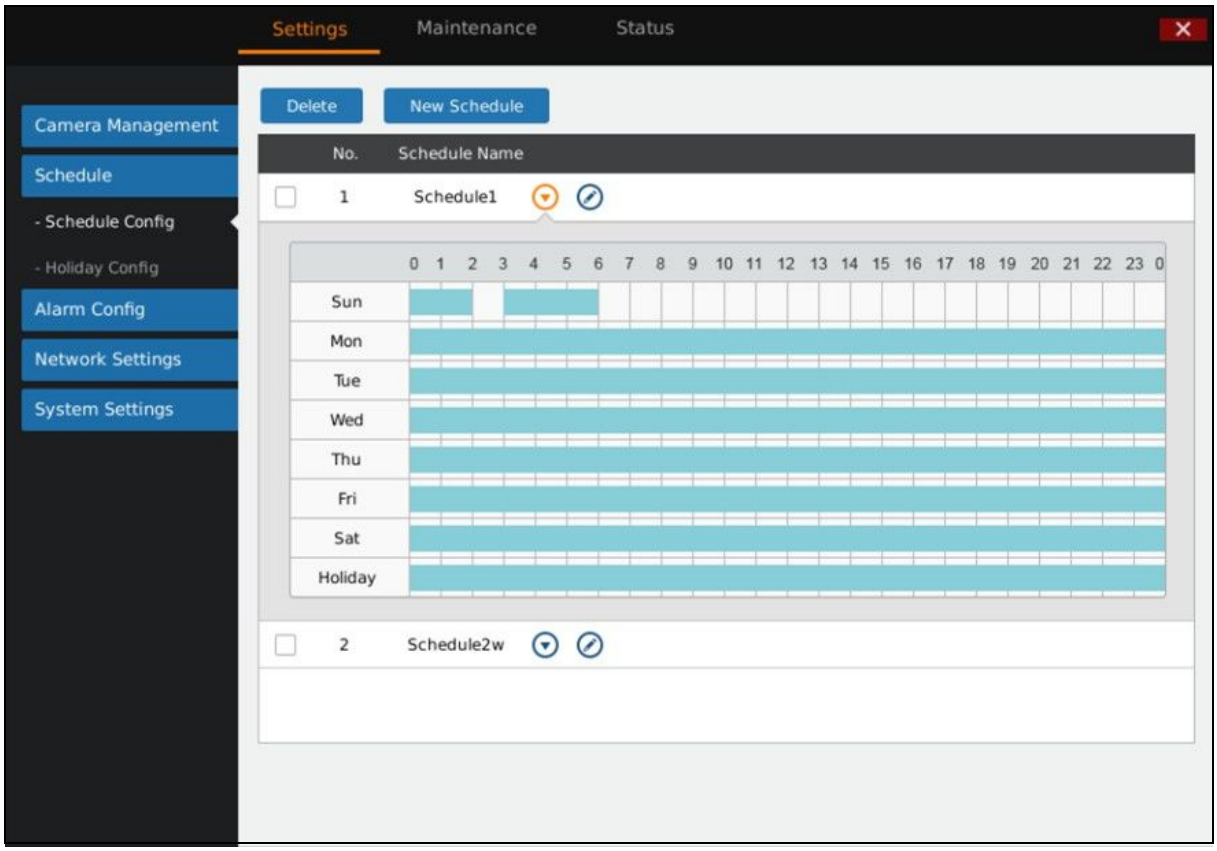


Figure 46 Schedule Details Page

EDIT SCHEDULE

Click ✎ to access the schedule editing page.

DELETE SCHEDULE

Supports batch delete. Tap on "delete" button to batch select and delete.

HOLIDAY CONFIG

Users could add new holiday and manage holidays on this page. Users could add up to 16 holidays, see figure 46.

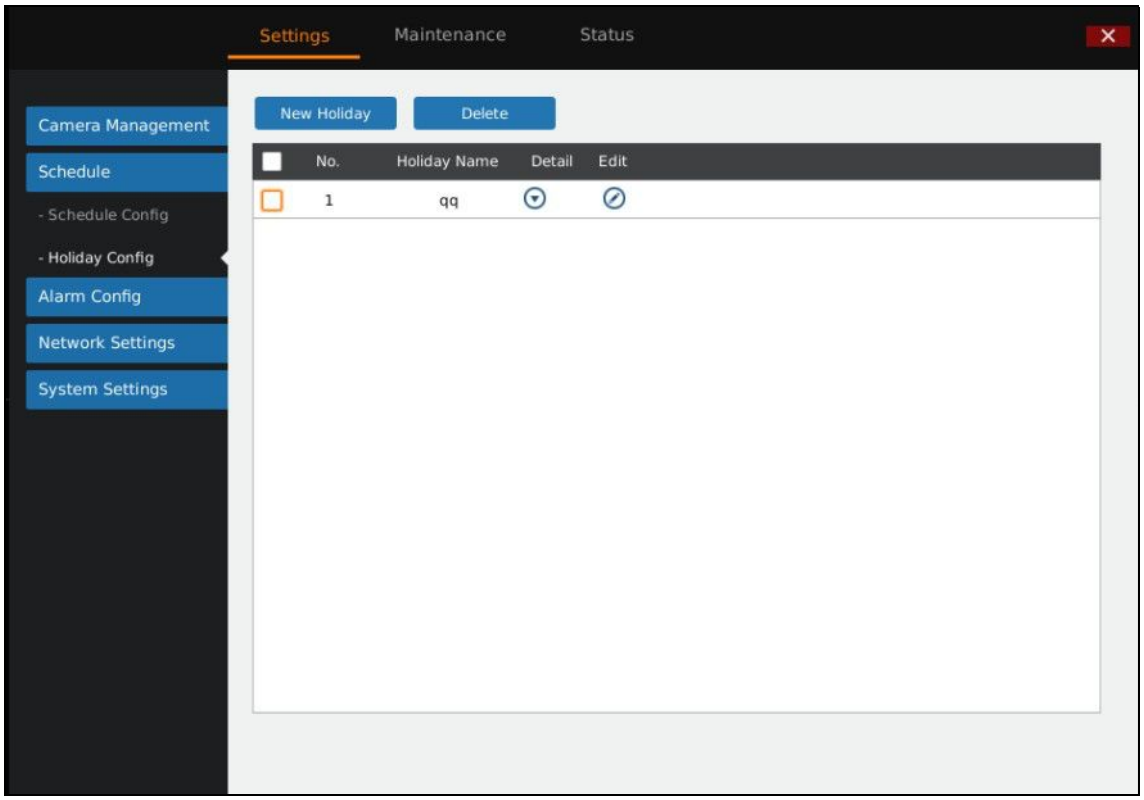


Figure 47 Holiday Config Page

ADD NEW HOLIDAY

1. Click "New Holiday" to bring up the page as shown in figure 47. Users could input holiday name.

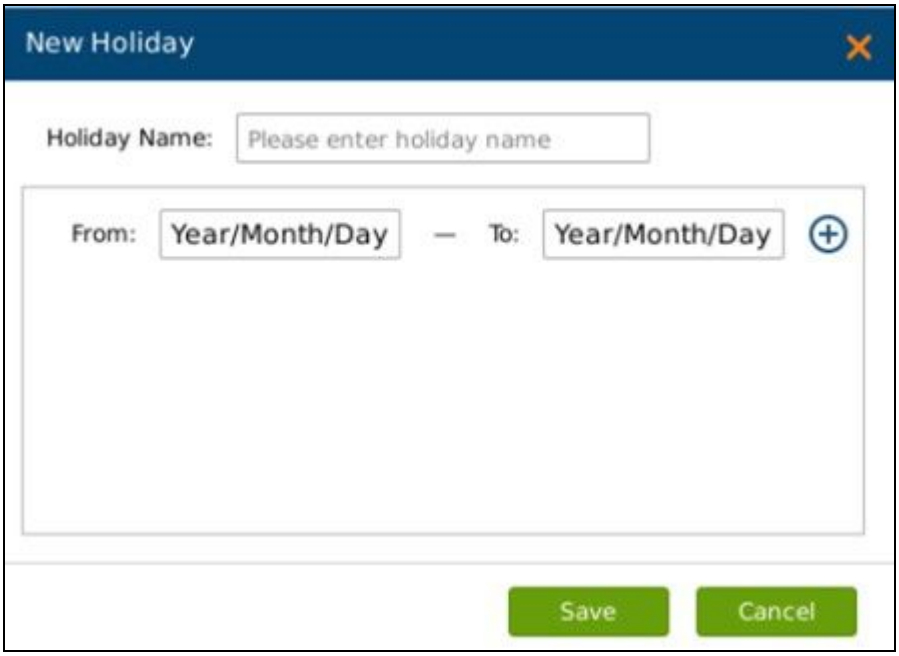


Figure 48 Add New Holiday Page

2. Set holiday starting time and end time. Users could add up to 32 periods. See figure 48.

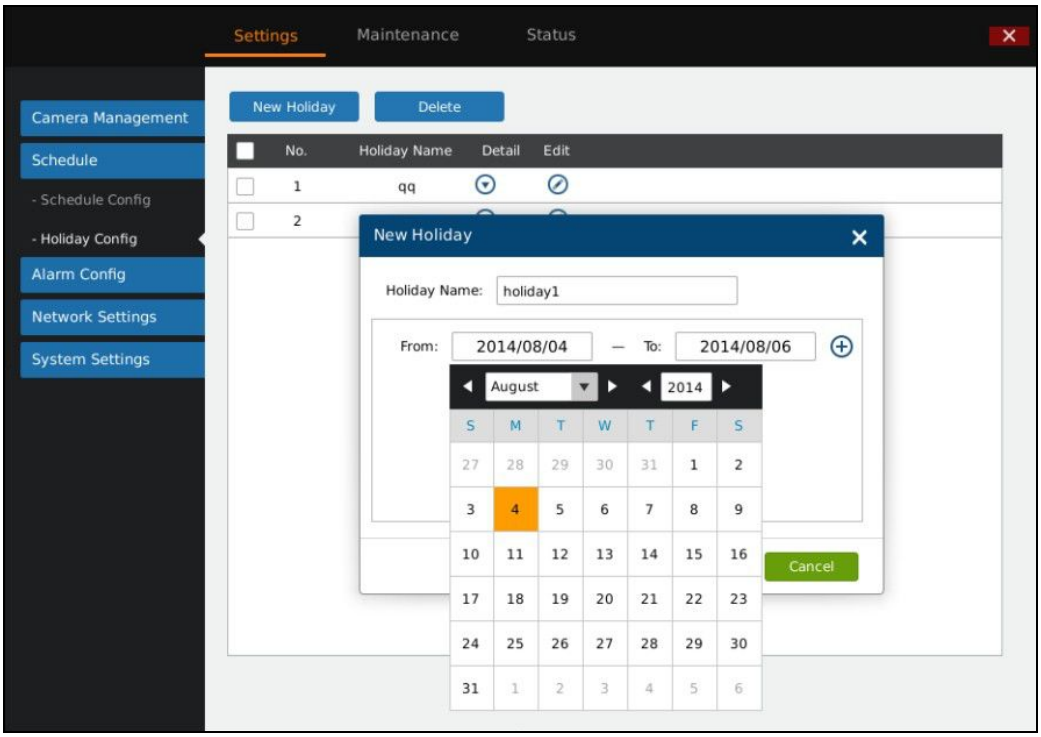


Figure 49 Add New Holiday Editing Page

Users could edit, modify, delete schedule in the holiday list. Click to view the holiday details.

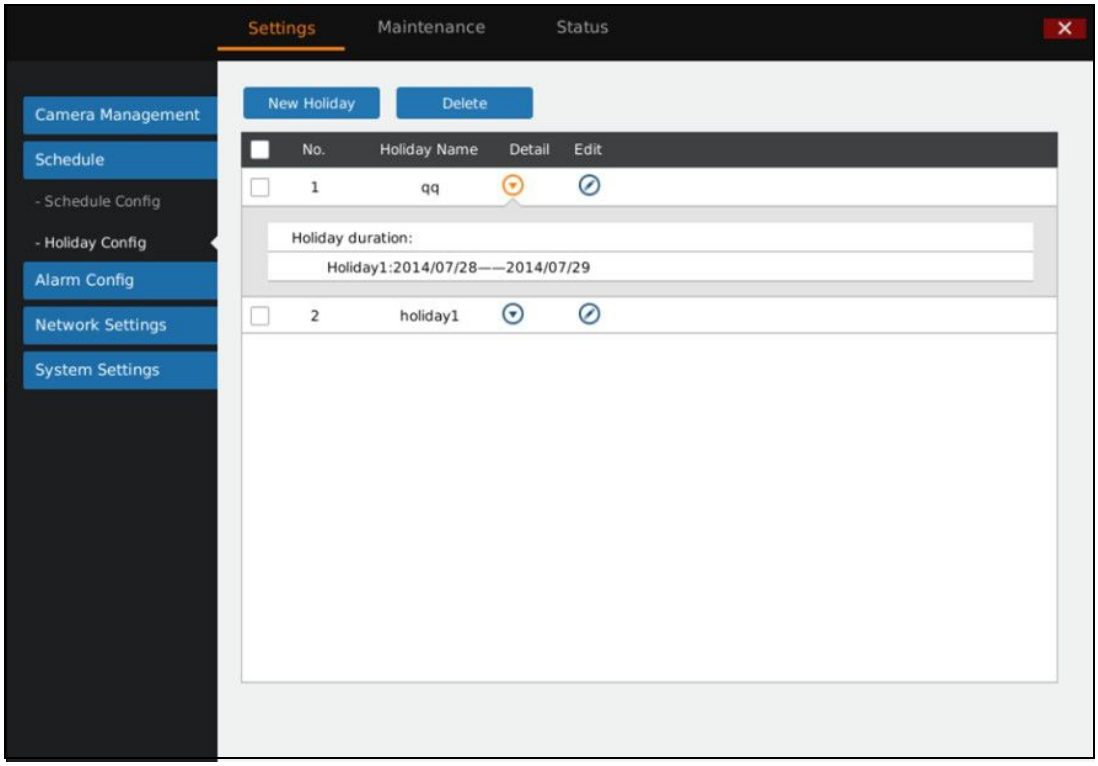


Figure 50 Holiday Details Page

Click to bring up the holiday editing page.

ALARM CONFIG

Please refer to the chapter ***Connect Alarm Device*** to connect the output and input devices.

IO ALARM CONFIG

Users could set different alarm type to each alarm input, see figure 50.

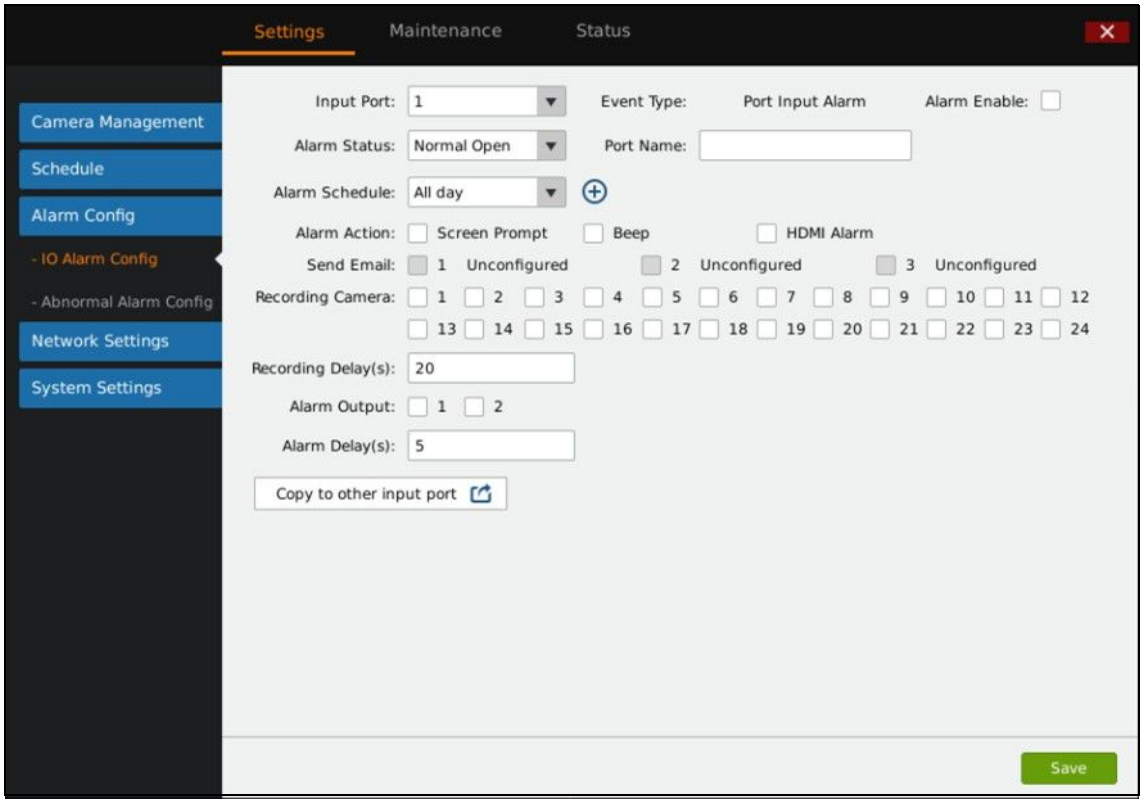


Figure 51 IO Alarm Config Page

Table 25 IO Alarm Config Parameters Explanation

Parameter	Explanation
Input Port	Select the input port.
Event Type	Select the event type.
Alarm Enable	Check to enable/disable alarm.
Alarm Status	Set alarm status. Normally Open (default) and Normally Close are two available options. Please choose the status according to your alarm type.
Port Name	Enter port name for users to distinguish different input ports.
Alarm Schedule	Select alarm schedule in the drop-down list. If there is no existing schedule, click on ⊕ to add new schedule. The alarm only available in schedules.

Users could set various alarm linkages according to different alarm such as Screen Prompt, Beeper, HDMI Alarm, Send Email, or Copy Alarm to Other Cameras. The Parameters settings are the same in chapter ***Camera Event Settings***.

ABNORMAL ALARM CONFIG

Abnormal Alarm Config includes Disconnection Alarm, HDD Empty Alarm, HDD Full Alarm, HDD Error Alarm and IP Conflict Alarm. See figure 51. Users can set alarm linkages to different alarm types.

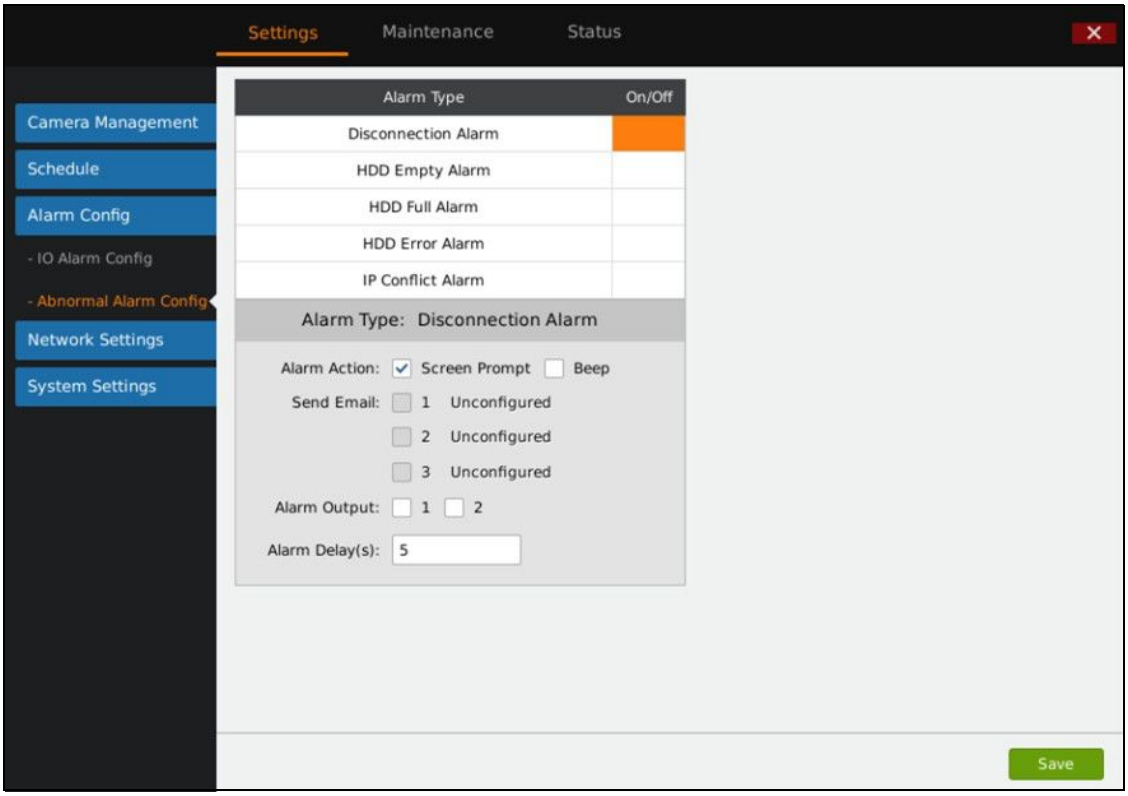


Figure 52 Abnormal Alarm Config Page

Table 26 Abnormal Alarm Parameters Explanation

Parameter	Explanation
Disconnection Alarm	Alarm when no cable access detected.
HDD Empty Alarm	Alarm when no HDD access detected.
HDD Full Alarm	Alarm when HDD is full.
HDD Error Alarm	Alarm when detecting HDD error.
IP Conflict Alarm	Alarm when the IP address is conflict with the GVR address.

NETWORK SETTINGS

Network Settings includes Basic Settings, Advanced Settings and Security Settings. Users could easily connect to network and configure network security.

BASIC SETTINGS

Basic Settings page is shown in figure 52, users can choose to obtain IPv4 address automatically or manual set static IP address or use PPPoE. GVR3550 is available only when network setup is correct.

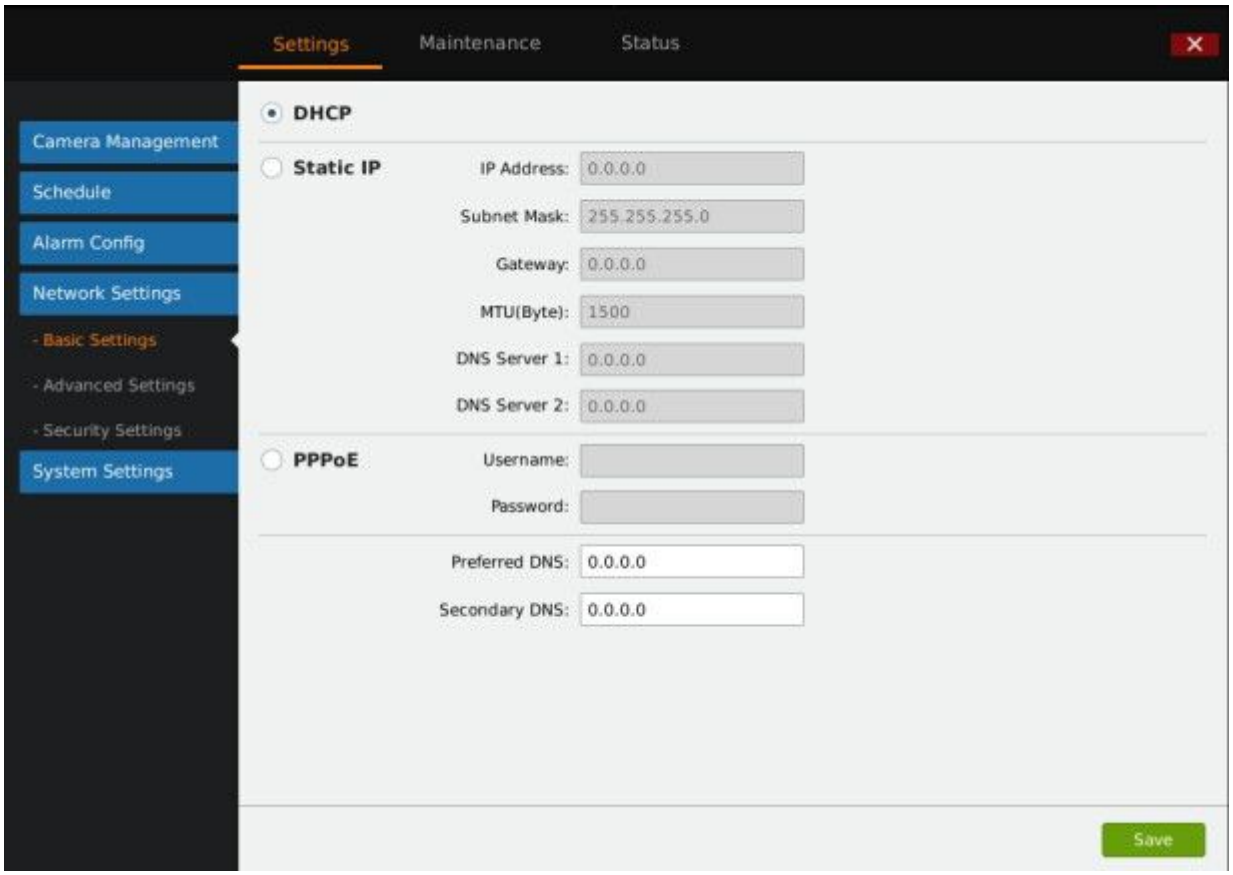


Figure 53 Network Settings—Basic Settings Page

Table 27 Basic Network Parameters Explanation

Parameter	Explanation
DHCP	Obtain IPV4 address from the DHCP server automatically.
Static IP	Set static network parameters.
IP Address	Manual enter the IPV4 address.
Subnet Mask	Manual enter the IPV4 subnet mask.
Gateway	Manual enter the IPV4 default gateway address.
MTU (Byte)	Enter MTU (Maximum Transmission Unit), the maximum data package that can be transmitted on the network. If the GVR MTU is greater than the one of the gateway, the lager one will be split for transmission. Please confirm the MTU value of your gateway before set.
DNS Server 1	Manual enter the DNS server 1 address.

DNS Server 2	Manual enter the DNS server 2 address.
PPPoE	Check to set static network parameters
Username	Manual enter the username provided by the network vendor.
Password	Manual enter the password provided by the network vendor.
Preferred DNS	Manual enter the preferred DNS server address.
Secondary DNS	Manual enter the secondary DNS server address.

ADVANCED SETTINGS

Advanced Settings page is shown in figure 53. Users can set DDNS, UPnP and DHCP.

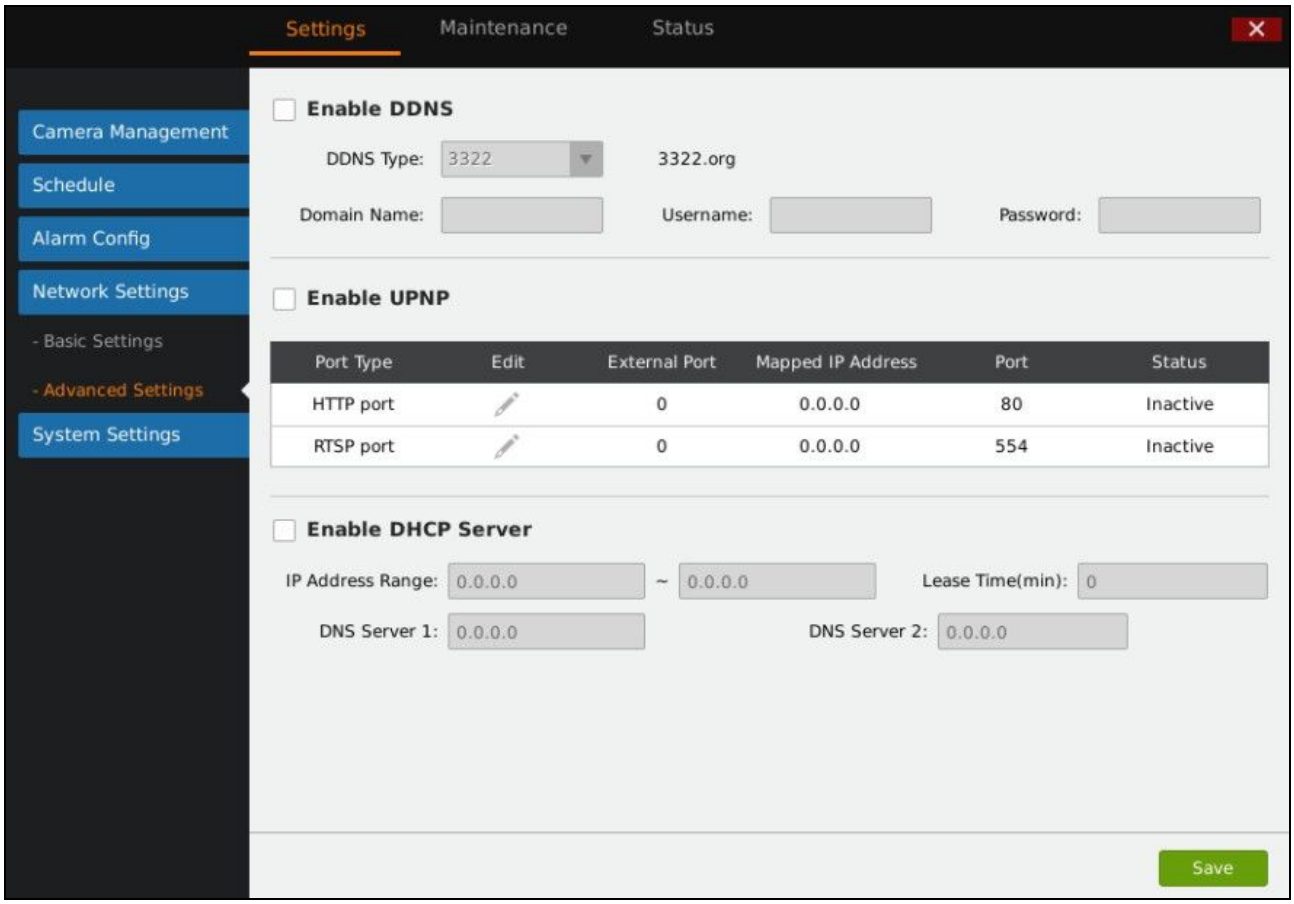


Figure 54 Network Settings—Advanced Settings Page

ENABLE DDNS

Enable DDNS to access the GVR if already enabled PPPoE connection, with this way can effectively solve the problem brought by access GVR with dynamic IP.
Select the proper DDNS type (the Beta version only supports ipkan) in the drop-down list and input the correct domain name, username and password to complete the DDNS settings.

In order to access GVR via internet, you also need to enable UPnP and set port. If the DDNS type you select is ipkan, go to www.ipkan.com.cn to register username and password. Upon successful registration you can fill in the username and password on DDNS Settings interface.

ENABLE UPnP

The full name of UPnP is Universal plug-in and Play, enable NAT of UPnP to realize auto port mapping thus allows external computer to access intranet to enhance network efficiency.

After checking "Enable UPnP", users can click to set external port, as shown in figure 54.

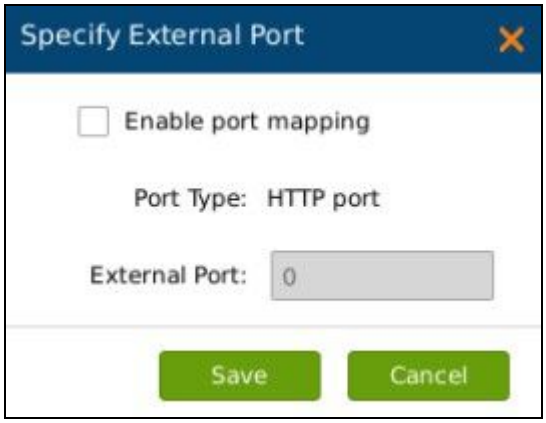


Figure 55 Specify UPnP External Port Page

When the port status displays "Active", it indicates the successful connection of the GVR and the router, the parameters have taken effect.

NOTE:

- *The port sequence should correspond to the router list.*

ENABLE DHCP SERVER

GVR3550/GVR3552 could allocate dynamic IP address to other devices within the same LAN. Follow the procedures below to set:

1. Check "Enable DHCP Server";
2. Input the assignable IP address.
3. Input Lease Time;
4. Set DNS server address and the secondary DNS server address.

MULTICAST GROUP

When access GVR3550 via remote network to make real-time preview, if the users access exceed the maximum network bandwidth, users will unable to preview, set multicast IP to save the problem.

multicast IP is D type IP address, the range is 224.0.0.0～239.255.255.255. It is recommended to use address

between 239.252.0.0 and 239.255.255.255.

SECURITY SETTINGS

GVR3550/GVR3552 security settings page is as shown in figure 55.

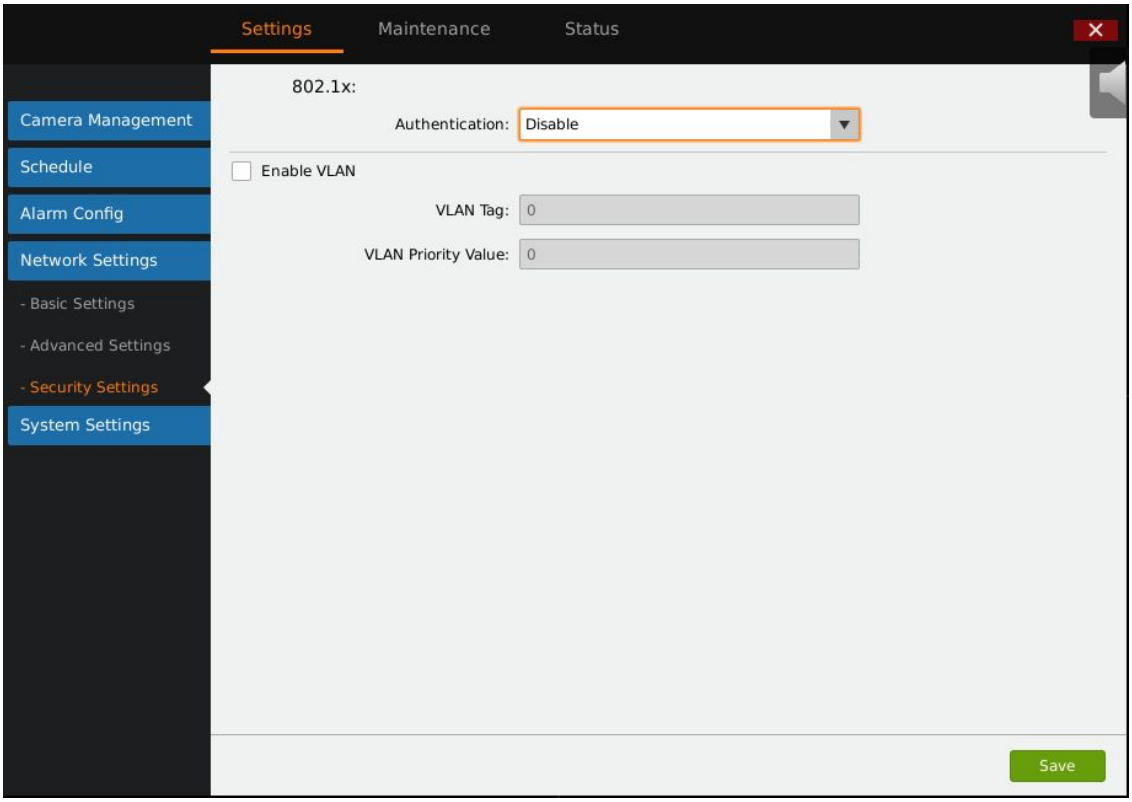


Figure 56 Security Settings Page

802.1x MODE

GVR3550/GVR3552 supports MD5 and EAP (PEAP).
Authentication: Set whether to to enable/disable 802.1x mode. Configures 802.1x authentication identity and other parameters when connecting to PBX. The default setting is "disabled".
When set authentication to "MD5", once enabled, the user would be required to enter the identity and MD5 password to be authenticated on the network.
When set authentication to "Protected EAP (PEAP)", once enabled, the user would be required to upload CA certificate and enter the identity and EAP (PEAP) password to be authenticated on the network.

Enable VLAN

VLAN Tag: Assigns the VLAN Tag of the Layer 2 QoS packets. The default value is 0, The valid range is 0～4095.

NOTE:

- *The port sequence should correspond to the router list.*

VLAN Priority Value: Assigns the priority value of the Layer 2 QoS packets. The default value is 0, The valid range is 0～7.

SYSTEM SETTINGS

System Settings includes Basic Settings, Date & Time, Display Settings, Local View Control, HDD Management, etc.

BASIC SETTINGS

Basic Settings page is shown in figure 56.

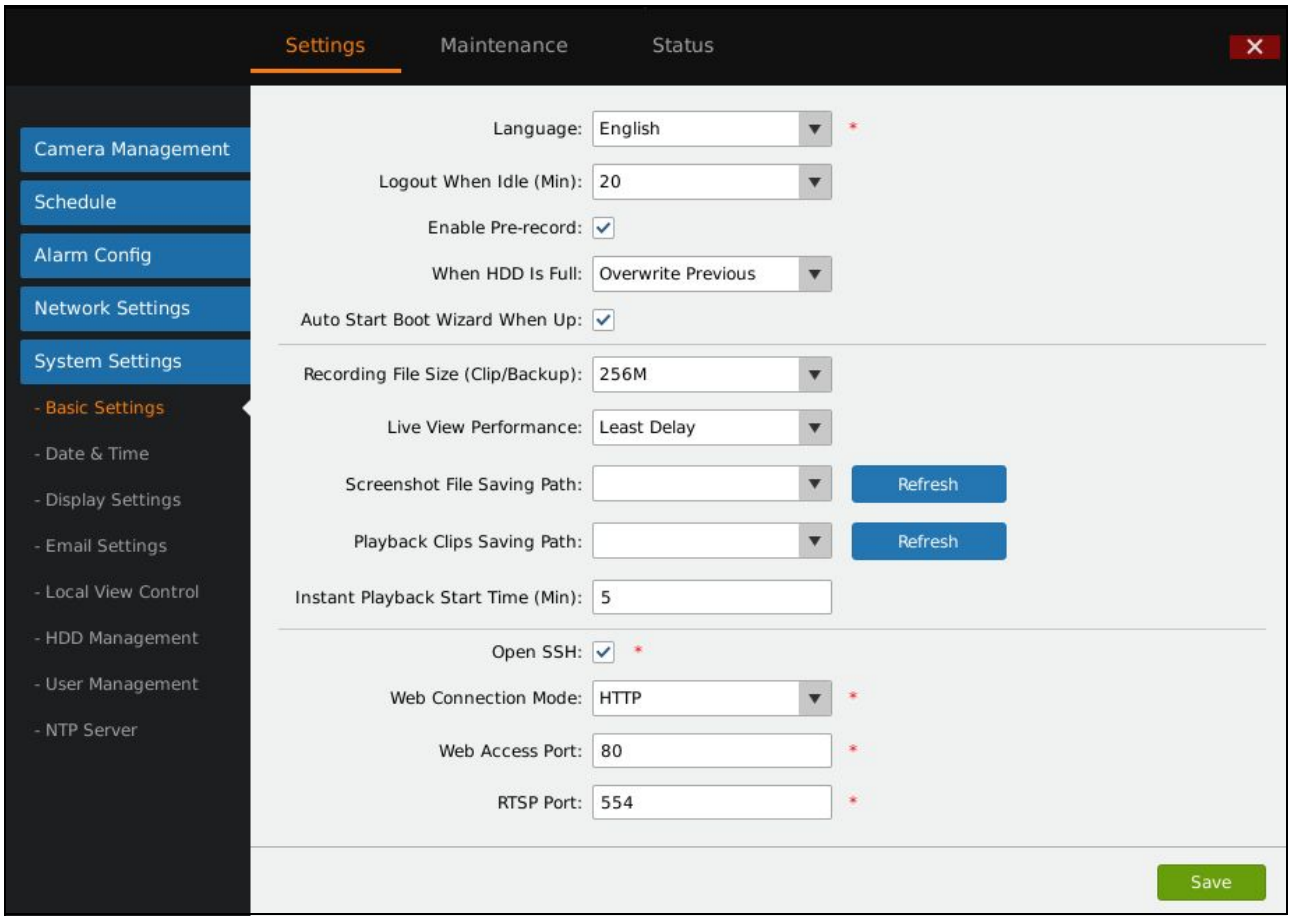


Figure 57 System Settings Page—Basic Settings Page

Table 28 GVR3550 Basic System Setting Parameters Explanation

Parameter	Explanation

Language	Set the language to English or simplified Chinese.
Logout when idle (Min)	Set the logout time when timeout. If logout, users need to login again to make operations except preview.
Enable Pre-record (s)	Set pre-record mode. Once enabled, users could view the video images a few seconds before alarm in alarm event. The pre-record durations vary according to different cameras settings.
When HDD Is Full	Set the record policy when HDD is full. "Overwrite Previous" means the new video will overwrite the earliest ones when HDD is full of videos. The default setting is "Stop Record".
Auto Start Boot Wizard When Up	Set whether to enable wizard when boot up. Once checked, the wizard will pop up for installation.
Recording File Size (Clip/Backup)	The file size of video (Clips/Backups).Users could choose 256M or 512M. The default settings is 256M.
Live View Performance	Set the preview performance to Least Delay, Best Fluency and Balanced. Least delay emphasizes the fluency of the video while best fluency emphasizes the real-time quality of the video. The default setting is "Least Delay".
Screenshot File Saving Path	Set the default path to save the screenshot file when preview and playback.
Videos and Playback Clips Save Path	Set the default path to save the clipping file when playback.
Instant Playback Start Time (Min)	Set the start time for instant playback. The default is 5 minutes.
Open SSH	Set whether to open SSH.
Web Connection Mode	HTTP or HTTPS, the default is HTTP.
Web Access Port	When set Web connection mode to HTTP, the default port is 80, the default port is 443 for HTTPS. Restart the device to make changes take effect.
RTSP Port	The default is 554.

DATE & TIME

See figure 57.

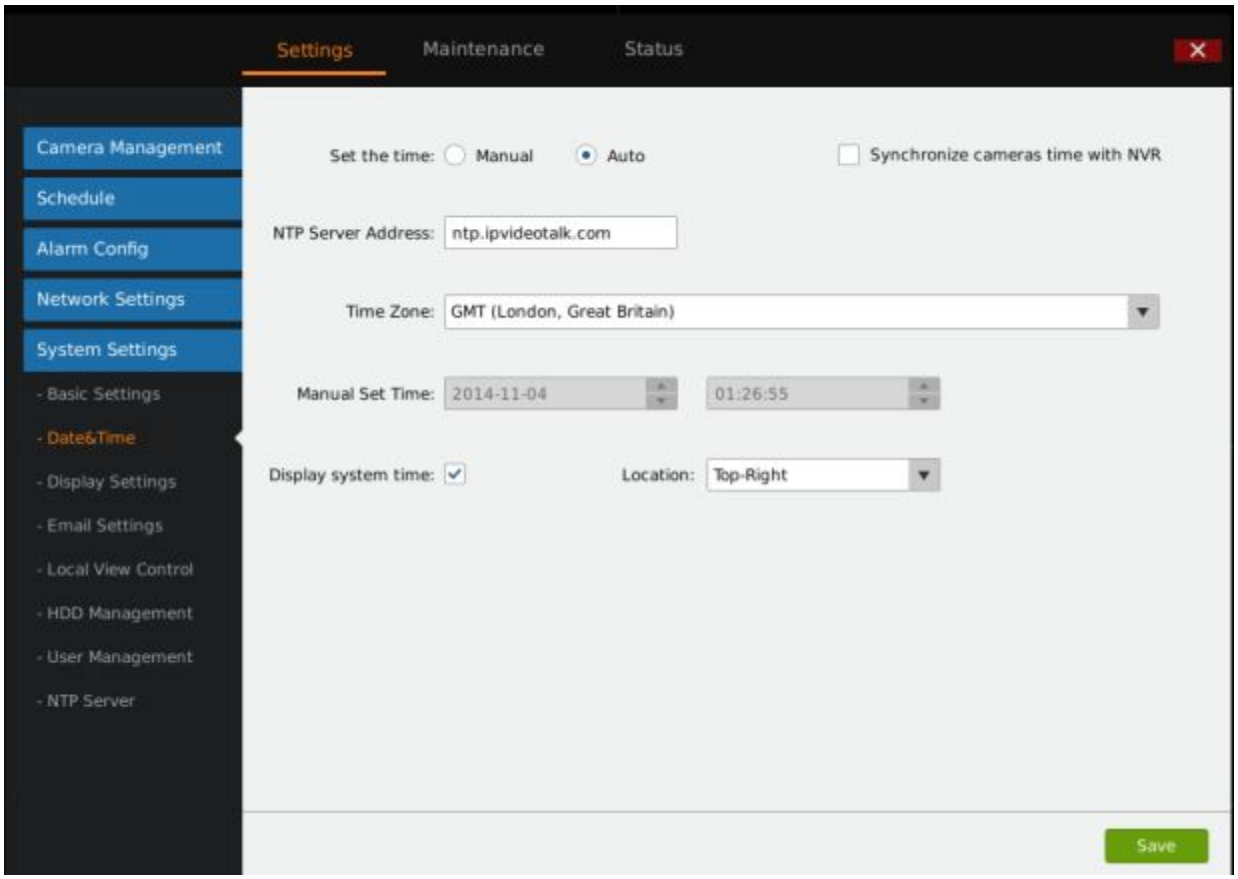


Figure 58 System Settings Page—Date & Time

Table 29 System Settings Page—Date & Time Parameters Explanation

Parameter	Explanation
Set Time	Users could manual set time or obtain time from the NTP server automatically.
Manual	Manual set time.
Auto	Obtain time automatically from NTP server.
Synchronize Camera Time with NVR	Synchronize the time on GVR3550 to the connected cameras.
NTP Server Address	Set NTP server to obtain time.
Time Zone	Manual set time zone.
Manual set time	Manual set time.

DISPLAY SETTINGS

Users could set output mode and adjust output value like brightness, contrast, saturation, sharpness of the connected display device.

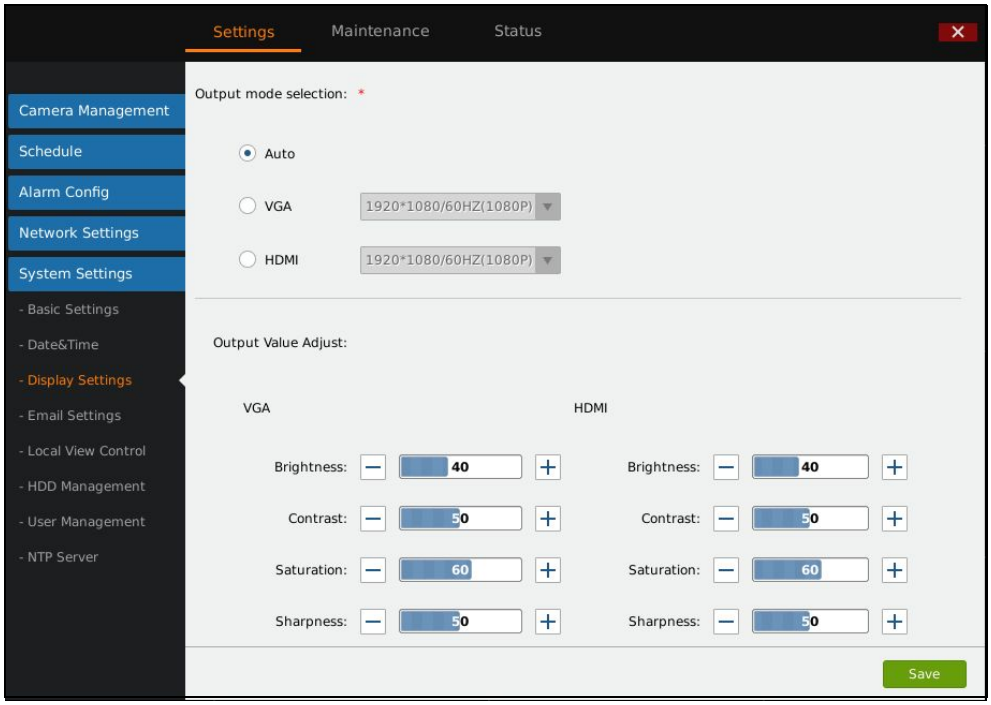


Figure 59 System Settings Page—Display Settings

Table 30 System Settings Page—Display Settings Parameters

Parameter	Explanation
Output Mode Selection	Users could select output mode: Auto, VGA, HDMI. The default setting is "Auto". • When set to "Auto", GVR3550 will automatically detect the display once reboots. It could identify 1024*768 resolution on VGA display device, or 1920*1080/60HZ (1080P), 1280*720/60HZ (720P), 1920*1080/50HZ (1080P), 1280*720/50HZ (720P), 720*576/50HZ (576P), 720*480/60HZ (480P) resolution on HDMI display device. Only identify HDMI device when connecting to VGA and HDMI device the same time. • When set to "VGA", configure mode according to the resolution the VGA display device supports. • When set to "HDMI", configure mode according to the resolution the HDMI display device supports. **Note**: If the resolution the display supports is not compatible with the one the GVR supports, it may cause display output failure.
Brightness	The reference range is 0~100.
Contrast	The reference range is 0~100.
Saturation	The reference range is 0~100.
Sharpness	The reference range is 0~100.

EMAIL SETTINGS

GVR3550/GVR3552 could end Email when triggered alarm.

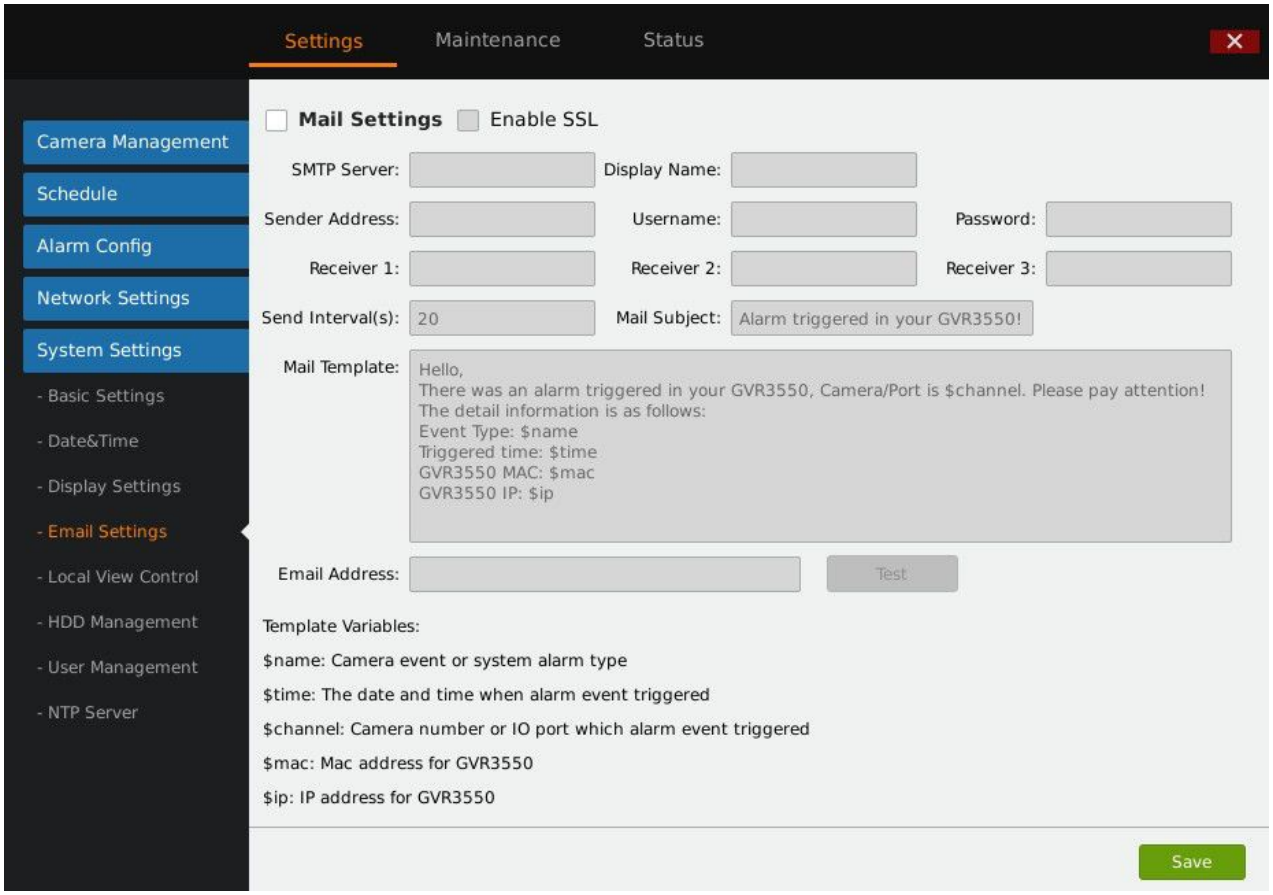


Figure 60 System Settings Page—Email Settings

Follow the steps to set Email:

1. Input SMTP server address;
2. Input display name, sender address, username and password;
3. Set receiver address. GVR3550/GVR3552 could set up to 3 receiver addresses. Users could send differ\ent alarms to different receivers;
4. Set send interval. All alarms in this interval will be sent together in one Email;
5. Input mail subject and template. Users could use default ones or custom them.

Input email address and click on "Test" to test if the configurations are effective.

Table 31 Email Template Parameters Specifications

Key Word	Explanation
$name	Alarm name.
$time	The time to trigger alarm.
$channel	The camera to trigger alarm.

$mac	MAC address of GVR3550
$ip	IP address of GVR3550.

LOCAL VIEW CONTROL

Users could set cameras and patrol time intervals, as shown in figure 60.

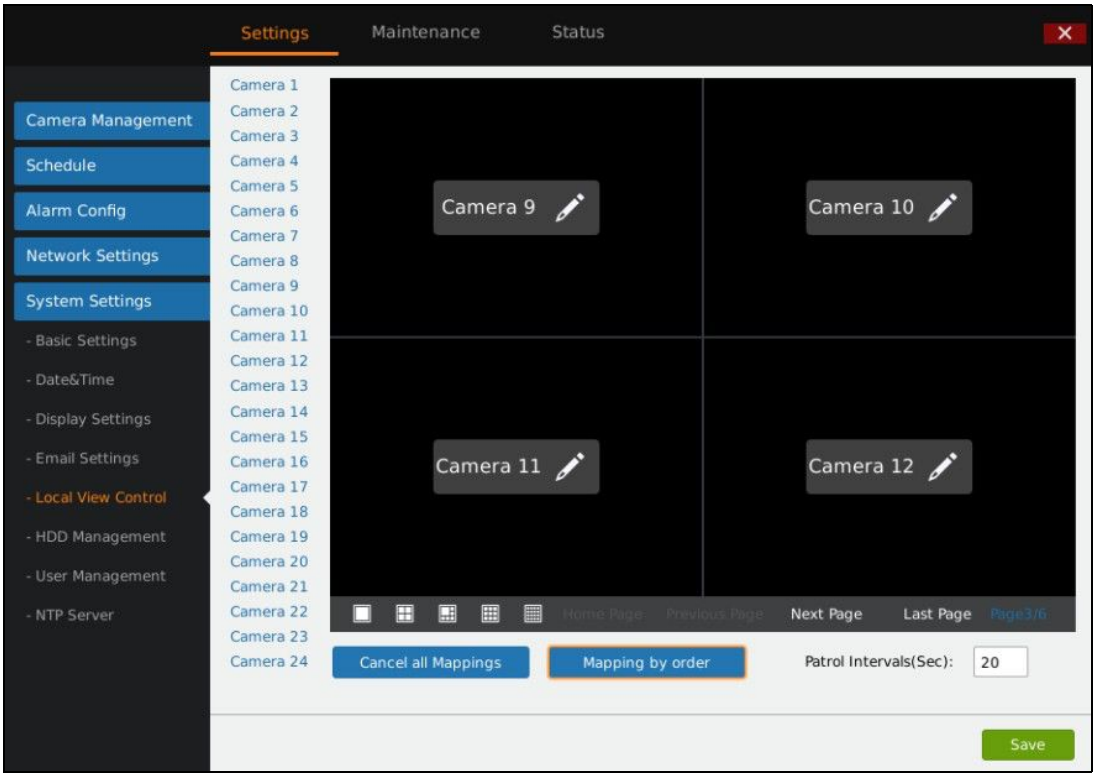


Figure 61 System Settings Page—Local View Control

The name of connected camera ill be displayed on the left list, as shown in figure 60. Click on to access the camera list page, check before the camera name to map the camera to certain screen as shown in figure 61.

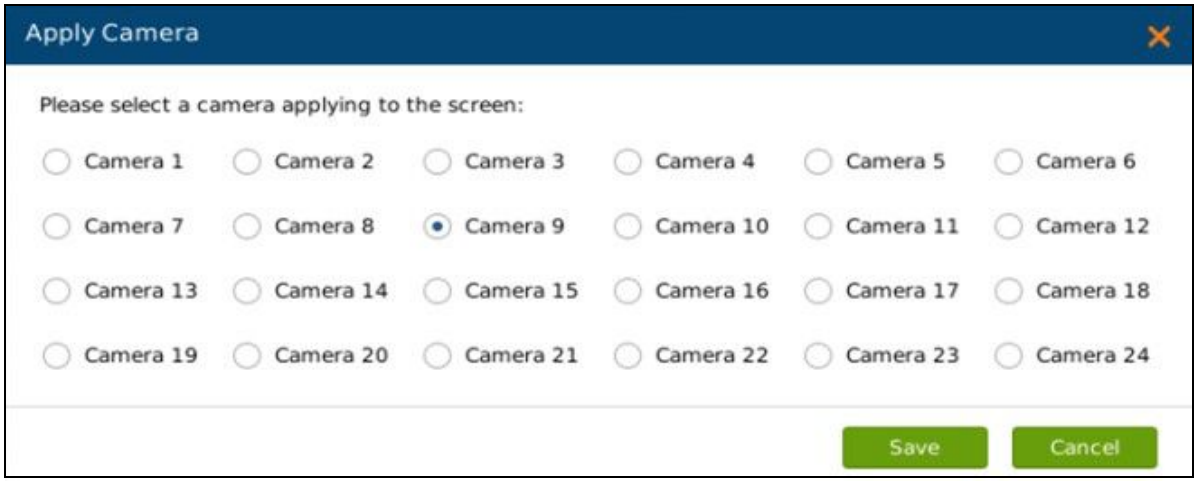


Figure 62 Local View Control—Apply Camera

HDD MANAGEMENT

HDD Management page is shown in figure 62. Users could view each HDD storage status or format HDD, erase data, configure attribution, etc.

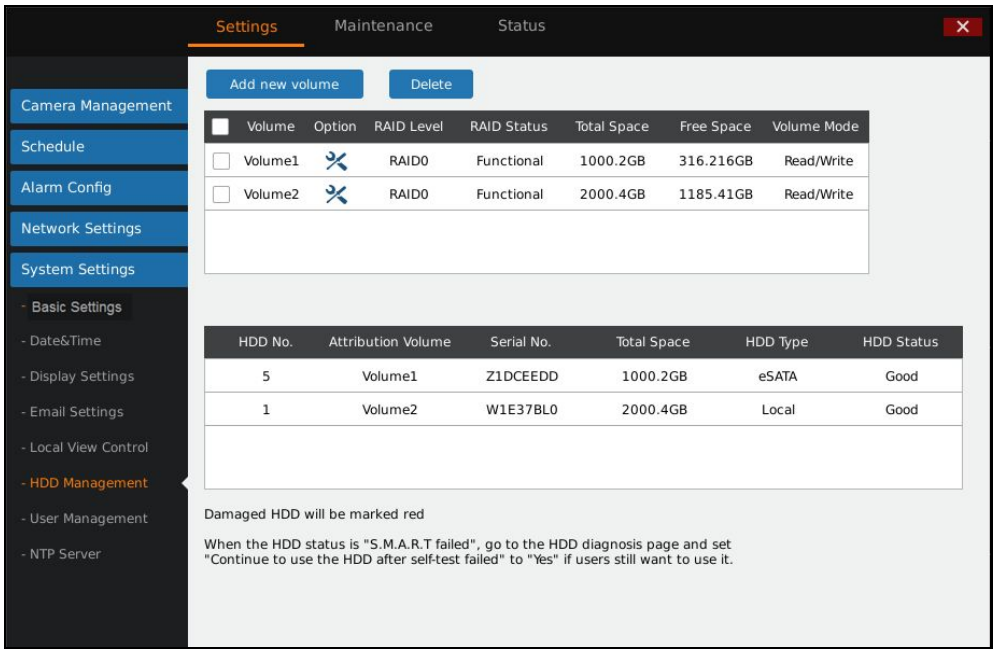


Figure 63 System Settings Page—HDD Management

Table 32 System Settings Page—HDD Management Parameters Explanation

Parameter	Explanation
Add New Volume	Access the detail page to set volume.

Delete	Delete existing volume. Please consider carefully before apply. Once deleted, the volume data will be all erased and could not be restored.
RAID Level	• RAID0 (Single HDD mode): To increase the reliability of HDD data. When an error occurs on file storage system, the HDD data could be restored. • RAID0 (Faster R & W speed, lower data security): Low security. Set two HDD (s) or more to RAID0, users could get the fastest read-write speed but cannot restore HDD data once an error occurs. • RAID1 (HDD backup each other): Full backup data. It requires at least two HDD (s) and the camera should not more than 16.

Add New Volume page is shown in figure 63.

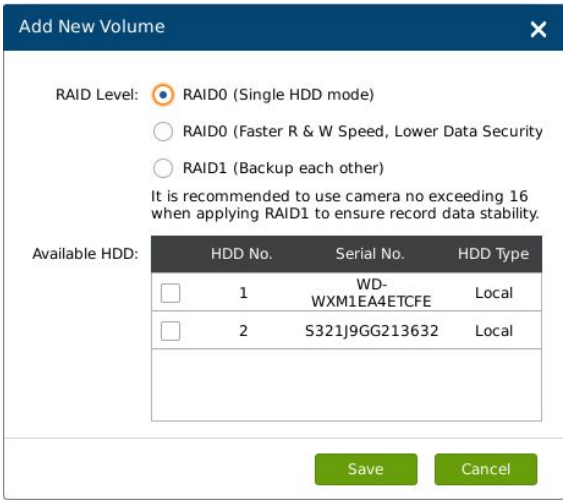


Figure 64 HDD Management—Add new Volume

Edit Volume Property page is shown in figure 64.

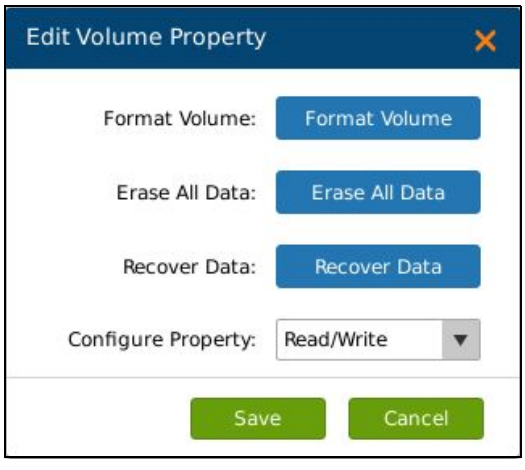


Figure 65 HDD Management—Edit Volume Property

NOTE:
- *It is recommended to add no more than 16 cameras to guarantee video data stability when using RAID1.*
- *It is recommended not to use RAID0 and RAID1 the same time.*

Table 33 Edit Volume Property Parameters Explanation

Parameter	Explanation
Format Volume	Users could format the existing volume, please consider carefully before apply. Once formatted, the volume data will be all erased and could not be restored.
Erase All Data	Users could erase all data of the existing volume, please consider carefully before apply. Once formatted, the volume data will be all erased and could not be restored other than the locked record.
Recover Data	Recover data when RAID is abnormal.
Configure Property	Set the property of existing volume to Read-Write or Read-only. The volume will not save video if set to Read-only.

USER MANAGEMENT

GVR3550 could add up to 30 users .Users can be operator or normal user. As shown in figure 65.

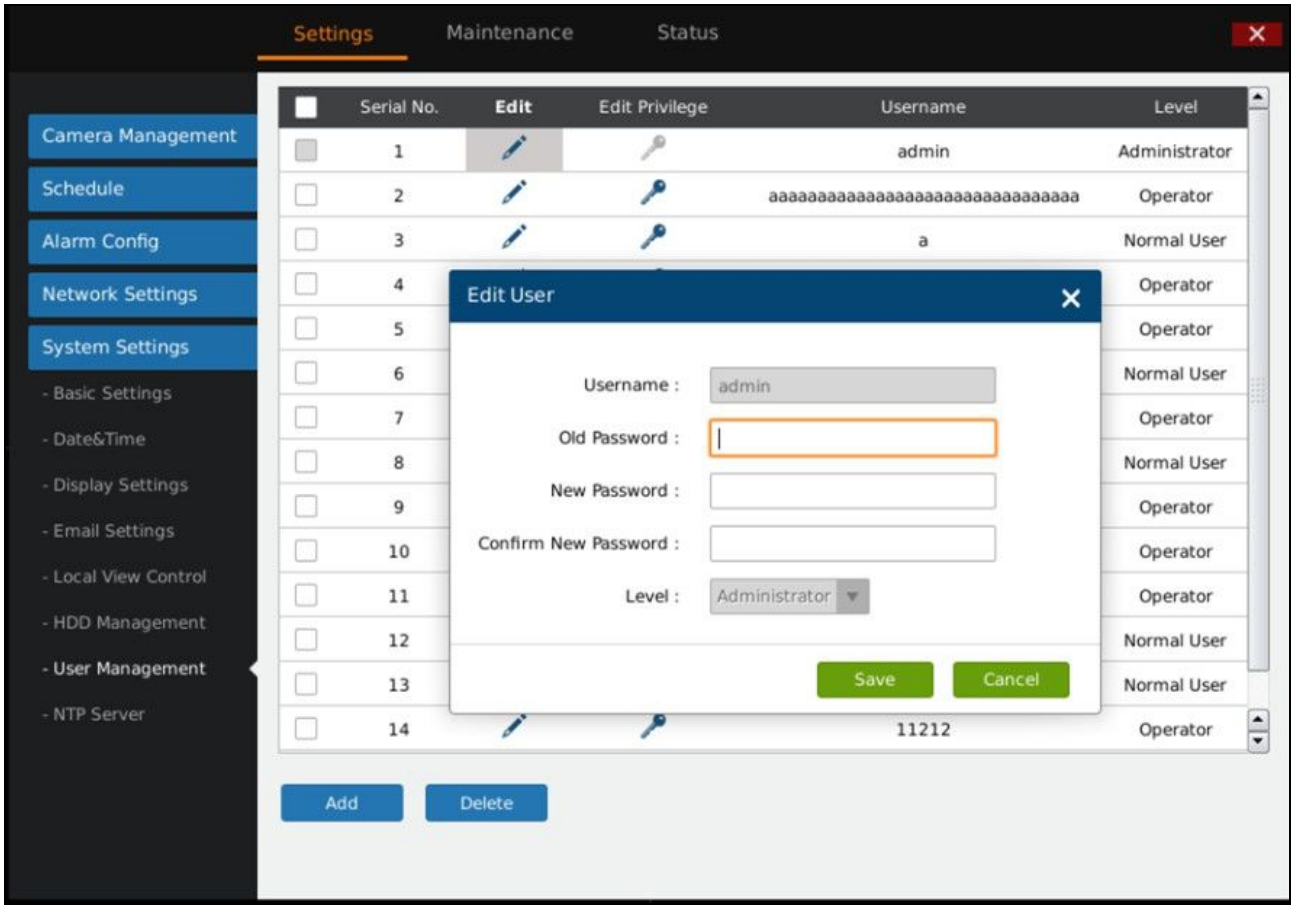


Figure 66 System Settings Page—User Management

NOTE:

- *Only administrator user has the authority to access user management.*

ADDING A USER

Click "Add" to bring up the page as shown in figure 66. Input username, password and select level as operator or normal user.

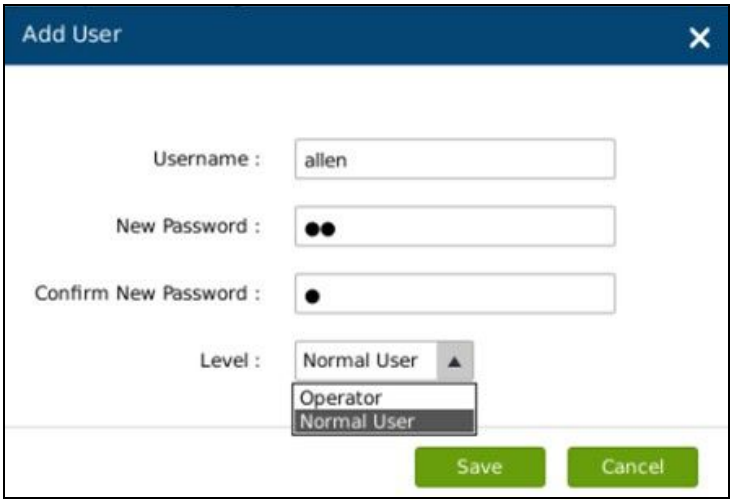


Figure 67 User Management—Add User

Click on the "Save" button to save.

INPUT USER INFO AND EDITING AUTHORITY

The new user authority is default, users could modify the user information and authority by clicking on and . See figure 67. Users could modify new password and user level.

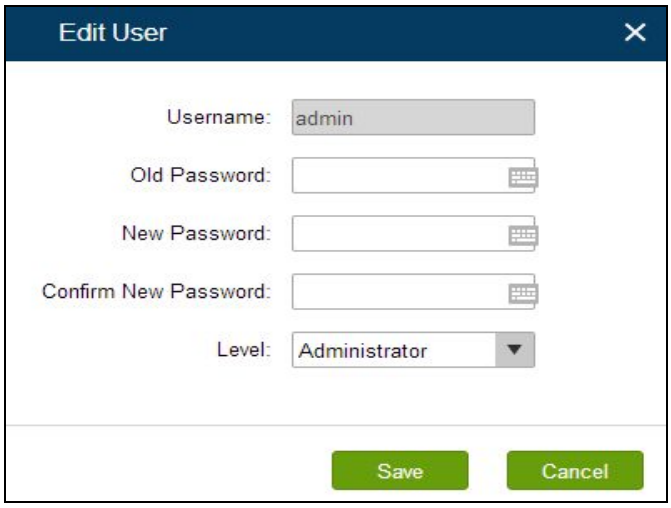


Figure 68 User Management—Edit User

The normal user only has camera privilege like playback and remote preview. Check to set. See figure 68.

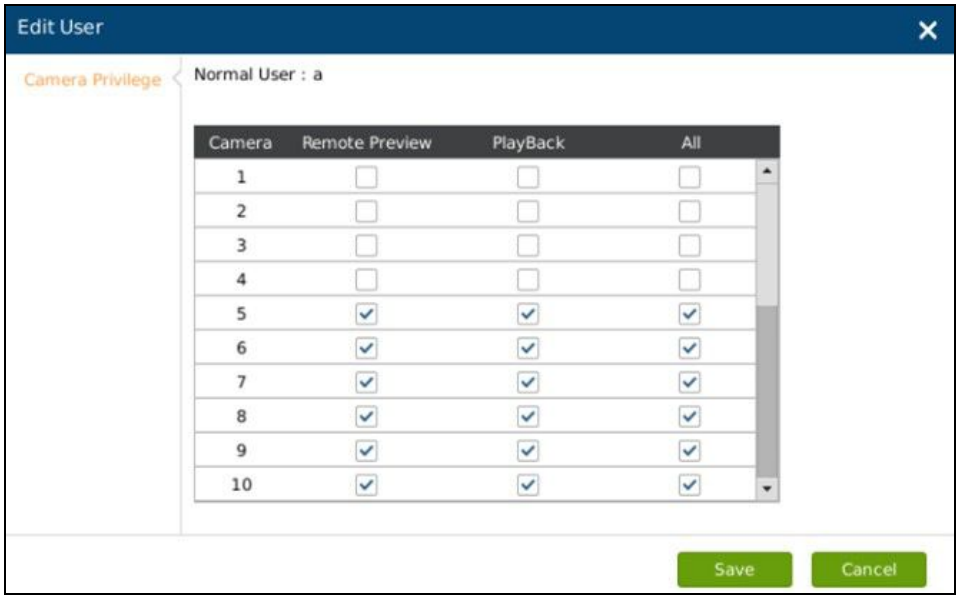


Figure 69 User Management—Edit Normal User

Besides camera privilege, the operator user also has configure privilege. Check to set. See figure 69.

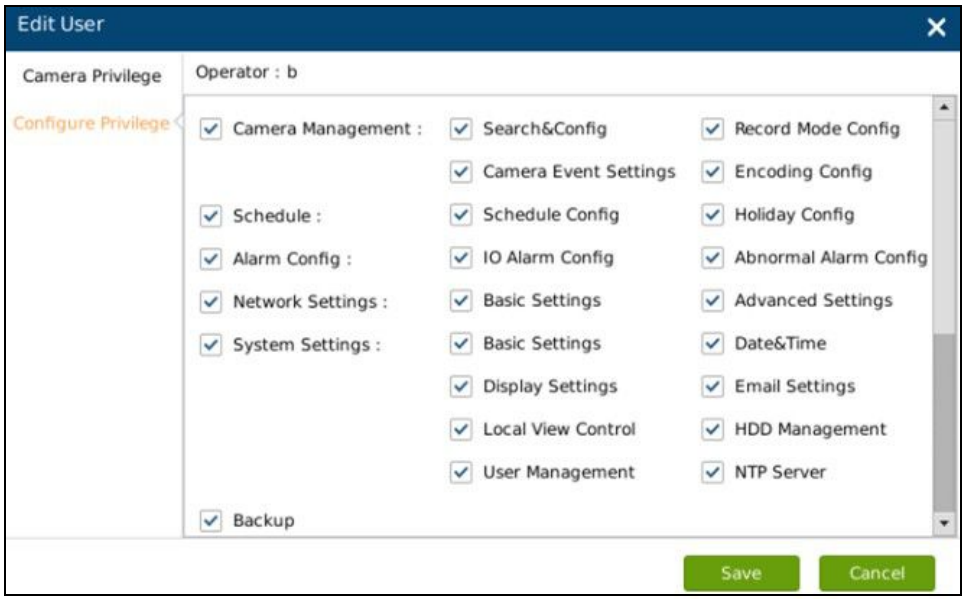


Figure 70 User Management—Edit Operator User

NOTE:

- *All users have the permission to access local preview by default. Local preview has no access restrictions.*

DELETING A USER

All user accounts can be deleted except the administrator account. Check the user you want to delete then click on the "Delete" button below the page to delete.
Privilege Specifications:
Administrator. All privilege by default.
Operator.Camera privilege and part of configure privilege except User Management, Upgrade, Reset and Import & Export.
Normal User. Part of Camera Privilege except Manual Operation.
Camera Privilege. Remote Preview, Manual Operation, Playback.
Configure Privilege. Camera Management, Schedule, Alarm Config, Alarm Settings, Network Settings, System Settings, etc.

NTP SERVER

GVR3550/GVR3552 could provide other devices in LAN with NTP service. Check "Enable NTP Server". See figure 70.

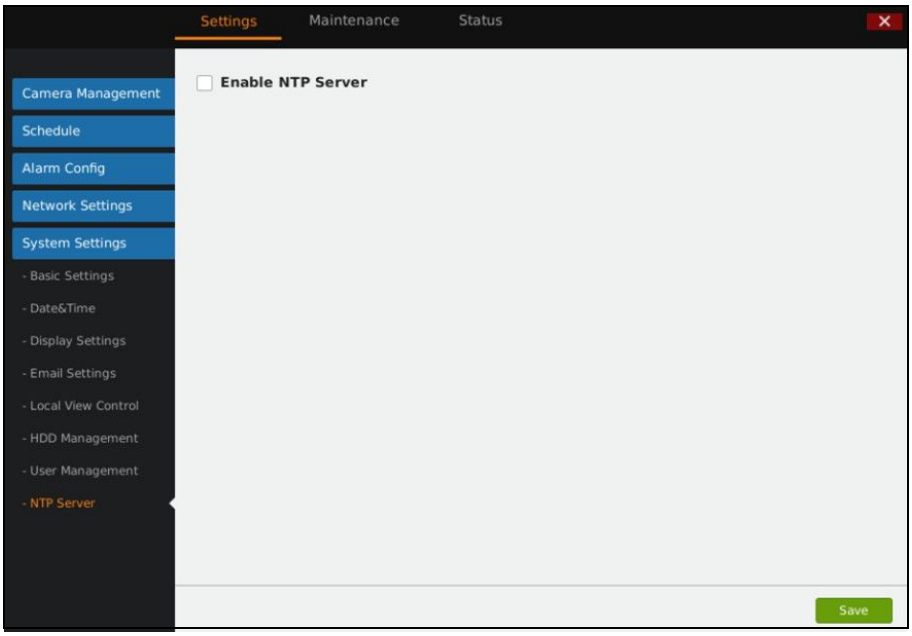


Figure 71 System Settings Page—NTP Server

MAINTENANCE

Maintenance includes Upgrade, Backup, Reset & Reboot, Import & Export and Troubleshooting.

UPGRADE

GVR3550/GVR3552 supports upgrade via TFTP / HTTP / HTTPS and Manual Upload.

Table 34 Upgrade Parameters Explanation

Parameter	Explanation
Upgrade Via	Firmware upgrade via TFTP / HTTP / HTTPS or Manual Upload. The default setting is "HTTP".
Firmware Server Path	IP address or domain name when upgrade server, only available when the upgrade mode is TFTP / HTTP / HTTPS.
Firmware File Path	Upgrade local firmware file to upgrade device.
Firmware File Prefix	Enables your ITSP to lock firmware updates. If configured, only the firmware with the matching encrypted prefix will be downloaded and flashed into the device.
Firmware File Postfix	Enables your ITSP to lock firmware updates. If configured, only the firmware with the matching encrypted postfix will be downloaded and flashed the device.
DHCP Option 66 Override Server	The default is "No". If check "Yes", the device will obtain IP address and firmware upgrade server address via DHCP (configured via DHCP).The address will override the path the "Firmware Server Path" specifies to fulfill auto deployment.

	The upgrade will use force TFTP.

BACKUP

GVR3550/GVR3552 supports quick backup record and search backup record. Users could choose the camera and set the record time for quick backup, or search file for backup via record type, file type or record time. See figure 71.

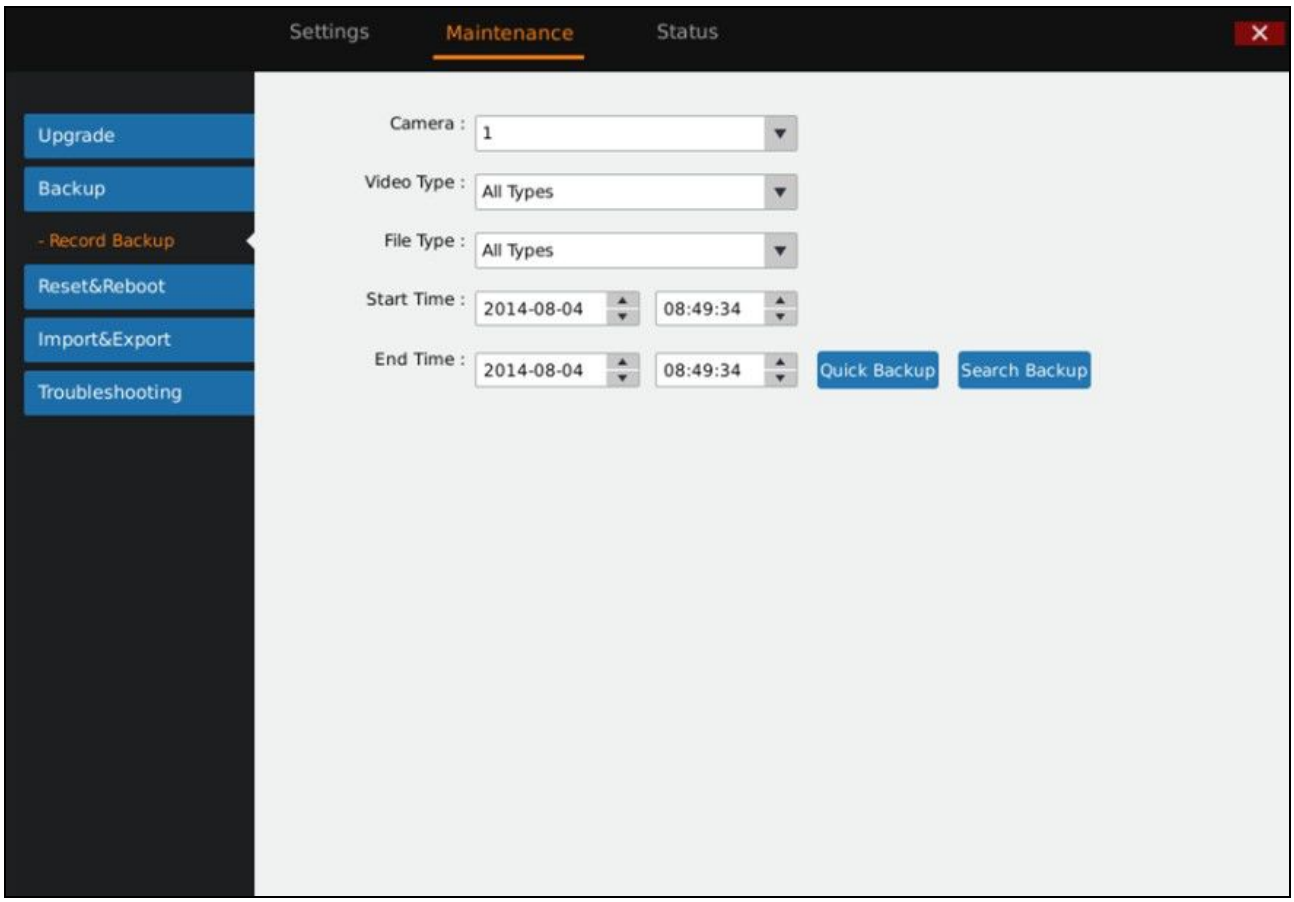


Figure 72 Backup Page—Record Backup

NOTE:

- *Quick backup video and search backup video only support local.*

QUICK BACKUP

1. Select camera and input record type, file type, start time and end time, click on the "Quick Backup" button.
2. Access the Backup page as shown in figure 72. Click on the "Refresh" button to refresh the device name that saves the file.

Figure 73 Backup Page—Quick Backup Page

3. Click on the "Backup" button to export all files.

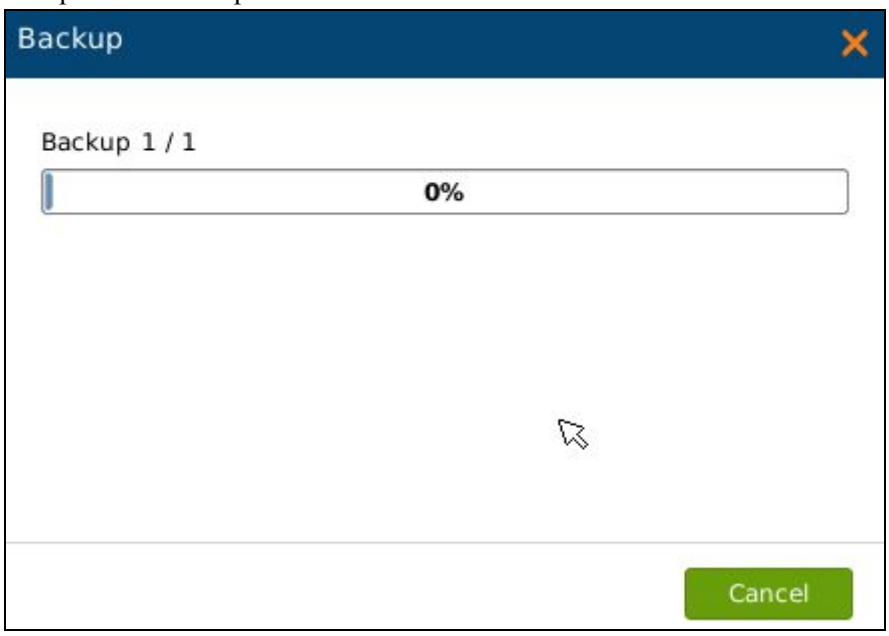


Figure 74 Backup Page—Quick Backup Progress Bar

SEARCH BACKUP

1. Select camera and set record type, file type, record time.
2. Click on the "Search Backup" button to enter the corresponding page as shown in figure 74. Users could also click on ⊙ to playback record.

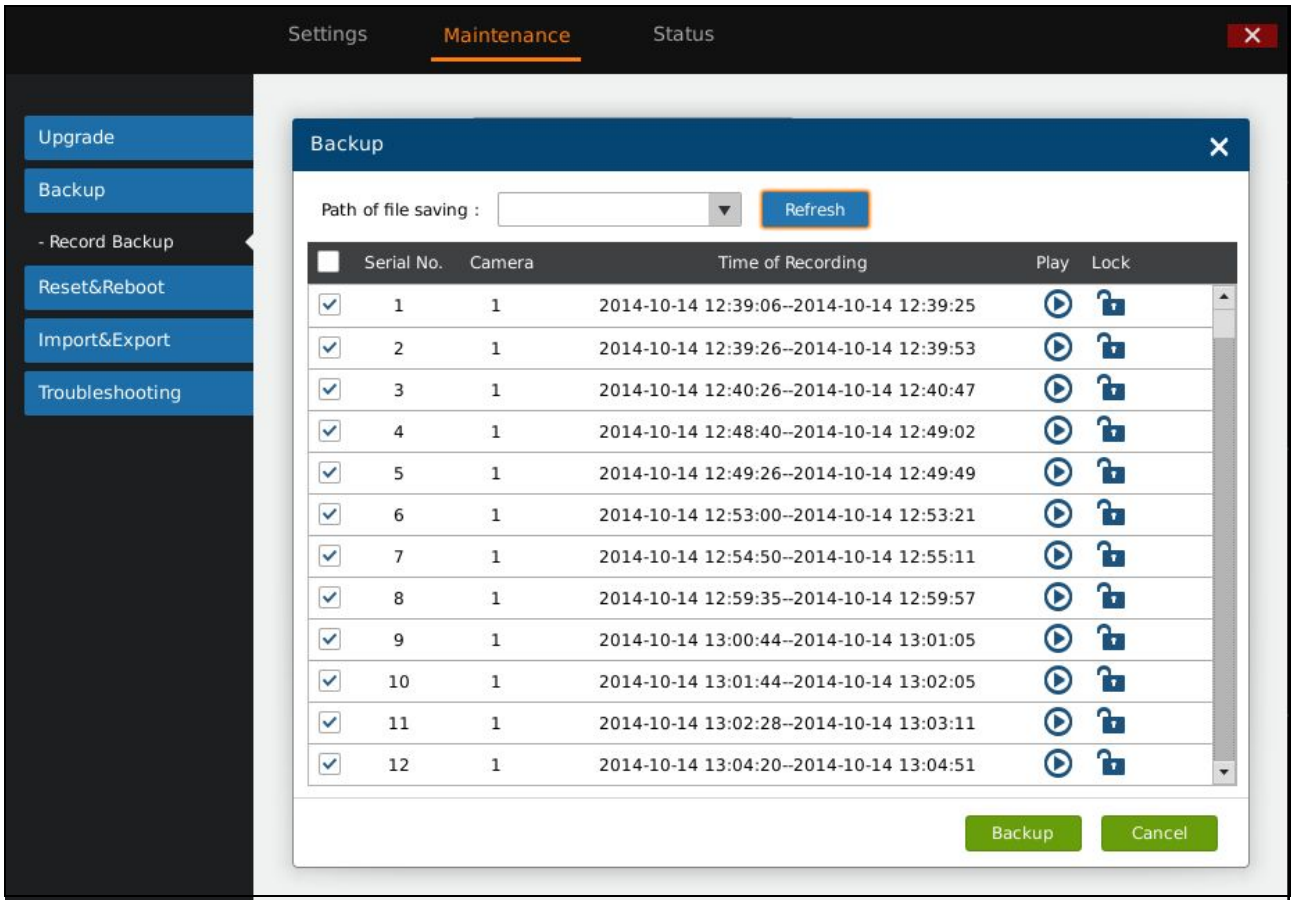


Figure 75 Backup Page—Search Backup

3. Check the video and click on the "Backup" button to enter the backup page to export all files.

NOTE:

- *Please click on the "Refresh" button if the USB device cannot be detected after inserting. If the refresh is invalid, please unplug the USB then insert again. If still failed, the reason might be the USB is not incompatible with GVR3550. Please try another USB device instead.*
- *If the file format of USB device is incorrect, format USB then try again. GVR3550 supports FAT32 or NTFS format USB storage devices..*

RESET & REBOOT

Click on the "Reboot" button to boot up. To reset factory settings, users could select "Clear All Data" or "Retain Network Data Only" then click on "Reset" button. Restore factory settings will not affect HDD storage.

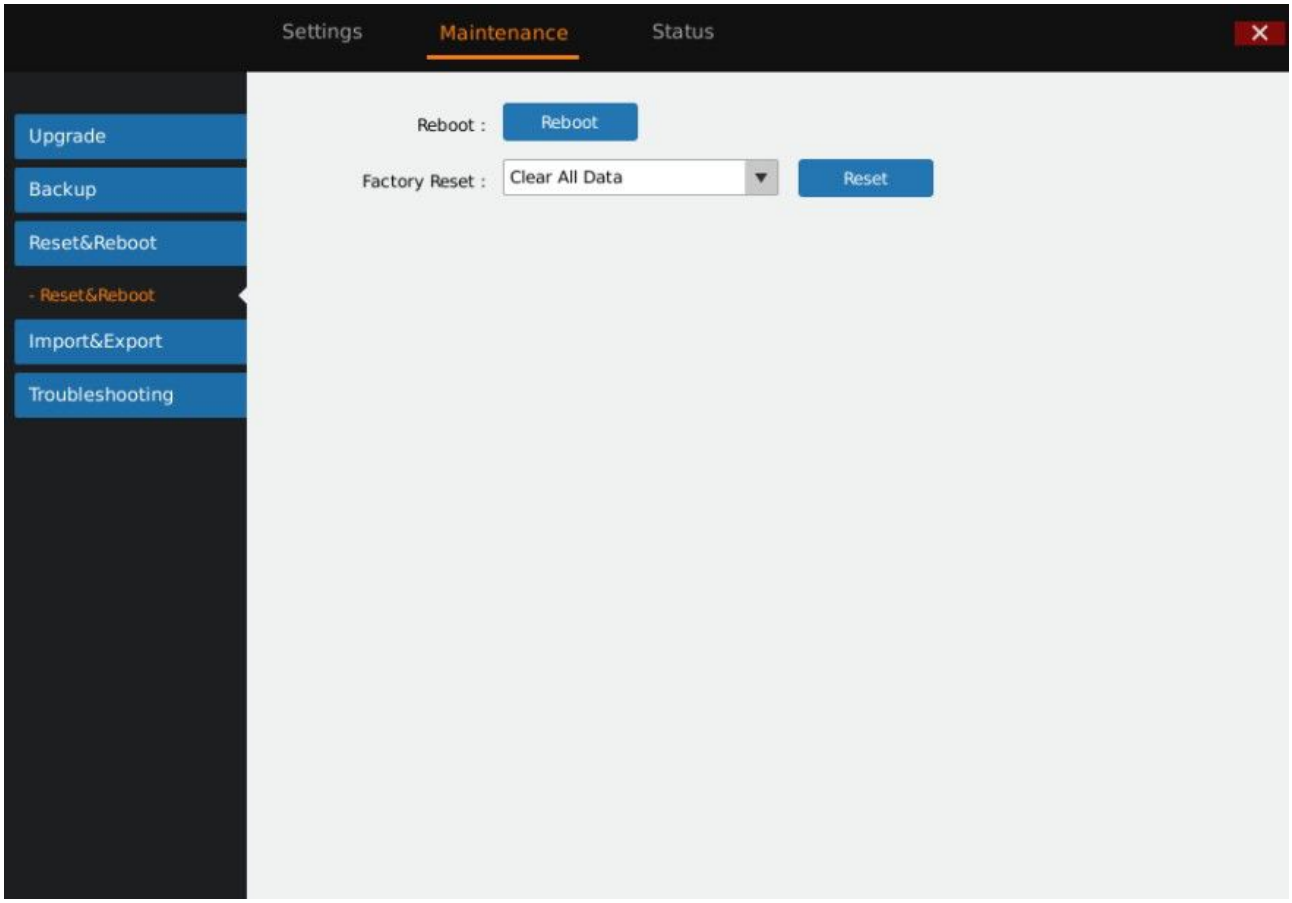


Figure 76 Reset & Reboot Page

Warning!

- *GVR3550 data will be erased and set to factory default if enable Factory Reset, please take caution to use this function.*

IMPORT & EXPORT

GVR3550/GVR3552 supports import/export configuration file. Users could import GVR3550/GVR3552 configuration file to external storage device for backup, or import the file to the GVR3550/GVR3552 thus to reduce manual settings procedures. Users could apply configuration backup function if need to configure the same parameters on multiple devices. The Import/Export page is shown in figure 76.

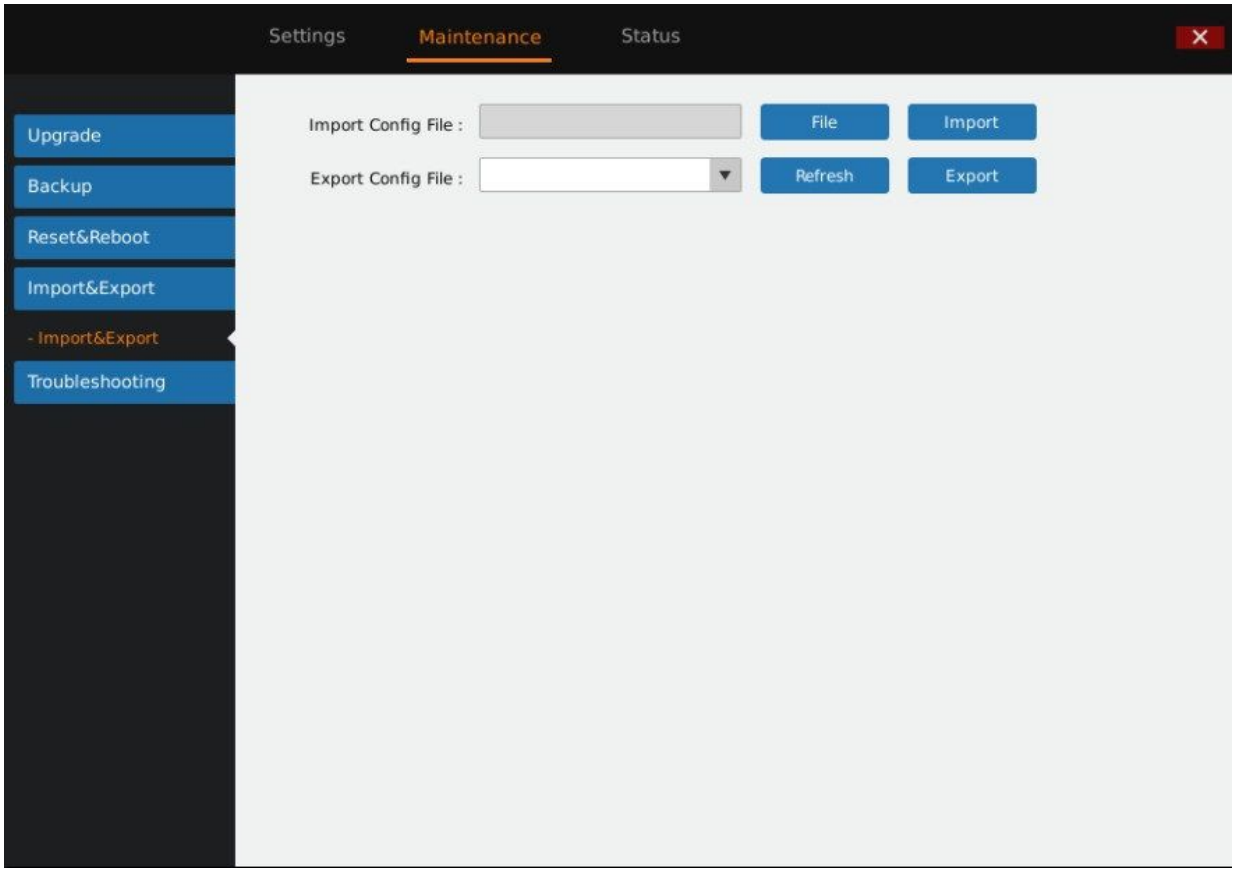


Figure 77 Import & Export Page

Warning!

- *Restart GVR3550/GVR3552 to make changes take effect after importing configuration file. The original file would be overwritten by the new one, please use this function with caution.*

Table 35 Import & Export Parameters Explanation

Parameter	Explanation
Import Configuration File	Select the configuration file.
Import	Click to bring up the warning page, confirm whether to reboot GVR to make changes take effect.
Export Configuration File	Browse to select the path to export configuration file.
Export	Click to export the configuration file to external storage device.

TROUBLESHOOTING

Troubleshooting includes Network Diagnosis, System Log and Debug Log.

NETWORK DIAGNOSIS

Network diagnosis includes network test and packet capture. See figure 77 below.

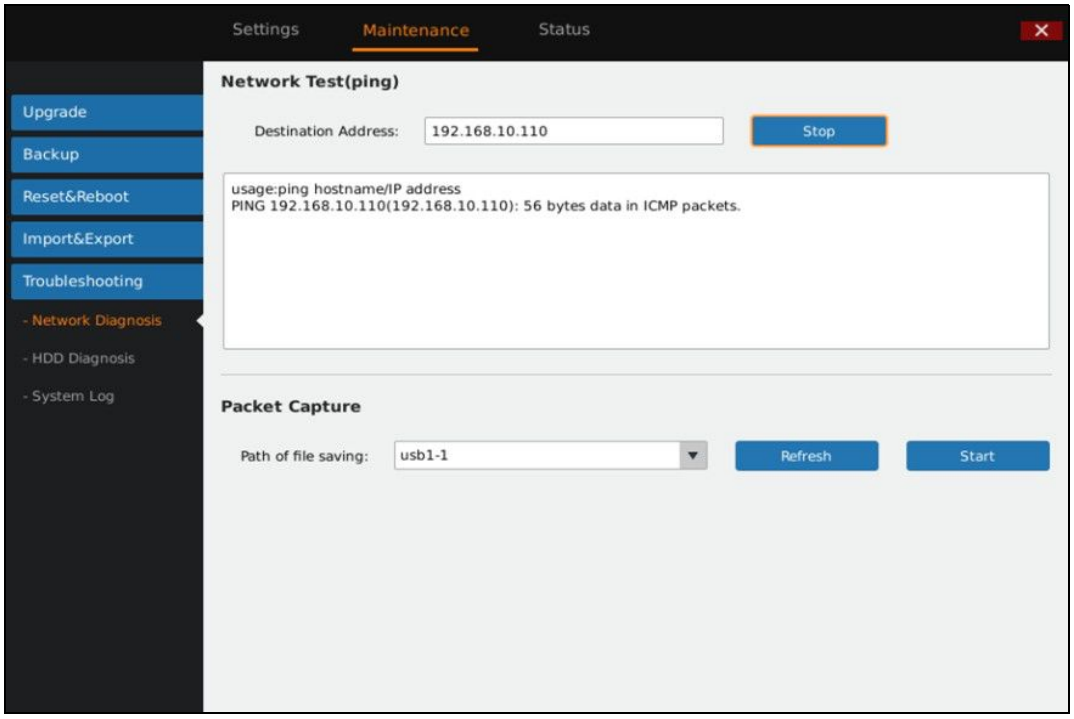


Figure 78 Network Diagnosis Page

Table 36 Network Diagnose Parameters Explanation

Parameter	Explanation
Network Test (Ping)	Input the destination address, click on "Start" to initiate test, click "Stop" to end test.
Diagnose Output	Display the diagnosis result of GVR3550 and the destination IP address.
Path of File Saving	Display external device, users could choose one if there are multiple choices.
Refresh	Display the new external device.
Start/End	Click to start capture. The capture file will be saved in the root directory of selected external device. Click "Stop" to end capture.

HDD DETECTION

GVR3550/GVR3552 provides S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) detection and bad sector detection. Users could view HDD running status via HDD detection.
S.M.A.R.T detection provides detection like HDD heads, temperature, material of disk surface and forecasting the underlying problems of HDD that may occur in time.
S.M.A.R.T detection page is as shown in Figure 78 below.

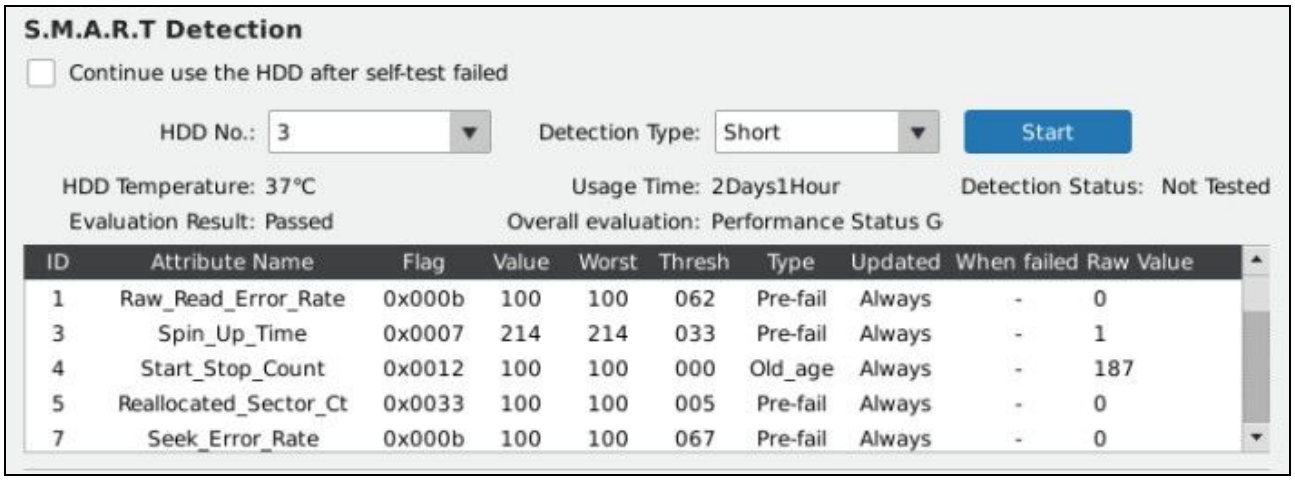


Figure 79 S.M.A.R.T. Detection Page

Table 37 HDD S.M.A.R.T Detection Parameters Explanation

Parameter	Explanation
Continue Use the HDD after Self-test Failed	Continue to use the HDD if self-test failed in the process of S.M.A.R.T. Detection. **Note**: Once enabled, it may cause HDD error, please be careful!
HDD No.	HDD Number 1-4 will be allocated in sequence after HDD installation, the number will not be changed in the subsequent use.
Detection Type	Set S.M.A.R.T. detection type: Short, Long, Conveyance.
Start	Click the button to start S.M.A.R.T. detection.
HDD Temperature	Display HDD temperature S.M.A.R.T detection detected.
Usage Time	Display total HDD usage time S.M.A.R.T detection detected.
Detection Status	S.M.A.R.T detection results.
Evaluation Result	S.M.A.R.T detection results on HDD status.
Overall Evaluation	Display overall HDD status after detection.

The HDD bad sector could be detected via bad sector detection as shown in figure 79.

Figure 80 HDD Bad Sector Detection Page

Table 38 HDD Bad Sector Detection Parameters Explanation

Parameter	Explanation
HDD No.	HDD Number 1-4 will be allocated in sequence after HDD installation, the number will not be changed in the subsequent use.
Start	Click the button to start bad sector detection.
HDD Capacity	Display total HDD capacity.
Block Capacity	Display HDD block capacity.
Status	Display bad sector detection status: Testing, Test Paused or Not Tested.
Error Count	Display how many HDD errors exist in.
Pause/Continue	Pause/Continue bad sector detection.
Stop	Stop bad sector detection.
Error Info	Display error details after detection.
HDD Status Display	Tag HDD status with various colors: Good, Damaged.

SYSTEM LOG

Users could view GVR3550/GVR3552 running status. See figure 80.

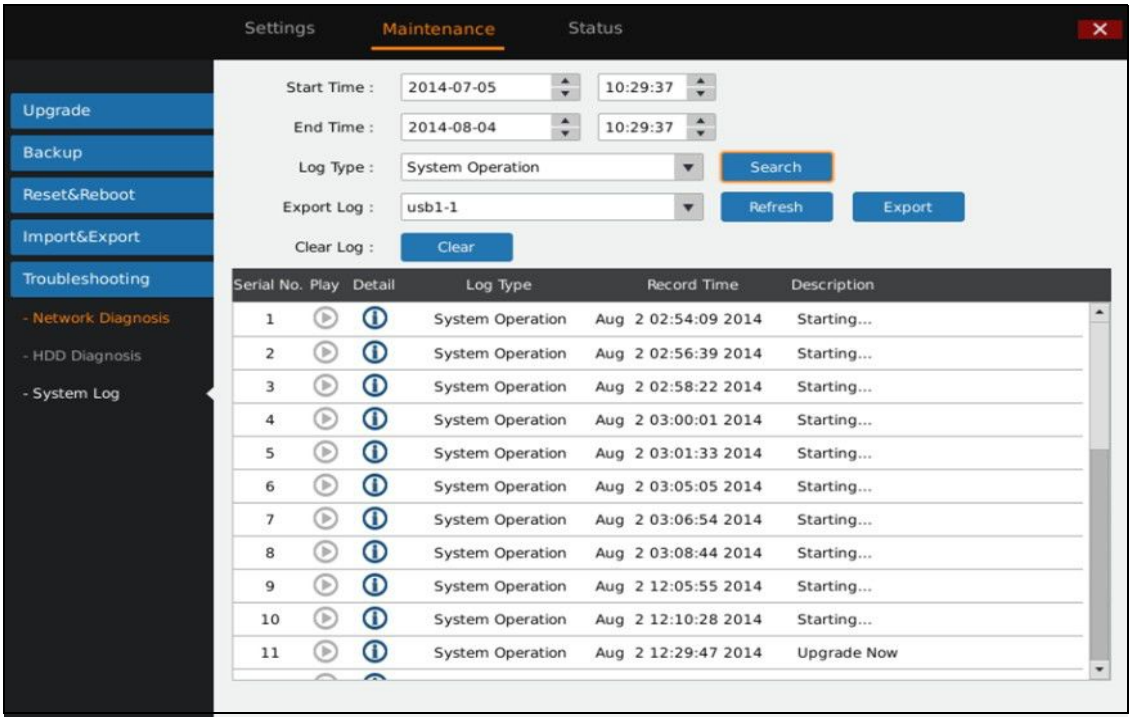


Figure 81 System Log Page

Table 39 System Log Parameters Explanation

Parameter	Explanation
Start Time	Search log start time.
End Time	Search log end time.
Log Type	All Types, System Operation, Configure Operation, Data Management, Alarm Event, Recording Operation, User Management, Clear Log and File Operation.
Search	Click to search log and display it in the log list.
Export Log	Export the log and save it to the target path.
Clear Log	Click "Clear" to clear syslog.
Playback	When the syslog type is alarm event, the playback button is blue. Click the button to playback the video.
Details	Click to view the log details.

STATUS

Status includes Recording Info, System Info, Network Info, Resource Usage, Alarm Info and HDD Info.

RECORDING INFO

User could view the connected camera status and the schedule record on GVR3550/GVR3552. See figure 81.

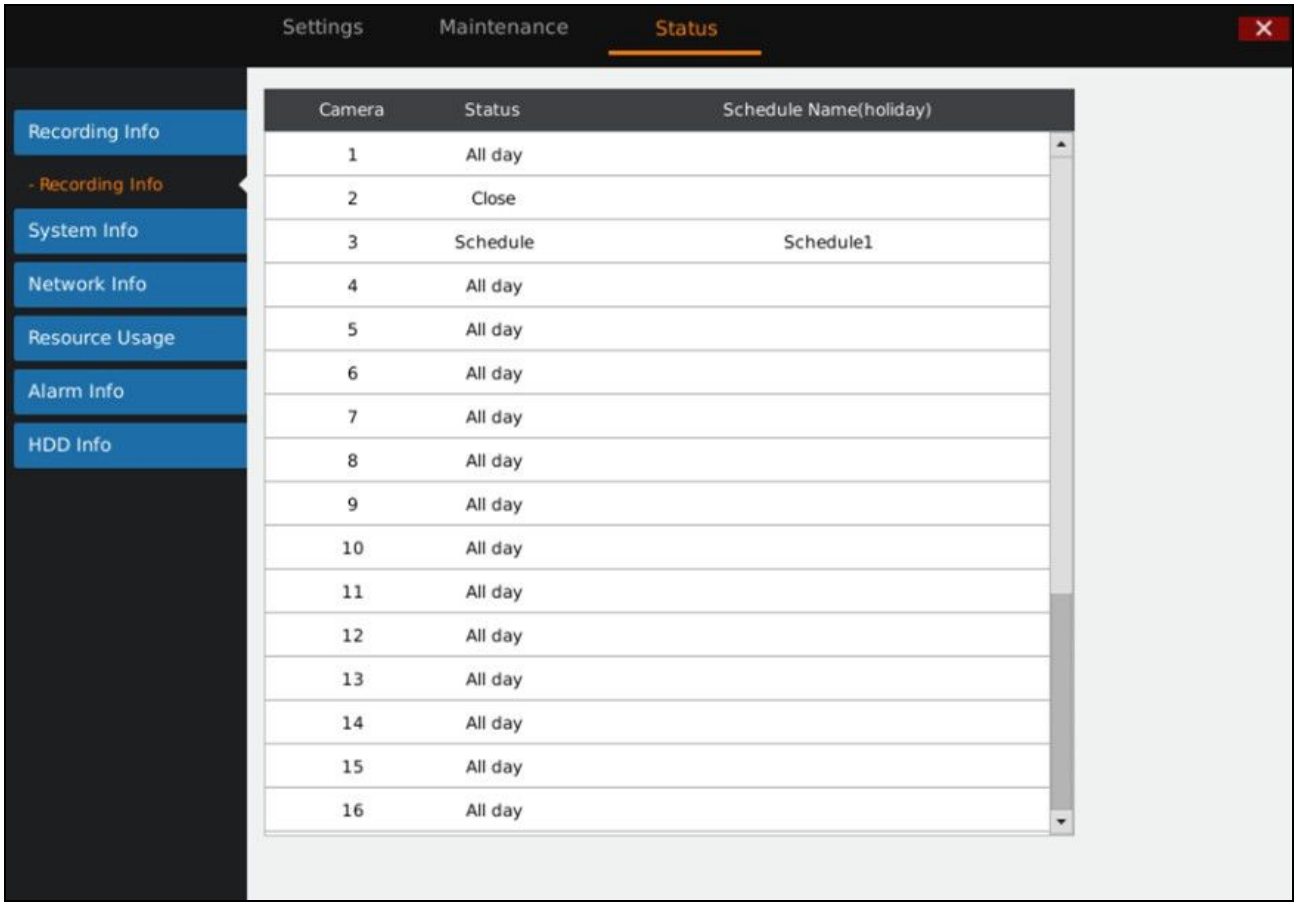


Figure 82 Recording Info Page

SYSTEM INFO

Users could view GVR3550/GVR3552 part number and hardware version as shown in Figure 82.

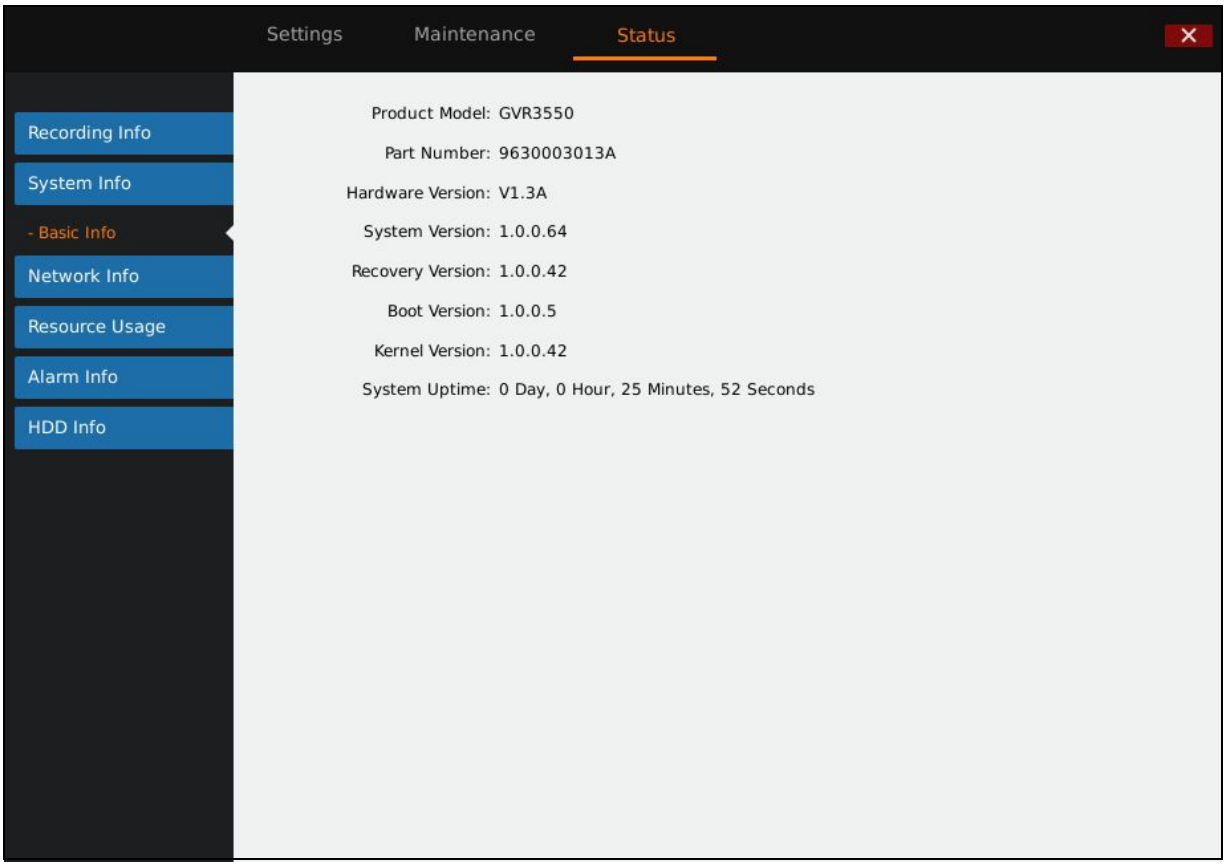


Figure 83 System Info Page

NETWORK INFO

Users could view address type, IP address, and LAN data Sending & Receiving status. As shown in figure 83.

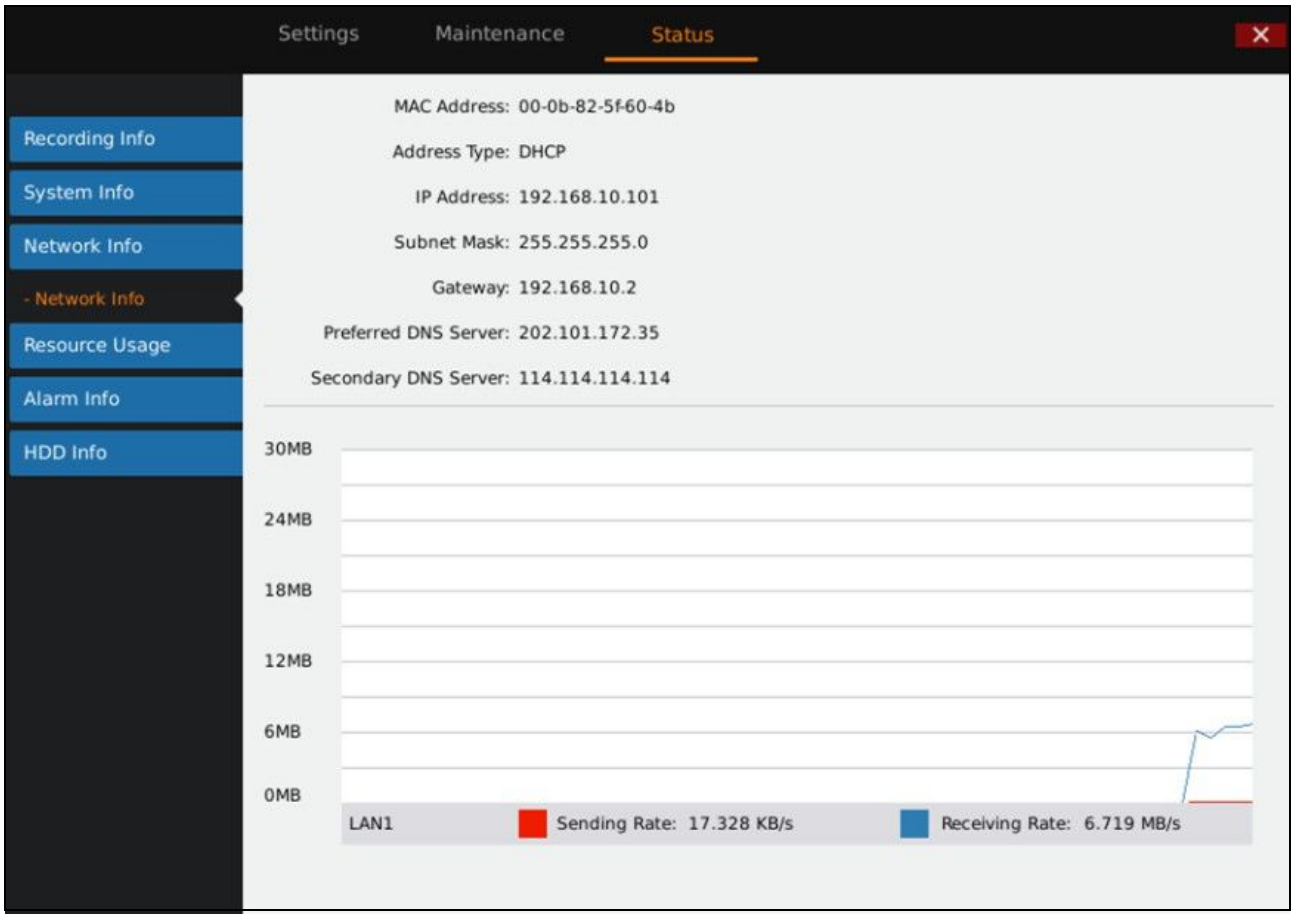


Figure 84 Network Info Page

RESOURCE USAGE

Users can view CPU usage and memory usage as shown in figure 84.

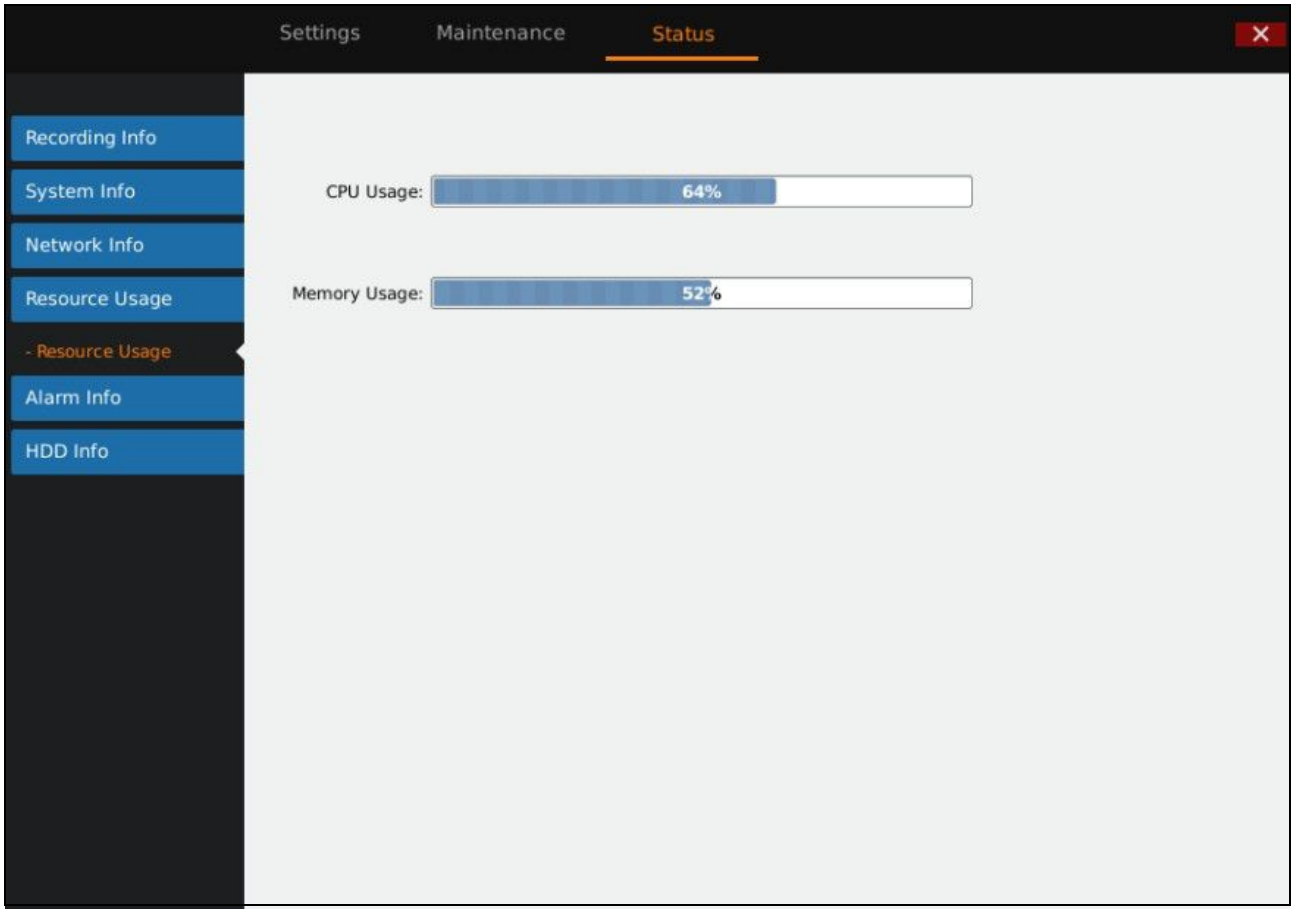


Figure 85 Resource Usage Page

Table 40 Device Status Parameters Explanation

Parameter	Explanation
CPU Usage	Real-time display GVR3550 CPU usage status.
Memory Usage	Real-time display GVR3550 memory usage status.

ALARM INFO

Users can view alarm types of cameras. As shown in figure 85.

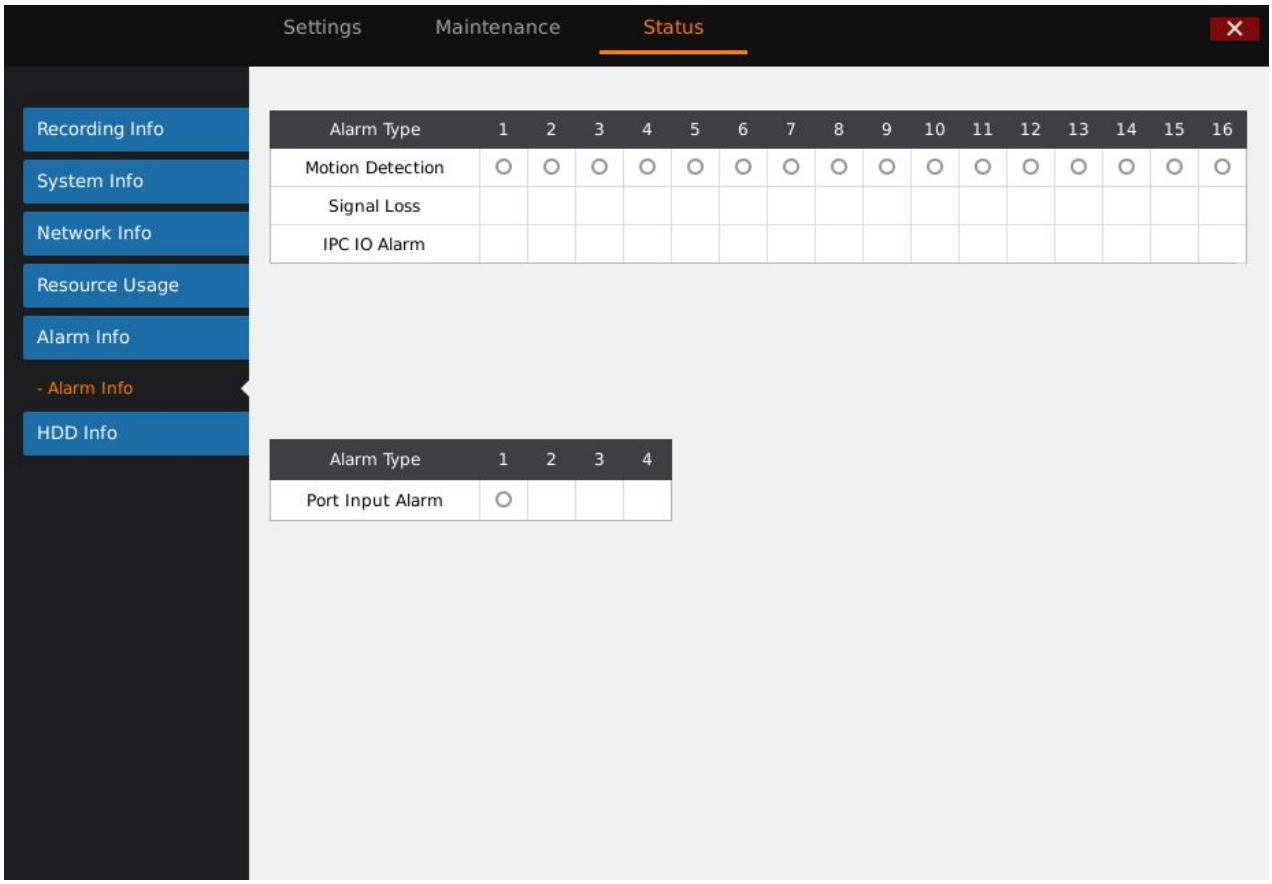


Figure 86 Alarm Info Page

HDD INFO

Users can view HDD No., attribution volume, serial No., total space and HDD status. As shown in figure 86.

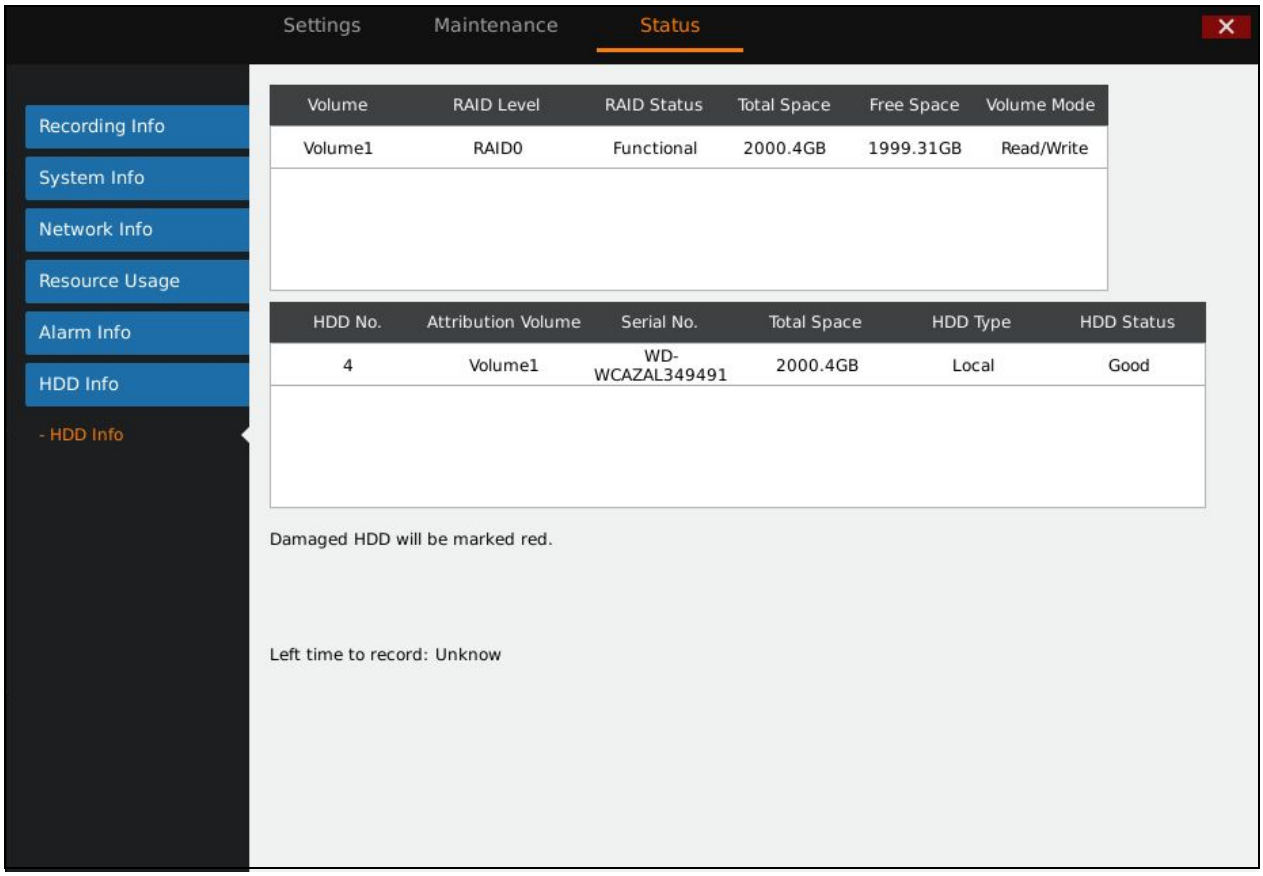


Figure 87 HDD Info Page

LOGOUT

GVR3550 would display preview screen after logout, please input username and password to login for authentication when entering the menu again.

WEB MANAGEMENT

OVERVIEW

GVR3550/GVR3552 supports accessing and managing GVR on Web page via the remote PC. The Web page provides operations like video playback & search, video settings, alarm settings, system settings, PTZ control, etc. Most operations are the same as on local GUI.

NOTE:

- *The following chapters are only to specify the operations differ from local GUI. Please refer to local GUI chapters for other operations.*

SYSTEM LOGIN

This chapter introduces how to login the GVR3550/GVR3552 Web page via Web browser like Microsoft's IE, Mozilla Firefox and Google Chrome.

1. Access a network;
2. Go to Main Menu->Status->Network Info to find the GVR IP address when it runs normally;
3. Open a web browser and enter the GVR3550/GVR3552 IP address in the address bar, e.g.: http://192.168.10.101. (The default port No. is 80);
4. Press the "Enter" button to enter GVR3550/GVR3552 Web Login page, input username and password in the prompt box. The default administrator username and password are: admin, admin. Please modify the password after login without delay;
5. Set language to English or Chinese in the drop-down menu;
6. Click the "Login" button to enter the Web page.

Figure 88 Web Page—Login

WEB PAGE INTRODUCTION

Users can switch among live View, Playback, Settings, Maintenance and Status. You can also switch language on this page or exit.

Figure 89 Web Page—Menu

LIVE VIEW

Users need to download and install the video playback plug-in "GVRView.exe" first before preview. Close browser before installation to avid failure. Follow the step below:

1. Open a web browser and enter the GVR3550 IP address in the address bar to login the Web page;
2. Click on the plug-in installation remind link to download plug-in to PC;
3. Close browser, install plug-in and start it.
4. Open browser again and login the Web page to check whether the live view window could display. If the prompt is the plug-in is not installed, please check whether the browser prohibits plug-in running, if prohibits, please manual set to allow the plug-in running and refresh the browser.

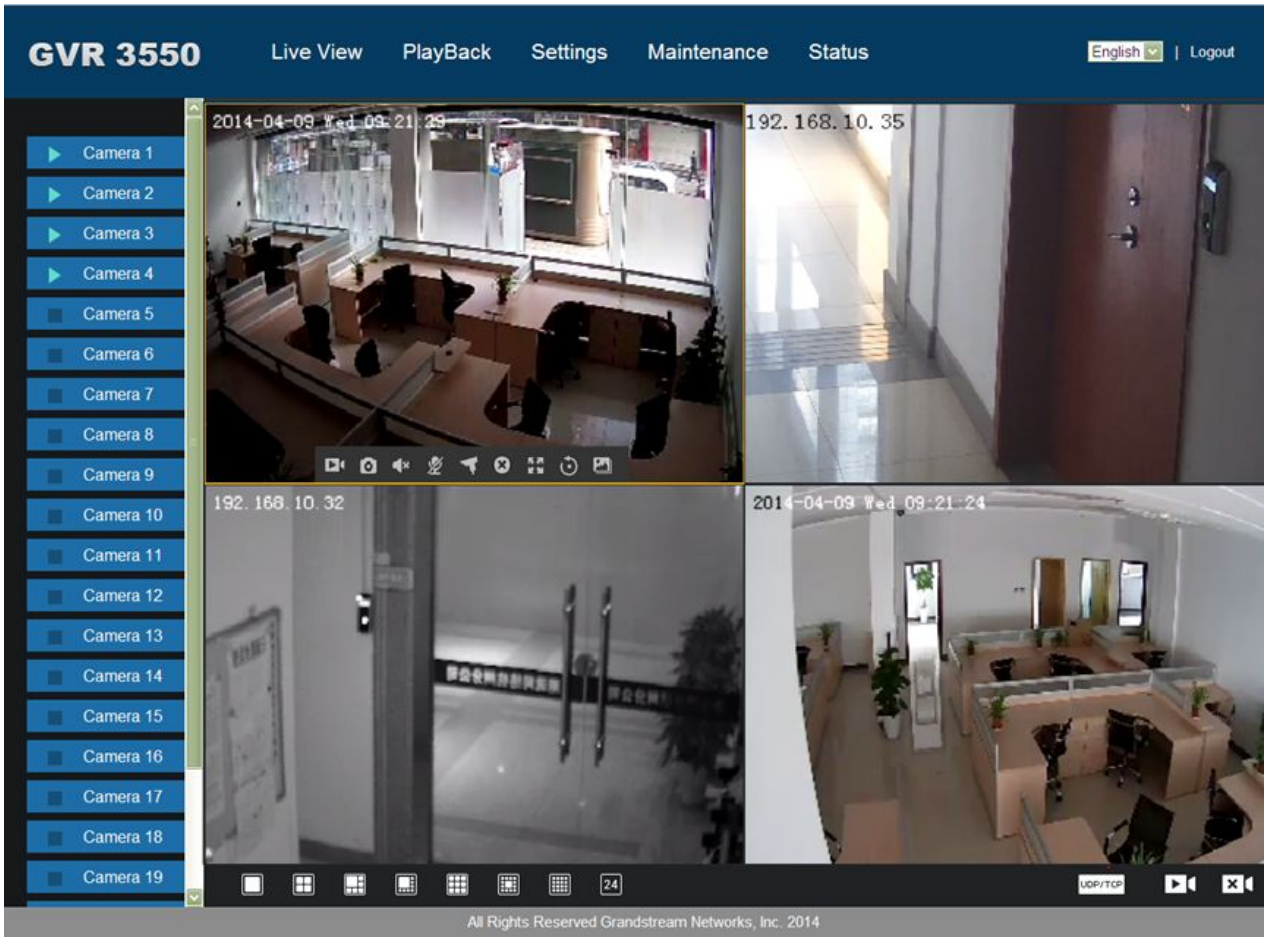


Figure 90 Web Live View Page

Open camera. Select one window on screen with mouse and double click the camera name to display the preview screen,

UDP/TCP **TCP/UDP Switch**. Click on the button to set all existing camera transmission protocol to TCP or UDP.

Open All Preview. Click on the button to open preview screen of all cameras. Remote preview supports up to 24 cameras.

Close All Preview. Click on the button to close preview screen of all cameras.

Preview Window Split. Split screen to multiple windows like 1 window, 4 windows, 9 windows, 16 windows, 24 windows.

Double click on one window when preview to view camera settings menu if has enough space. See table below.

Table 41 Remote Preview Operation Explanation

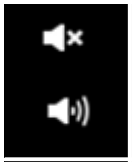
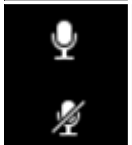
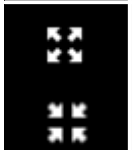
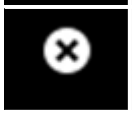
Icon	Name	Explanation
	Closed Record	The camera is not recording now.
	Manual Record	The camera is in manual record mode. The default path: C:\GVR_Record
	Capture	Capture preview screen. Users could save the snapshots under C:\GVR_Capture directory on PC.
	**Mute/Unmute**	When the volume in on, if the remote camera is installed with audio input device, users could listen in to the remote party.
	**Start/Stop Intercom**	When the intercom is on, if the remote camera is installed with audio output device, users could speak to the remote camera via local audio input device.
	PTZ Control	Click to enable PTZ control to configure PTZ preset, patrol and pattern.
	**Switch to Full Screen**	Switch the current screen to full screen or double click to enter full screen mode, double click again to exit full screen.
	Instant Playback	Playback video in preset time. It will prompt "The selected camera has no video "if has no existing video. Users could set the preset time in ***Basic System Settings*** chapter.
	Image Config	Enter the corresponding page to adjust the current window image.
	**Close Preview**	Close preview window.

Table 42 Remote Preview Camera Specifications

Name	Explanation
Camera Stream	Click right mouse to enter the stream settings page to set primary stream or secondary stream.
Recording Status	Display the current camera recording status (being recorded or not). The video file is saved on PC.

PLAYBACK

Please refer to the chapter ***Local Playback*** to view remote playback on Web page. It should be noted that the video which could be searched on the Web page is the one stored in GVR3550/GVR3552 HDD, snapshots and clips could only be saved on PC but not on local GUI. The playback on the Web page is as shown in figure 90.

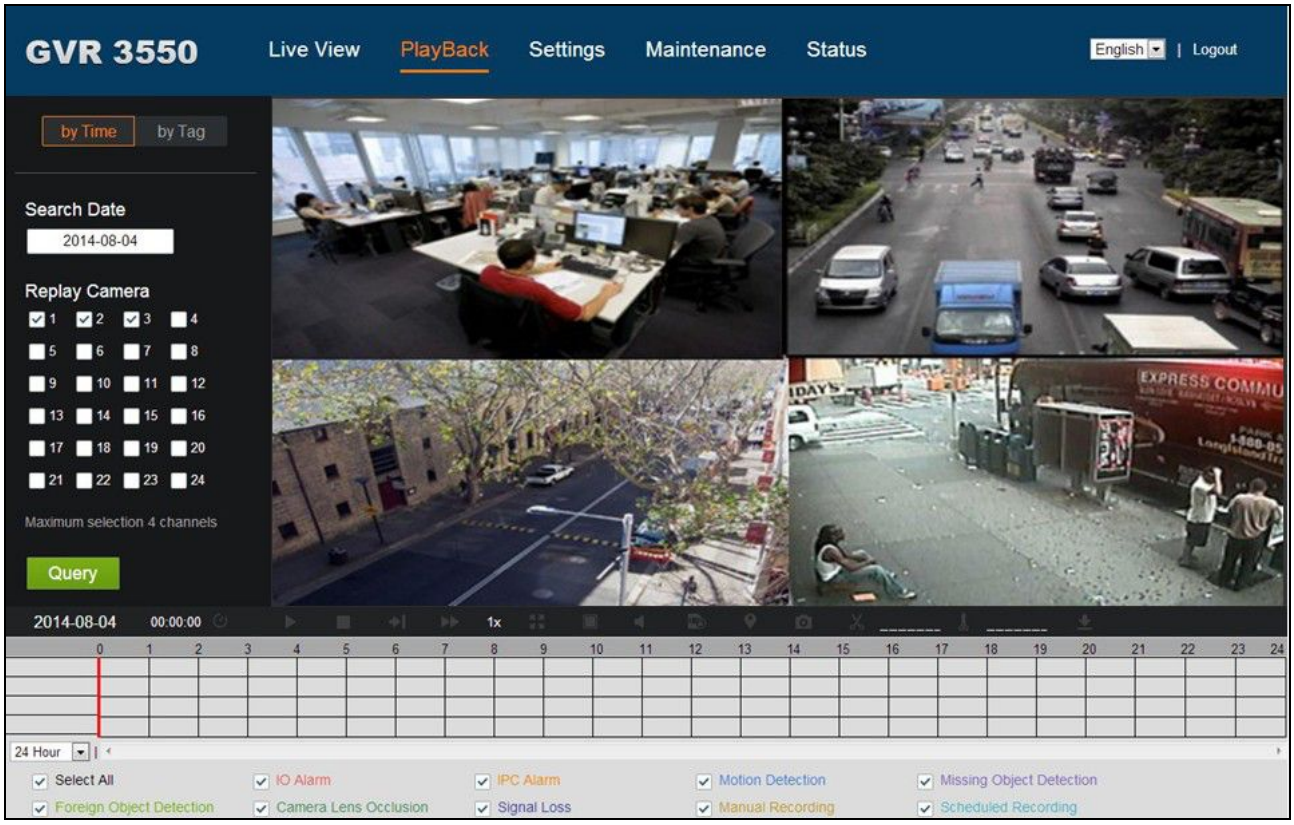


Figure 91 Web Playback Page

SETTINGS

Please refer to chapter ***Main Menu*** to set settings on the Web page. It should be noted that the path to save snapshots and clips are only for the Web page, the related files are saved on PC and users could not make operations on Local GUI.

Put the cursor on ⓘ to view the parameters.

BASIC SYSTEM SETTINGS

The Basic System Settings on Web page is as shown below; please refer to chapter ***Basic System Settings*** to view other parameters settings. Screenshot file saving path, Videos and Playback Clips Path can only be set to local path in PC.

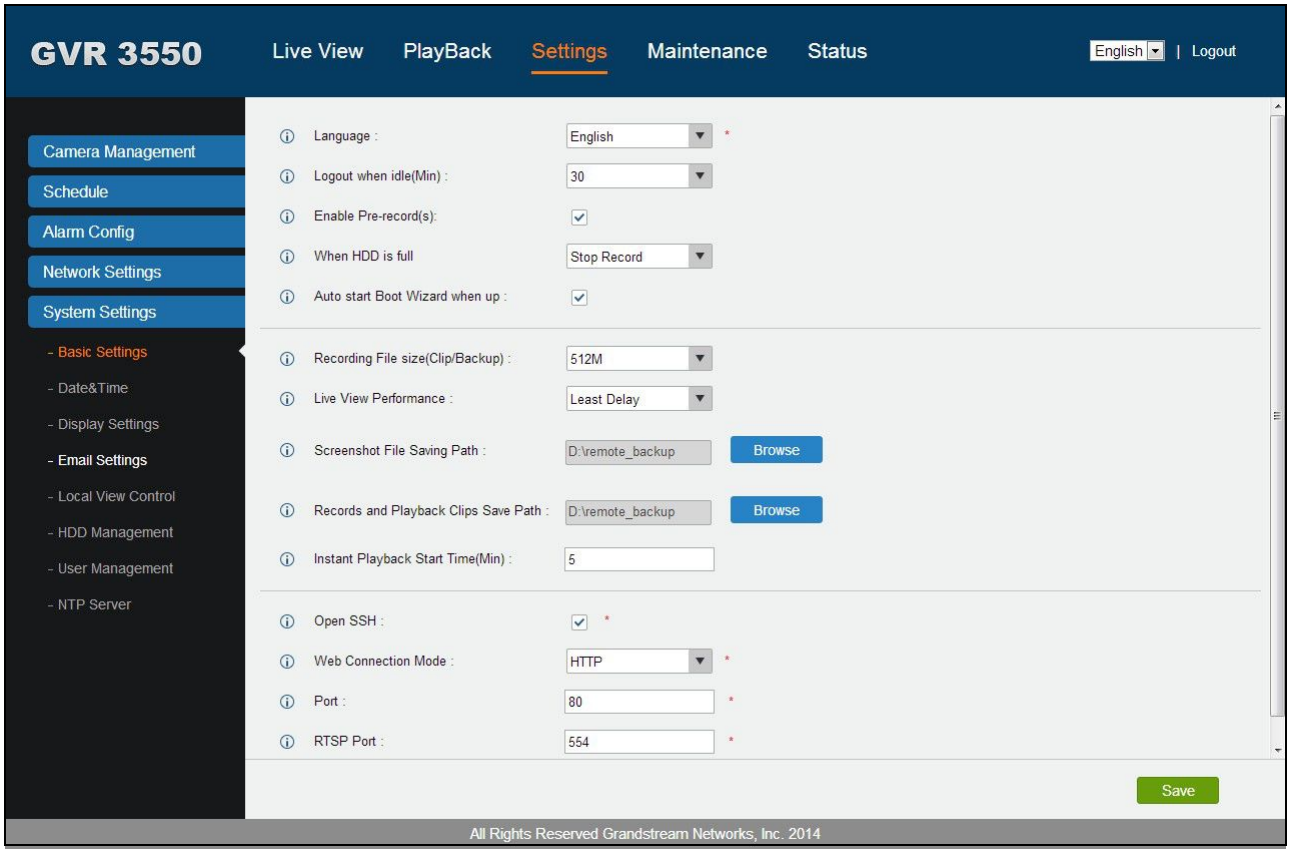


Figure 92 Web Page—Basic Settings

DEBUG LOG

The Maintenance on the Web page is shown in figure 90. Please refer to chapter **Maintenance** to view other parameters settings.

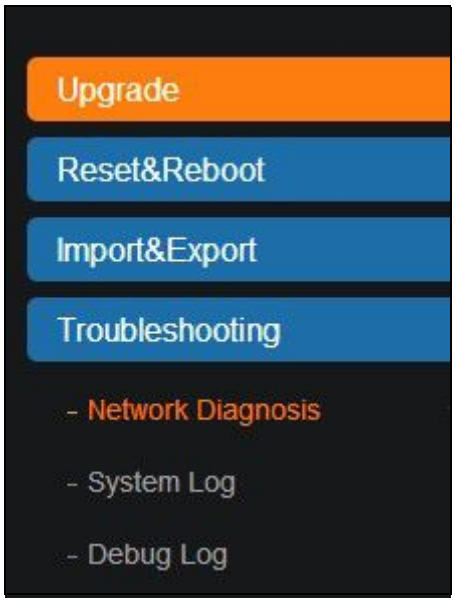


Figure 93 Web Page—Maintenance Menu

Go to Maintenance->Troubleshooting-> Debug Log to set debug parameters.

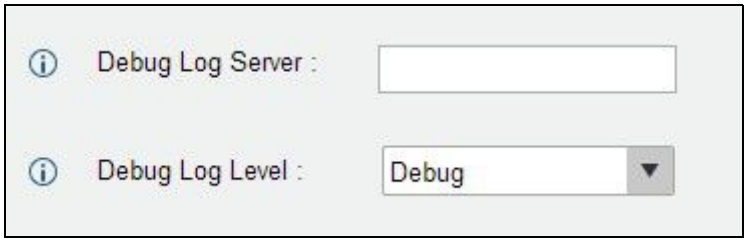


Figure 94 Web Page—Debug Log

Table 43 Debug Log Parameters Explanation

Parameter	Explanation
Debug Log Server	The IP address or URL of the debug log server.
Debug Log Level	Selects the log level. The default setting "None" means sending no log. The log priority from high to low is Debug, Info, Warning and Error. Debug Log based on the following events: The product model/version (INFO level) NAT Info (INFO level) Registration state changes (INFO level) Negotiation coding (INFO level) Ethernet connection (INFO level) SLIC debris abnormal (WARNING and ERROR level) Abnormal memory (ERROR level)

STATUS-QR CODE

Users could quick install GVR3550/GVR3552 client via scan QR code on Android devices like phones and tablets. Please login the Grandstream Website http://www.grandstream.com for more details.

FIRMWARE UPDATE

GVR3550/GVR3552 supports software upgrade via TFTP /HTTP/HTTPS server. Please go to Maintenance ->Upgrade to configure.

GVR3550/GVR3552 supports the following upgrade modes:

- Manual upload firmware file to upgrade
- Upgrade via TFTP firmware server
- Upgrade via HTTP/HTTPS firmware server

NOTE:

- *It is HIGHLY recommended that use an Uninterruptible Power Supply (UPS) or it might be fail if emergency cutoff occurs in the process of update.*
- *Please unpack the compression package before upgrade when manual update.*

MANUAL UPGRADE

1. Go to Maintenance ->Upgrade to set upgrade mode to "Manual Upload";
2. Click on the "File" button in the "Firmware File Path" entry to select the firmware file;
3. Click on "Upgrade Now" button to upload firmware, the screen is shown below;

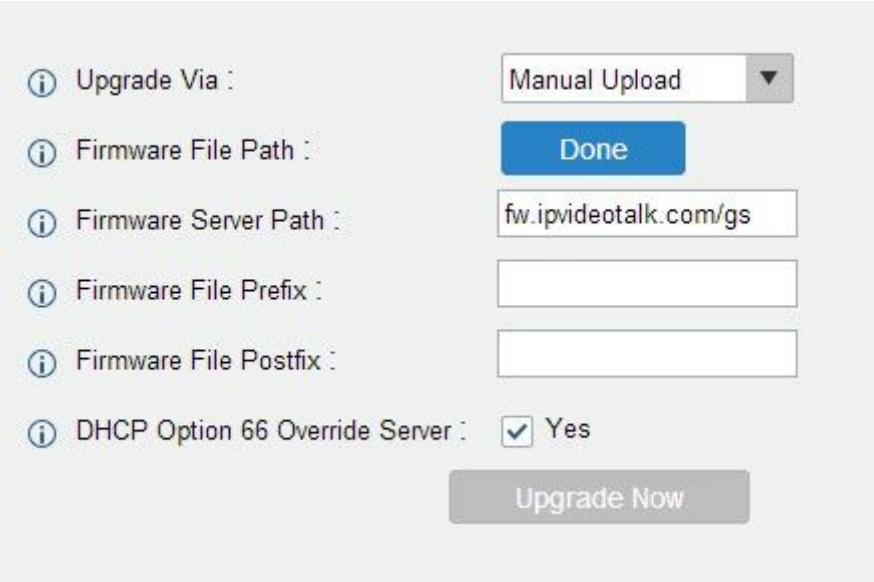


Figure 95 Manual Upgrade Page

4. GVR3550/GVR3552 will start upgrade automatically once uploaded the file, it will prompt users whether to reboot when complete upgrade. With no operations in 30 seconds the GVR3550/GVR3552 will reboot automatically.

UPGRADE VIA TFTP FIRMWARE SERVER

For GVR3550, please configure TFTP server and put the file "gvr3550fw.bin" under TFTP server directory. The file for GVR3552 is "gvr3552fw.bin".
Users could also download the free TFTP server by visiting the link below to download free Windows TFTP server：

http://www.solarwinds.com/register/?program=52&c=70150000000CcH2&INTCMP=DLIndexA_FreeTools_freeTFTPserver

NOTE:

- *The default firmware file for GVR3550 should be named "gvr3550fw.bin" while the file for GVR3552 is "gvr3552fw.bin", other names may cause upgrade failure.*

CONFIGURING TFTP SERVER

In this chapter, we take SolarWinds TFTP server as an example.

1. Open TFTP server;
2. Click "File" in the upper left corner and choose "Configure";

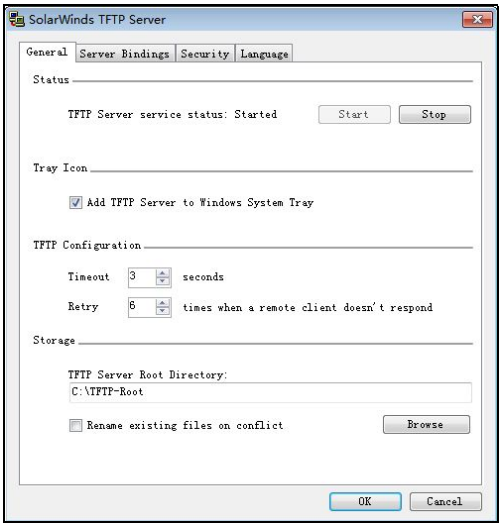


Figure 96 Configure Dialog

3. Set the directory to save the file in "Storage" entry under "General" tab, as shown in figure 96;

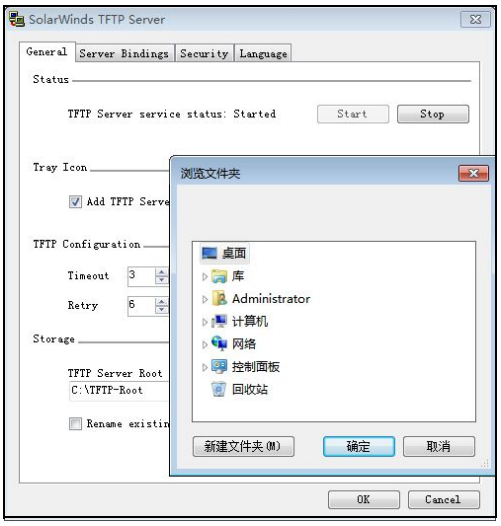


Figure 97 TFTP Server Directory Settings

4. Select directory and click "OK".

NOTE:

- *The file uploaded to the server directory should be the .bin file after unzip.*

UPGRADE FIRMWARE WITH TFTP SERVER

1. Unzip the firmware file, set the folder to save the firmware file to root directory of TFTP server;
2. Connect the PC and the GVR to the same LAN;
3. Open TFTP server and go to file menu->Configure->Security and set to "Transmission Only";
4. Open TFTP server, go to Settings->Advanced Settings to select TFTP;
5. Set the firmware server path to the PC IP address, which is the IP address of the TFTP server;
6. Click "Upgrade Now" and the device would restart automatically after the upgrade completed.

UPGRADE VIA HTTP/HTTPS FIRMWARE SERVER

Users could use Grandsteam HTTP server that supports NAT. Connect to server to upgrade firmware. Download the free Grandsteam server by visiting the link http://www.grandstream.com/support/firmware You can also download free HTTP server from http://httpd.apache.org/ or use Microsoft IIS server.

CONFIGURING HTTP SERVER

In this chapter, we take using Apache HTTP Server2.2 server in windows XP to introduce the steps to configure HTTP server.

Users could obtain the Apache HTTP server installation software via http://httpd.apache.org, please finish the default installation according to the wizard.

1. Open Apache server. Go to Start ->All Programs ->Apache HTTP Server 2.2 -> Monitor Apache Servers on a PC which has installed Apache server. The icon in the notification area of taskbar indicates Apache server is already enabled. If displays , select "Start" to open server;
2. Put the prepared file to the following path:
   Installation Path \ Apache Software Foundation \ Apache2.2 \ htdocs.

NOTE:

- *If put the file under the folder "htdocs", the URL format to access the Apache server is: http:// The IP address of PC that installed the Apache server .e.g.:* http://192.169.1.51
- *If put thefile under the subfolder of the folder "htdocs", the URL format to access the Apache server is: http:// The IP address of the PC that installed the Apache server/subfolder Name. e.g.:* http://192.169.1.51/filename

UPGRADE FIRMWARE WITH HTTP SERVER

1. Unzip the firmware file and put it under "htdocs" directory of TFTP server;
2. Open TFTP server and go to Settings->Advanced Settings to select HTTP;
3. Set the firmware server path to the IP address of HTTP server ;
4. Click "Upgrade Now" and GVR will prompt users whether to reboot when complete upgrade. With no operations in 30 seconds the GVR will reboot automatically.

FACTORY RESET

Users could reset factory settings via the following ways: Reset via local GUI, via Web page, via the reset button on the back panel of GVR3550/GVR3552. Factory reset will delete configuration info and syslog info, the HDD data and videos will not be deleted.

Warning!

- *Factory Reset will erase all GVR3550/GVR3552 configuration info. Please back up all settings or print useful info before making the following operations. If users lost all parameters or records, Grandstream will take no responsibility for the damage or loss.*

RESET VIA LOCAL GUI

Go to GVR3550/GVR3552 GUI Main Menu->Maintenance->Reset & Reboot, select "Erase All Data" or "Retain Network Data Only" and click on the "Reset" button to bring up the prompt box as shown below. Click "OK" to reboot the device and restore factory settings.

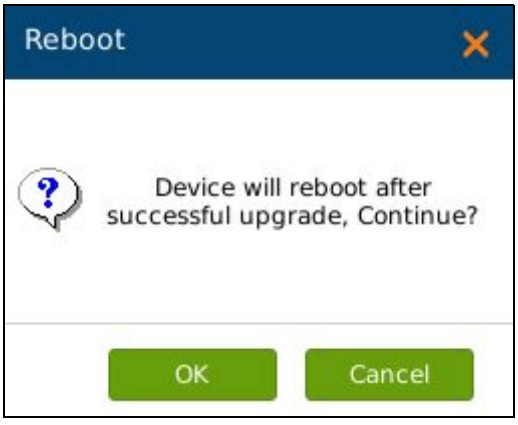


Figure 98 Factory Reset on GUI Page

RESET VIA WEB PAGE

Go to GVR3550/GVR3552 Web page Main Menu->Maintenance->Reset & Reboot, select "Erase All Data" or "Retain Network Data Only" and click on the "Reset" button to bring up the prompt box as shown below. Click "OK" to reboot the device and restore factory settings.

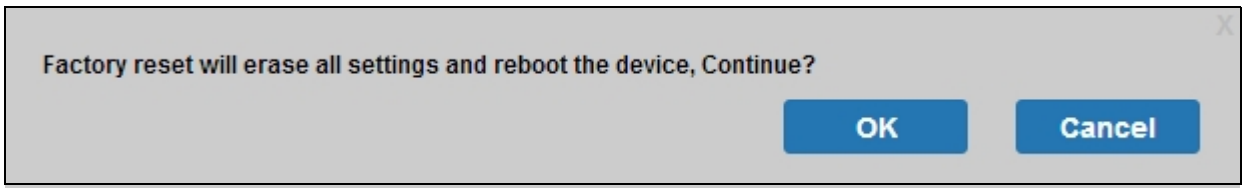


Figure 99 Factory Reset on Web Page

RESET VIA BUTTON

There is a Reset button on the back panel of GVR3550/GVR3552 as shown in figure 2 and figure 3, long press the button for more than 10 seconds to reboot and restore to factory reset.

EXPERIENCING GVR3550/GVR3552

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 Enterprise Application phone, it will be sure to bring convenience and color to both your business and personal life.

APPENDIX

FAQs

The issues 1-21 might be caused by the reasons listed below each issue.

1. ***The GVR3550/GVR3552 is unable to start properly after normal startup***
   Unmatched input power
   The power cables is not connected properly
   Damaged power supply
   System upgrade errors
   Damaged HDD or HDD cables
   Front panel error
   Damaged mainboard

2. ***GVR3550/GVR3552 reboots automatically or crashes frequently in a few minutes after startup.***
   Unstable input power or low voltage
   No enough power
   HDD power line connection error
   Bad HDD tracks or damaged HDD line
   Unstable IPC video signal
   Poor heat dissipation, too much dust, poor running environment.
   Hardware failure

3. ***Cannot detect HDD after startup, it might be caused by the following reasons.***
   HDD power line is not connected
   Damaged HDD cable
   Damaged HDD
   Damaged SATA port on mainboard

4. ***No video output***
   Unmatched programs, please update system.
   Image brightness is 0, please restore the default settings.
   Hardware failure

5. ***Unable to search video when local playback***
   Damaged HDD cables

Updated program is not compatible with the system
Damaged HDD
Full HDD
The video you want to search has been overwritten.
The video is not being played.

6. ***Blurred screen when search local video***

Restart GVR3550/GVR3552 will generally solve these issues: data reading error, small code stream, mosaics in fullscreen when playback.
Damaged HDD cable
HDD error
Hardware failure
Connected to many cameras

7. ***Wrong time display***

Wrong time or time zone settings
The cell button is not installed properly
Low voltage
Damaged crystal oscillator

8. ***GVR3550 can't control PTZ***

IPC PTZ error
Wrong PTZ decoding settings, wiring, installation
Wrong cable connection
Wrong PTZ settings
Unmatched PTZ decoder with GVR3550/GVR3552 protocol
Unmatched PTZ decoder with GVR3550/GVR3552 address

9. ***Unable to login the Web page***

Unable to install PC client or the page can't be displayed normally.
The operation systems is win98 or win me: It is recommended to update the operating system to win 2000sp4 and higher.
Network connection error
Wrong network settings
Incorrect username or password

10. ***Mosaics or no images on screen when preview or playback***

Poor Internet connection
PC client limit
The login user has no monitoring privilege
Connected to many cameras

11. ***Unstable Internet connection***

Unstable network
IP address conflict
MAC address conflict
Unstable network card on PC

12. ***USB backup error***

CPU usage is too high, please stop recording then backup.
Data volume exceeds backup capacity
Incompatible backup devices
Damaged backup devices

13. ***Unable to close alarm***

Wrong alarm settings
Open alarm manually
Input device errors or wrong connection
Wrong version, please upgrade

14. ***The alarm doesn't work***

Wrong alarm settings
Wrong cables connection
One alarm is connected to two circuits the same time

15. ***Unable to control GVR3550/GVR3552 via remote control***

Remote control distance is too far or the control angle is too tilt
Low batteries
Damaged control/front panel

16. ***Insufficient record time***

Large stream caused by poor quality of the camera, dirty camera Lens, backlight installation.
Insufficient HDD capacity
Damaged HDD

17. ***Unable to play downloaded backup file***

You have not installed player or unplugged the external storage device improperly.

18. ***No images, black screen***

Check IP, port, username/password of the remote camera.
Check the network connection with the remote camera.

19. ***Display screen is not complete***

Check the resolution the LCD supports. If the GVR resolution is 1920*1080, the LCD should support 1920*1080 resolution.

20. ***No LCD HDMI output***
    Check the HDMI cable and whether LCD works in HDMI mode.

21. ***Record lag on PC in multi-cameras mode***
    Please check the network bandwidth, 100 MB is recommended and pay attention to the PC performance. E.g.,16 cameras requires Quad Core CPU, discrete graphics, 2G memory and high, 256M video memory and higher.

RECORDING TIME CALCULATION

Please confirm the HDD has been installed when install GVR3550/GVR3552 the first time.
HDD Capacity formula is:
Total HDD Space (M) = the amount of cameras * required time (Hour) * the HDD space occupied per hour（M/H）
From the formula above we could conclude the recording time formula:
Recording Time (hour) = Total HDD Space (M)/the HDD space occupied per hour（M/H）*the amount of cameras
GVR3550/GVR3552 is equipped with MPEG4/H.264 compression technique, its dynamic range is quite large thus the HDD capacity calculation based on assessing the video file size each camera recorded per hour.
e.g.:
The video one single camera records per hour takes up 200M/H in HDD, use GVR3550 to record synchronously with 12 cameras.
Record Time (hour) = 2*4*1024*1024/200（M/H）*12=3495.25（Hour）≈145.6（Day）

COMPATIBLE HDD

Manufacturer	Model	Capacity
Seagate	ST3000VX000	3T
Seagate	ST500DM002	500G
Seagate	ST2000VX000	2T
Seagate	ST1000VX000	1T
Western Digital	WD40EZRX-00SPEB0	4T
Western Digital	WD20EZRX	2T
Western Digital	WD10EURX-73FH1Y0	1T
Western Digital	WD20EURS-73TLHY0	2T
Western Digital	WD5000AVDS	500G
Western Digital	WD5000AAKX	500G
Western Digital	WD5000AVDS-63U7B1	500G

Toshiba	DT01ACA050	500G
Toshiba	DT01ACA200	2T
HGST	HUA723020ALA640	2T