



Grandstream Networks, Inc.

GVR3550 Network Video Recorder



Table of Contents
GVR3550 User Manual

CHANGE LOG.....	7
FIRMWARE VERSION 1.0.0.33.....	7
FIRMWARE VERSION 1.0.0.33.....	7
WELCOME	8
PRODUCT FEATURES	8
SAFETY COMPLIANCE.....	9
WARRANTY.....	10
INSTALL GVR3550	11
EQUIPMENT PACKAGE CONTENTS.....	11
DEVICE CONNECTION.....	14
INSTALLING HDD.....	14
ROUTE CONNECTION.....	15
NETWORK CONNECTION.....	16
EXTERNAL USB DEVICE.....	17
CONNECT HDMI MONITOR(TBD).....	18
CONNECT VGA MONITOR.....	18
CONNECT ALARM DEVICE.....	18
EXTERNAL INTERCOM DEVICE (TBD).....	18
GET TO KNOW THE GVR3550.....	19
SOFTWARE SPECIFICATIONS.....	19
HARDWARE SPECIFICATIONS.....	20
IR REMOTE CONTROL OPERATIONS.....	21
USB MOUSE AND KEYBOARD.....	23
INPUT METHOD.....	23
USING THE WIZARD (TBD)	25
LOGIN.....	25
LOCAL PREVIEW.....	25
PREVIEW STATUS.....	26
BASIC PREVIEW OPERATION.....	27
IMAGE CONFIGURATION.....	28
USE PTZ.....	29
RIGHT-CLICK.....	31
SHORTCUT BUTTON.....	32

LOCAL PLAYBACK.....	32
SEARCH RECORD.....	32
RECORD PLAYBACK.....	34
MAIN MENU.....	36
RECORD CONFIGURATION.....	36
CHANNEL MANAGEMENT.....	39
ALARM CONFIGURATION.....	42
NETWORK SETTINGS.....	44
STATUS.....	47
SYSTEM SETTINGS.....	49
MAINTENANCE.....	54
LOGOUT.....	60
WEB MANAGEMENT	61
OVERVIEW.....	61
SYSTEM LOGIN.....	61
WEB PAGE INTRODUCTION.....	62
LIVE PREVIEW.....	62
PLAYBACK.....	64
SETTINGS.....	64
FIRMWARE UPDATE	65
DOWNLOAD CONFIGURATION FILE.....	65
CONFIGURING SERVER.....	65
CONFIGURING TFTP SERVER.....	66
CONFIGURING HTTP SERVER.....	68
UPDATE WITH TFTP SERVER.....	69
UPDATE WITH HTTP/HTTPS SERVER.....	69
MANUAL UPDATE.....	69
FACTORY RESET	70
RESET VIA LOCAL GUI.....	70
RESET VIA WEB PAGE.....	70
RESET VIA BUTTON.....	70
EXPERIENCING GVR3550.....	71
APPENDIX	71
FAQs.....	71
MAINTENANCE.....	75
RECORD TIME CALCULATION.....	75

Table of Contents

GVR3550 User Manual

Figure 1 : GVR3550 Front Panel.....	12
Figure 2 : GVR3550 Back Panel Specifications	13
Figure 3 : GVR3550 HDD Installation Procedures	15
Figure 4 : GVR3550 Route Connection.....	16
Figure 5 : GVR3550 Network Information	16
Figure 6 : GVR3550 USB Access Status	17
Figure 7 : GVR3550 HDD Management	17
Figure 8 : GVR3550 IR Remote Control.....	21
Figure 9 : GVR3550 Soft Keyboard---English Input Method	23
Figure 10 : GVR3550 Soft Keyboard---Chinese Input Method.....	24
Figure 11 : GVR3550 Soft Keyboard---Symbols and Numbers	24
Figure 12 : GVR3550 Soft Keyboard--- Numeric Keyboard	24
Figure 13 : GVR3550 Live View Page---Right-click Menu	25
Figure 14 : GVR3550 Local Login Page	25
Figure 15 : GVR3550 Abnormal Alarm Prompt	27
Figure 16 : GVR3550 Basic Preview Operations	27
Figure 17 : GVR3550 Image Configuration Page	28
Figure 18 : GVR3550 PTZ Control Page	29
Figure 19 : GVR3550 PTZ Control Page---Preset	30
Figure 20 : GVR3550 PTZ Control Page---Patrol	30
Figure 21 : GVR3550 PTZ Control Page---Contrail	31
Figure 22 : GVR3550 Right-mouse Menu	31
Figure 23 : GVR3550 Preview Page Shortcut Button	32
Figure 24 : GVR3550 Record Playback Page	32
Figure 25 : GVR3550 Record Playback - Record Status Toolbar	33
Figure 26 : GVR3550 Record Playback Page- Search by Tag.....	34
Figure 27 : GVR3550 Tag Management Page.....	34
Figure 28 : GVR3550 Record Playback Toolbar	34
Figure 29 : GVR3550 Save Snapshot Failed Prompt	35
Figure 30 : GVR3550 Tagging Management	35
Figure 31 : GVR3550 Locked Record Management	36
Figure 32 : GVR3550 Record Save Path Settings Page	36
Figure 33 : GVR3550 Main Menu Page.....	36
Figure 34 : GVR3550 Record Channel Settings Page.....	37
Figure 35 : GVR3550 Record Plan Settings Page.....	37

Figure 36 : GVR3550 Add New Record Plan Page	37
Figure 37 : GVR3550 Add New Record Plan Page---Duplicate Time Interval	38
Figure 38 : GVR3550 Record Plan Display Page.....	38
Figure 39 : GVR3550 Record Policy Configuration Page	38
Figure 40 : GVR3550 Channel Config Page	39
Figure 41 : GVR3550 Manual Add Channel.....	39
Figure 42 : GVR3550 Encoding Config	40
Figure 43 : GVR3550 IPC Event Config Page.....	41
Figure 44 : GVR3550 IPC Arming Time Settings Page	41
Figure 45 : GVR3550 IO Alarm Config Page.....	43
Figure 46 : GVR3550 IO Alarm Config Page.....	43
Figure 47 : GVR3550 Abnormal Alarm Settings Page	43
Figure 48 : GVR3550 Network Settings---Basic Setting	44
Figure 49 : GVR3550 Advanced Settings	45
Figure 50 : GVR3550 UPnP Settings.....	45
Figure 51 : GVR3550 Server Settings Page	46
Figure 52 : GVR3550 System Information	48
Figure 53 : GVR3550 Network Status.....	48
Figure 54 : GVR3550 HDD INFO	48
Figure 55 : GVR3550 Device Status Page	48
Figure 56 : GVR3550 Basic System Settings.....	49
Figure 57 : GVR3550 Display Settings Page.....	50
Figure 58 : GVR3550 Local View Control	50
Figure 59 : GVR3550 Local View Control--- Channel Application	51
Figure 60 : GVR3550 HDD Management.....	51
Figure 61 : GVR3550 Property Editing Page	52
Figure 62 : GVR3550 User Management Page.....	52
Figure 63 : GVR3550 Add a User	52
Figure 64 : GVR3550 Editing User Info Page	53
Figure 65 : GVR3550 Editing Normal User Info Page	53
Figure 66 : GVR3550 Editing Operator User Info Page	53
Figure 67 : GVR3550 S.M.A.R.T Detection Page	55
Figure 68 : GVR3550 HDD Bad Sector Detection Page	56
Figure 69 : GVR3550 System Log Page.....	56
Figure 70 : GVR3550 Record Backup Page.....	57
Figure 71 : GVR3550 Quick Backup Page	57
Figure 72 : GVR3550 Quick Backup Progress	57
Figure 73 : GVR3550 Search Backup Page.....	58
Figure 74 : GVR3550 Import/Export Configuration File	59
Figure 75 : GVR3550 Update Configuration Page.....	59
Figure 76 : GVR3550 Upgrade Status Page	60

Figure 77 : GVR3550 Factory Reset Page	60
Figure 78 : GVR3550 Web Page---Login	61
Figure 79 : GVR3550 Web Page--- System Menu	62
Figure 80 : GVR3550 Remote Real-time Preview Page	62
Figure 81 : GVR3550 Remote Record Preview Window	62
Figure 82 : GVR3550 Web Page---Channel Preview	63
Figure 83 : GVR3550 Web Page---Record Playback	64
Figure 84 : GVR3550 Web Page---Basic Settings Page	64
Figure 85 : GVR3550 Web Page- Maintenance Menu.....	65
Figure 86 : TFTP Server Page.....	66
Figure 87 : TFTP Dialog.....	67
Figure 88 : TFTP Server Directory Settings.....	67
Figure 89 : Confirm Modification.....	68
Figure 90 : GVR3550 Remote Manual Upgrade.....	69
Figure 91 : GVR3550 Factory Reset on Local GUI Page	70
Figure 92 : GVR3550 Factory Rest on Local Web Page	70



TABLE OF TABLES

GVR3550 User Manual

Table 1 : GVR3550 Software Specifications	20
Table 2 : GVR3550 Hardware Specifications	21
Table 3 : GVR3550 Soft Keyboard Specifications.....	24
Table 4 : GVR3550 Preview Channel Status Specifications	26
Table 5 : GVR3550 Preview Page Specifications	27
Table 6 : GVR3550 Abnormal Alarm Specifications.....	27
Table 7 : GVR3550 PTZ Control Specifications	29
Table 8 : GVR3550 Email Settings Parameters Specifications.....	47
Table 9 : GVR3550 Network Diagnosis Page.....	54
Table 10 : GVR3550 Network Diagnosis Specifications.....	55
Table 11 : GVR3550 Web Page---Channel Preview Specifications.....	64

CHANGE LOG

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

FIRMWARE VERSION 1.0.0.33

- Snapshots update.

FIRMWARE VERSION 1.0.0.33

- This is the initial version.

WELCOME

Thank you for purchasing Grandstream GVR3550 NVR. The GVR3550 is a NVR product integrating multi-channel video preview, playback and intelligent alarm monitoring with epoch-making innovation. It is equipped with perfect hardware platform and vigorous support system, providing the most advanced network video monitoring solutions and realizing the live view, instant playback, data locking, file security application. Integrating the leading performance and function in the NVR field, GVR3550 also features express installation, easy deployment as well as incomparable reliability.

This user manual is designed to help you to understand how to configure and manage the GVR3550 including advanced settings and operating, such as alarm settings and record settings. In order to help users to configure and manage GVR3550, the manual also introduce its configuration and update procedures in details.

PRODUCT FEATURES

- Supports up to 24 channel with 720p or 12 channel with 1080p HD realtime record
- 4 channel synchronous local/remote playback ,supports digital zoom in full screen mood and more than 16 channel remote synchronous preview
- Supports Grandstream GXV36XX series camera and compatible camera with ONVIF version
- Auto detecting the LAN IP camera
- Customized record: schedule record, alarm record, manual record and auto record
- The Grandstream patent power storage system handles outage with flexibility
- Auto resumes record after restart caused by outage
- The previous-recorded video would be overwritten when HDD full
- Perfect security mechanism: access control, alarm event, system logs, HDD encryption
- Convenient and efficient search record function by time, event, channel and type
- Supports up to simultaneous 16 clients remote access the device
- Back mode: USB device, External eSATA device or being stored in network or cloud
- 1 gigabit Ethernet port, HDMI and VGA interface support local HD preview
- Alarm input/output port for extended use
- Supports 4 SATA HDDs up to 8TB as well as RAID 0, RAID 1 and RAID 10

SAFETY COMPLIANCE

These instructions are intended to assist users with the operation of the GVR3550 and to instruct on how to avoid dangerous situations or damage to the device.

Warning: Serious injury or death may be caused if any of the warnings below are neglected.

Caution: Injury or damage to the equipment may occur if any of the following caution messages are neglected.



Warning: Follow these safe guards to prevent serious injury death.



Caution: Follow these precautions to prevent potential injury or material damage.



Warning:

Input voltage should meet both the SELV(Safety Extra-Low Voltage) and the Limited Power Source with DC12V 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.



Notice:

- Please ensure stable grounding condition so as to avoid video and audio signal interference as well as being damaged by static electricity or induced voltage.
- Please do not electrify plug the audio/video cables and RS 232; otherwise these ports can be easily damaged.
- Please do not turn off the GVR power switch directly, use the shutdown button on the front panel (long hold the button for more than 3 seconds) to enable the device to switch off automatically so as not to damage HDD.
- Keep hot reservoir and high temperature environment away from the GVR.
- Ensure unit is installed in a well-ventilated environment to facilitate heat dissipation.
- Please carry out inspections and maintenance at regular intervals.

WARRANTY

If the GVR3550 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.

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, and (2) this device must accept any interference received, including interference that may cause undesired operation.

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

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

Caution:

Changes or modifications to this product not expressly approved by Grandstream, or operation of this product in any way other than as detailed by this User Manual, could void your manufacturer warranty. Please do not use a different power adaptor with the GVR3550 as it may cause damage to the products and void the manufacturer warranty.

Reproduction or transmittal of the entire or any part, in any form or by any means, electronic or print, for any purpose is not permitted without the express written permission of Grandstream Networks, Inc.

INSTALL GVR3550

EQUIPMENT PACKAGE CONTENTS

The GXV3550 package contains:

- One(1) Main Case
- One(1) 12V Power Adaptor
- One(1) Power Cord
- One(1) Ethernet Cable
- One(1) Remote Control(No Battery)
- Sixteen (16)Screws
- Four (4) SATA HD
- Two (2) A two power line
- One (1) Quick Start Guide

To set up a set of GVR, users need to own some equipment listed below:

- One (1) Display device (It could be the monitor, displayer or TV wall, choose one of them at least)
- At least one (1) Video Acquisition Processing Equipment (Camera combined with encoder or IP camera device)
- Optional keyboard with USB interface
- Optional mouse with USB interface
- At least one (1) HDD (Compatible SATA is required. The maximum CAPACITY is no more than 2T.)
- Optional Audio Devices (Audio input and output devices: acoustics, microphone or pickups, etc.)
- Optional Alarm Devices (Alarm input and output devices: smoke detector, infrared detector and alarm bell, etc.)

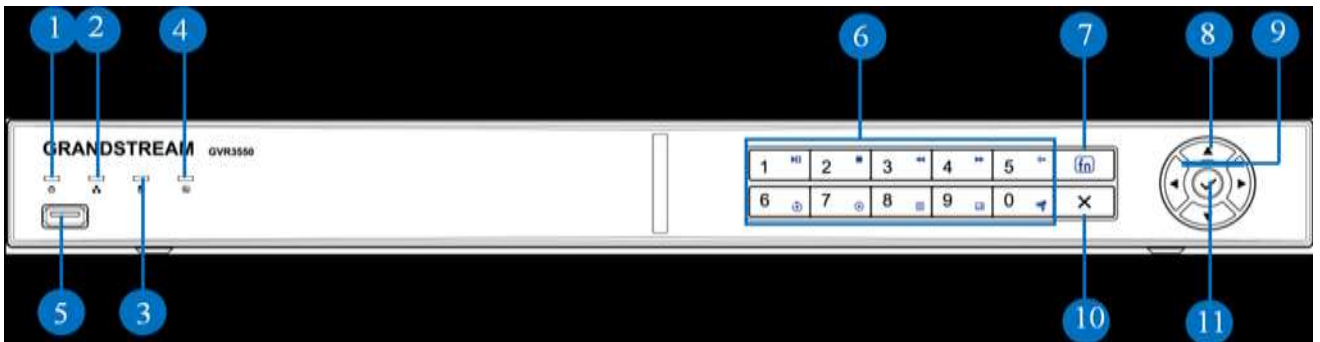












Figure 1: GVR3550 Front Panel

1. **Power indicator** Power indicator
2. **Network Indicator** When the network is abnormal or the GVR has no access to network, the indicator doesn't flicker when alarm; the indicator turns red when the network connection is normal and flickers green when there is a network data transmission.
3. **HDD Indicator** The indicator turns red to alarm if HDD is abnormal or the HDD capacity is lower than one certain value. The indicator is green when HDD runs normally.
4. **Status Indicator** Used to indicate whether the numeric buttons are in other functional mode. Once being pressed, the numeric buttons will be used in other functions. The indicator turns green when the numeric buttons are in functional mode while in numeric mode the indicator is dark.
5. **USB Interface** Used to connect to USE device like mouse, keyboard and USB flash drive.
6. **Numeric/Function Buttons** Used to input numbers. Once the function buttons are pressed, the numeric buttons will be used as function buttons. Number 0-9 are corresponding to the following function: Enable PTZ , Start/Pause , Stop , Fast Backward , Fast Forward , **Single Frame** , Playback , Record , Menu , Multiscreen .
7. **Function Buttons** Used to switch between numeric buttons and function buttons. The function buttons status will be indicated by the function status indicator.
8. **Up and Down Direction Buttons** Used to switch the activated controls or move/skip up or down, revise setting ,add or subtract numbers.
Auxiliary Function: Navigate the PTZ menu up or down
9. **Left and Right Direction Buttons** Used to switch the activated controls or move/skip left or right
Controls the progress bar when playback.
Auxiliary Function: Navigate the PTZ menu left or right.

10. **Cancel Button** Back to the previous menu or cancel operation.
 Back to realtime monitoring state when playback.
11. **Confirm Button** Confirm
 Switch to the default button
 Enter menu
 Switch between checkbox and ON/OFF button
 Pause/Restore auto patrol in the auto patrol preview mode

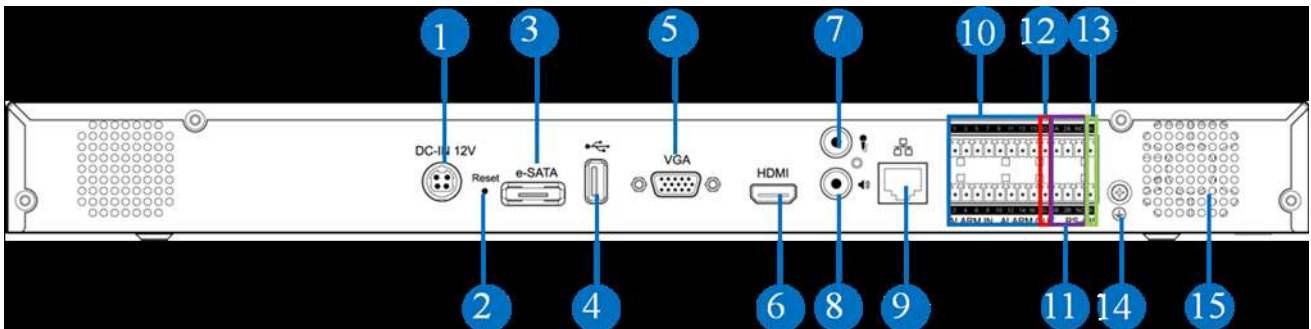


Figure 2: GVR3550 Back Panel Specifications

1. **Power Input Interface** Power interface, input 12V DC.
2. **Reset Button** Used to reboot device or reset factory
 Press: Reboot
 Long press for more than 10 seconds: factory reset
 Press when powered on: reset when the unit is abnormal.
3. **eSATA Interface** Used to connect eSATA
4. **USB Interface** Used to connect to USB devices like mouse, keyboard and USB flash drive.
5. **VGA Video Out** Output analog video signal, could be connected to a monitor to view the analog video.
6. **HDMI Interface** HAD and HD video output interface, transmit uncompressed HD video and multi-channel audio data to the display device with HDMI interface.
7. **Audio Input Interface** Voice intercom input interface, receive analog audio signal from microphone, pickups and other equipment.
8. **Audio Output Interface** Output analog audio signal to device like speakers.
9. **Network Interface:** 10M/100M/1000M adaptive Ethernet interface, connect cables.

- | | |
|--|--|
| 10. Alarm Input Interface
<i>1~16:</i> | 16 alarm input interface, receiving binary signals of external alarm like Normally-closed alarm and normally-open alarm.
When applying the external power to electrify the alarm input device, the latter should be common-grounded with the GVR. |
| 11. Alarm output Interface
<i>1~2:</i> | 2 sets alarm output interface, output alarm signal to the external alarm device, power supply is required for external alarm device. |
| 12. Alarm Grounding Interface: | Public alarm input grounding interface |
| 13. Grounding: | Grounding |
| 14. FAN: | Used for heat dissipation |

DEVICE CONNECTION

The GVR3550 contains no HDD with packaging, users need to check the device and install HDD when use it the first time.

INSTALLING HDD

We suggest to use the recommended models by Grandstream(7200 RPM HDD and above), the PC HDD is not recommended.

Please install the GVR3550 HDD according to the following procedures:

1. Twist four screws gently on the bottom of the HDD, don't twist too tight.
2. Remove the fixed screws on the back and side panel of the device, open the cover plate to find the HDD installing position.
3. Side put the main case, Aim the HDD with four screws at the corresponding round holes on the baseplate then push the screws to the screw holes to stick them.
4. Twist the screws.
5. Repeat the previous steps to install other HDDs(install one HDD next to the other with connected HDD cables).
6. Plug in four HDD cables and power cables to the interfaces of the mainboard .
7. Put the cover plate back to GVR and twist the screws.

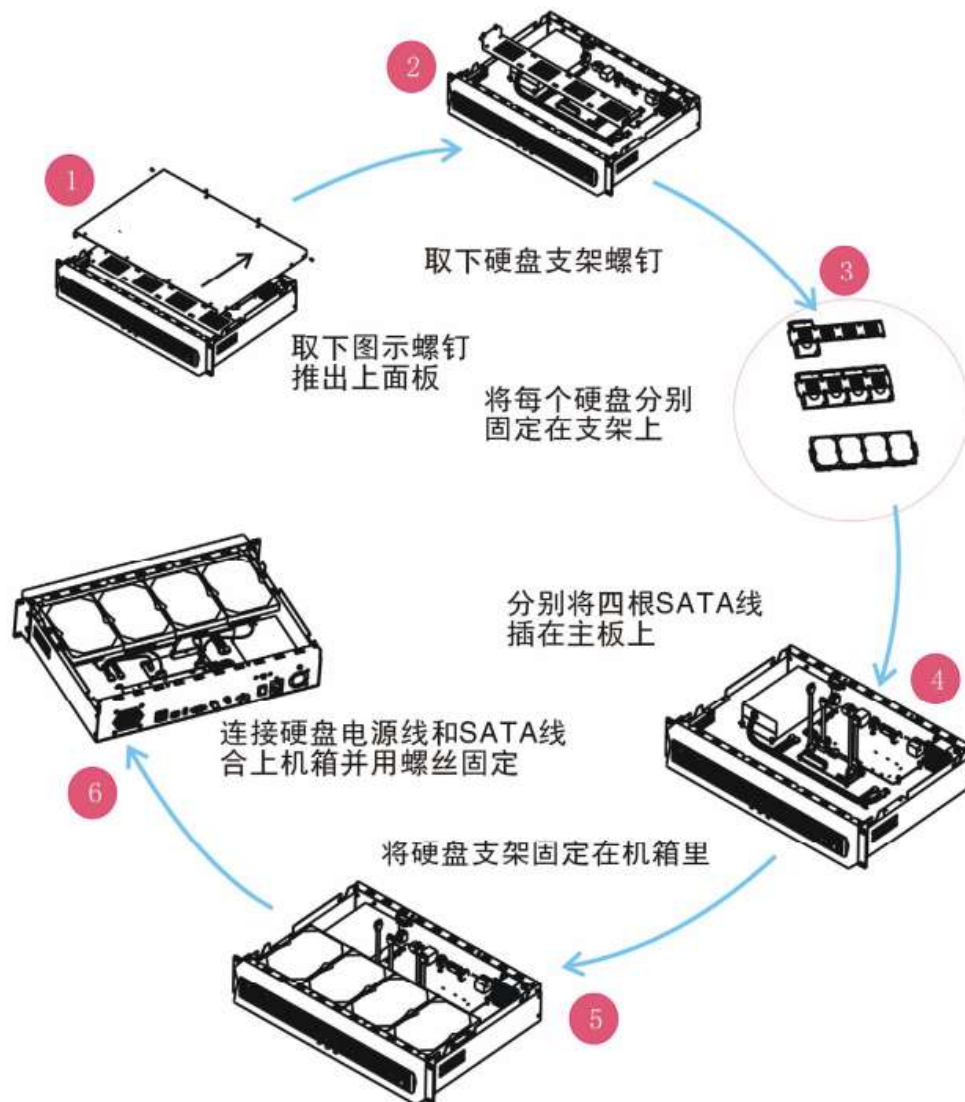


Figure 3: GVR3550 HDD Installation Procedures

NOTE:

- *HDD does not support hot plug. When the GVR3550 is running, plug the HDD will result in the HDD read and write data errors or unable to identify. Grandstream will take no responsibility for the damage.*

ROUTE CONNECTION

Please connect the GVR3550 route according to the following procedures:

1. Install the GVR3550 HDD by reference to the steps in installing HDD procedures.

2. Install the cables and connect to the display device interface.
3. Connect the mouse, keyboard, alarm input and output devices (optional).
4. Power on the related devices(GVR3550, display device, alarm, etc.) after connecting to the power cable.
5. The GVR3550 is about to power up and the indicators flickers.
6. When all devices have been powered on successfully, the connection has been completed.

GVR3550 route connection is shown in figure 4:

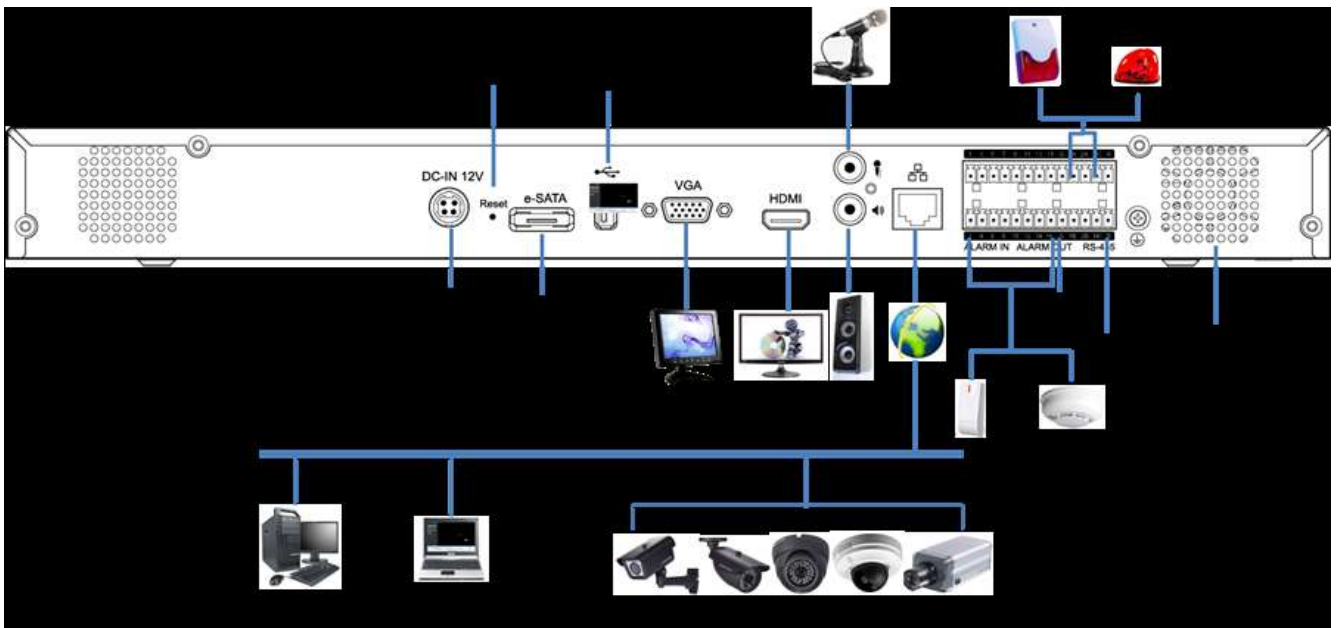


Figure 4: GVR3550 Route Connection

NETWORK CONNECTION

Users could login the local page with the administrator account after connecting the network cable to the GVR3550, go to Main Menu ->System Information -> Network Information to check the network connection status including IP address and network send/receive rate as shown in figure 5. For details, please refer to the chapter “Network Information”.

Figure 5: GVR3550 Network Information

EXTERNAL USB DEVICE

GVR3550 USB interface could be used to connect the mouse and keyboard, or connect a USB storage device.

NOTE:

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

PLUG INTO USB MOUSE/KEYBOARD

Users could manipulate the mouse and keyboard to test whether the installation is successful or not after plugging them into the GVR3550. The mouse or keyboard might be not compatible with GVR3550 if can't be detected, please replace the mouse or keyboard and try again.

PLUG INTO USB STORAGE DEVICE

Users could go to Maintenance->Network Diagnosis, select "Refresh" in "Packet Capture " entry to check the USB status after inserting the USB storage device into the interface properly.

Figure 6: GVR3550 USB Access Status

INSTALLING eSATA

Inset the eSATA cable to the corresponding interface on the rear panel of the GVR3550, Power up eSATA or use USB cable to supply power (the connection mode is in accordance with eSATA specification).Users could go to Main Menu->System Settings->HDD Management to view details like HDD Space,Free Space, HDD Status, HDD Type and so on after installing eSATA. For details, please refer to the chapter "HDD Management".

Figure 7: GVR3550 HDD Management

CONNECT HDMI MONITOR(TBD)

Connect one end of the HDMI cable to the port on the rear panel of the GVR3550, and the other end to the corresponding port of the HDMI monitor. Once powered on, a splash screen appears on the monitor. GVR3550 can automatically adapt to HDMI monitor with 1080p and 720p resolution.

CONNECT VGA MONITOR

Connect one end of the VGA cable to the port on the rear panel of the GVR3550, and the other end to the corresponding port of the VGA monitor. Once powered on, a splash screen appears on the monitor.

NOTE:

- *VGA doesn't support automatic resolution matching.*
- *There is only one valid output when connected with VGA and HDMI monitor at the same time. On this occasion, HDMI is valid while VGA is not by default. Users can also go to System Settings->Display to set parameters like Screen Resolution, Brightness, Contrast, Saturation and Hue.*

CONNECT ALARM DEVICE

Alarm input/output device 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 the GVR3550 main menu, make corresponding settings to alarm input/output on the Alarm Settings page. Alarm serial number 1 corresponds to the first alarm input channel on the GVR3550 I / O port. The following numbers keep to the same matching sequence. Set normally-opened alarm and normally-closed alarm according to the corresponding generated high /low level input when there is an alarm.
4. Set alarm output on the Alarm Settings page. Alarm output 1 corresponds to the first alarm output channel on the GVR3550. The following numbers keep to the same matching sequence.

EXTERNAL INTERCOM DEVICE (TBD)

GET TO KNOW THE GVR3550

SOFTWARE SPECIFICATIONS

Name	Specifications
Video Record	Supports synchronous 24 channel 720p (with 1280x720 resolution) record or 6 channel 1080p (with 1920x1080 resolution) record
Record Rate	Supports a maximum of 48 Mbps record rate
Record Mode	Supports Continuous Record, Scheduled Record, Alarm Record and Manual Record
Video Encoding	H. 264 baseline, main or higher.
Video Encoding	synchronous Audio & Video record
Audio Encoding	G.711, G.726
Live View	Supports synchronous HDMI or VGA 4 channel 720p or 2 channel 1080p output Up to synchronous 16 channel remote live view
Playback	Supports synchronous local or remote 4 channel video playback.
Trigger Event Alarm	Trigger modes: Manual Alarm, Scheduled Alarm, IPC alarm, I/O alarm, Event Alarm and Abnormal Alarm
Intelligent Retrieval	Intelligent retrieval modes: Retrieval by Date & Time, Motion Detection, Missing Object Detection, Foreign Object detection, Camera Lens Occlusion, Video Loss, ect.
Storage	Supports up to 8 TB encrypted storage
RAID RAID	Supports RAID 0, RAID 1 or RAID 10
Redundancy	Supports record backup to USB, eSATA or network backup
QoS	Supports Diff-Serv, TOS, 802.1P/Q VLAN tagging
Protocol	Supports HTTP, HTTPS, ONVIF protocol

Network Protocol	Supports 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
IPC	Supports the Grandstream GVX36xx or cameras compatible with ONVIF protocol
Security Protocol	Supports HTTPS, 802.1x, SSH
Maintenance	Supports manage device via the System Log, Remote Network, SSH and GSurf Pro

Table 1: GVR3550 Software Specifications

HARDWARE SPECIFICATIONS

Name	Specifications
Interface	1 HDMI interface, 1VGA interface, 1 RJ45 gigabit adaptive Ethernet interface, 2 RCA audio input &output interfaces
Alarm In	16 NO/NC alarm input interfaces
Alarm Out	1 alarm output interfaces
UPS	Manage UPS via USB or USB serial port
USB Interface	2 2.0 USB interfaces
eSATA	1 eSATA interface
LED Indicator	Power Indicator, Network Status Indicator, HDD Status Indicator, Keyboard Function Indicator
Remote Control	Supports IR remote control operation
RTC	Supports RTC
HDD	Supports up to 4 SATA HDDs with a maximum of 8TB storage capacity in total. The single HDD capacity up to 2 TB
Temperature	Operating Temperature: -10°C -50°C Storage Temperature: -20°C -60°C
Humidity	10-90% (non-condensing)
Installations	Supports the rack-mounted front installations
Compliance	FCC: Part 15 (CFR47) Class B ; UL 60950 (Power) CE: EN55022 Class B, EN55024, EN61000-3-2, EN61000-3-3, EN60950-1, RoHS C-TICK: AS/NZS CISPR22 Class B, AS/NZS CISPR24

Table 2: GVR3550 Hardware Specifications

IR REMOTE CONTROL OPERATIONS

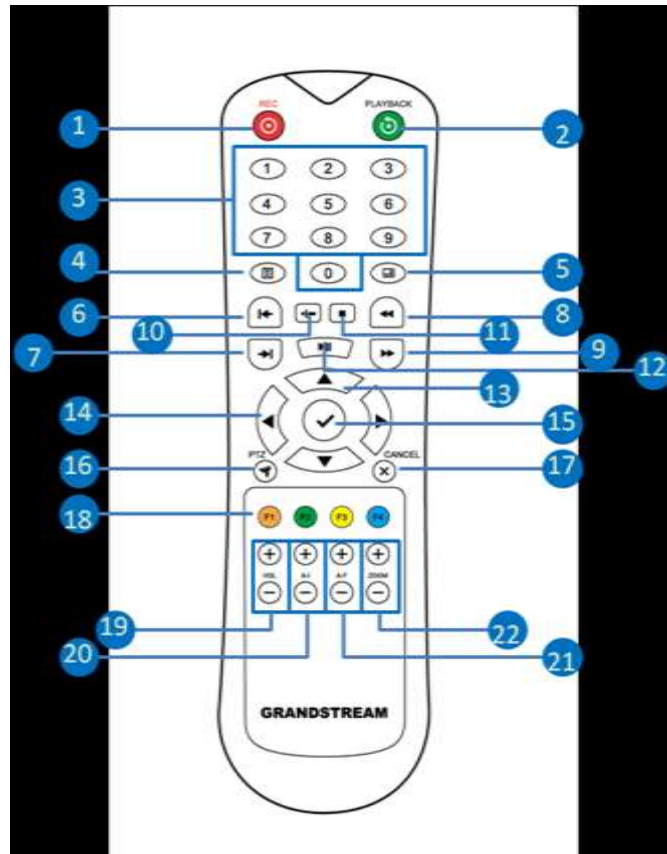


Figure 8: GVR3550 IR Remote Control

- | | | |
|-----|---|--|
| 1. | <i>REC Button:</i> | Manual start/stop record. This button works in concert with the direction buttons in the record control menu to select the channel to record |
| 2. | <i>Playback Button:</i> | Enter playback screen |
| 3. | <i>Numeric Buttons:</i> | Function as the numeric buttons on the front panel |
| 4. | <i>MENU Button:</i> | Enter menu |
| 5. | <i>Multiscreen Button:</i> | Switch the monitor screen to a single screen or multiscreen |
| 6. | <i>Single-frame back Button:</i> | Single frame playback of the record |
| 7. | <i>Single-frame Step Button:</i> | Single frame forward of the record |
| 8. | <i>Fast Backward Button:</i> | Various fast forward and normal playback modes. The speed would be displayed on the playback screen |
| 9. | <i>Fast Forward Button:</i> | Various fast forward and normal playback modes. The speed would be displayed on the playback screen |
| 10. | <i>Skip Button:</i> | Switch to Skip mode. The button is used in concert |

- with the UP&DOWN buttons to determine since when to play record.
11. **STOP Button:** Stop playing record
 12. **PLAY/PAUSE Button:** Press the button to forward when playback pauses.
Press the button to pause playback when playing record.
 13. **UP&DOWN Direction Buttons:** Users could press the buttons to switch the activated programs by switching left or right
Control selecting channels via left & right button when preview
Control the progress bar when playback record
Auxiliary function (e.g.: Control and operate the PTZ menu)
 14. **Left & Right Direction Buttons:** Users could press the buttons to switch the activated programs by switching up or down
Controls selecting channel via up&down buttons when preview
Auxiliary function (e.g.: Control and operate the PTZ menu)
 15. **ENTER Button:** Press to confirm operations
Press to switch to the default button
 16. **PTZ Control Button:** Enable/Disable PTZ Control
 17. **Cancel Button:** Exit current menu to the upper level menu or cancel operations when pressing the function menu button (Close the top-level page or programs).
 18. **Function Buttons 1-4:**
 19. **Volume+- Button:** Adjust the volume of the video channel or the one in channel when playback
 20. **Aperture+- Button:** Adjust aperture at PTZ control
 21. **Focus+- Button:** Adjust focus at PTZ control
 22. **Zoom+- Button** Electronic zoom adjustment at PTZ control
Electronic zoom adjustment when single channel playback at full screen

The correct way to use IR remote control: Batteries must be installed before operation. 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 polarities of batteries

Check whether the batteries are used up

Check whether the remote sensor is obscured

Check whether a fluorescent lamp is being used nearby

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

USB MOUSE AND KEYBOARD

When the USB mouse is plugged into the GVR3550, users could make the following operations with the mouse:

Single click the left mouse:

Enter a functional menu.

Select one function and enable it.

Bring up the drop-down list when clicking the combo box.

Switch input methods in the input box, click on the corresponding symbol buttons on the soft keyboard to input numbers.

Double click the left mouse:

Double click on one channel screen to switch to full screen in multi-screen view mode. Double click again to exit full screen and go back to the previous multi-screen status.

Single click the right mouse:

Bring up the shortcut menu in realtime monitoring mode.

Do not save the setup menu content and exit the current menu, go back to the preview screen.

Scroll wheel:

Scroll up and down the list box.

MouseMove.

Select the entry or move one item of them with cursor.

NOTE:

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

INPUT METHOD

The GVR3550 supports both English and Chinese input methods, the input interface is as shown below.

Figure 9: GVR3550 Soft Keyboard---English Input Method

Figure 10: GVR3550 Soft Keyboard---Chinese Input Method

Figure 11: GVR3550 Soft Keyboard---Symbols and Numbers

Figure 12: GVR3550 Soft Keyboard---- Numeric Keyboard










	<i>Input lowercase</i>
	<i>Switch Caps Lock</i>
	<i>Sigquit</i>
	<i>Switch to Numbers & Symbols</i>
	<i>Switch to alphabet</i>
	<i>Space</i>
	<i>Switch to Chinese Input Method</i>
	<i>Enter</i>
	<i>Backspace</i>

Table 3:

GVR3550 Soft Keyboard Specifications

LOCAL OPERATIONS

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

USING THE WIZARD (TBD)

When the unit is enabled, users could use the wizard for basic configuration when once start the GVR3550 to make it work properly.

1. Check the display resolution. Please check the highest resolution the connected monitor supports before selecting the resolution, make sure the highest resolution you select is no higher than the parameters the monitor supports.
2. Confirm whether to enable the wizard the next time boot up the unit.
3. Permission authentication.
4. Time configuration. Set Time Zone, Date Format, System Time.
5. Network configuration .Set network parameters like IP Address, Subnet Mask and Gateway.
6. HDD Initialization.
7. Record configuration.
8. Save the changes and return to the wizard page to confirm finishing the setting.

LOGIN

The factory default username is “admin”, the password is “admin”. Users would be required to login again if timeout without operations on the page. Please change the password after login without delay.

After entering the GVR3550 local interface, it would display the live view interface as shown in figure 13 below. Users could click right mouse and then select any item in a pop-up menu to bring up the GVR3550 login interface. Or click on menu button in the lower left corner to login.

Figure 13: GVR3550 Live View Page---Right-click Menu

Figure 14: GVR3550 Local Login Page

LOCAL PREVIEW

The GVR3550 would directly display Live Preview after boot up, users could check the preview screen without login but unable to make any operations. Users could only make basic view operations and other setups after logged in.





PREVIEW STATUS

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

Name	Specifications
Add Channel	There is no channel added before. Click this button to quick enter the Channel Settings interface to add channel.
Channel Preview	Live view channel screen
Connecting the channel	Connecting the channel, no screens being played yet.
Channel connection failed	Display icon indicates channel connection failed

Table 4: GVR3550 Preview Channel Status Specifications

On the preview page, the record and alarm status of each channel could be distinguished by the tag at the top right corner of each channel.

Symbol	Name	Specifications
	Motion Detection Alarm	Alarm when detecting dynamic motion.
	Camera Lens Occlusion Alarm	Alarm in the corresponding channel when the remote camera is obscured.
	Missing Object Alarm	Alarm in the corresponding channel according to the alarm settings if the remote camera supports Missing Object Alarm and Local Missing Object Alarm has been configured before.
	Foreign Object Alarm	Alarm in the corresponding channel according to the alarm settings if the remote camera supports Missing Object Alarm and Local Foreign Object Alarm has been configured before.



	I/O Alarm	Alarm when the remote camera is connected to IO alarm devices according to the alarm settings.
	Record	The monitoring channel is in record mode.

Table 5: GVR3550 Preview Page Specifications

A dialog box will pop up in the center screen to prompt the users if there is an abnormal alarm, as shown in figure 15 below, the prompt box would disappear in 3 seconds.

Figure 15: GVR3550 Abnormal Alarm Prompt






Symbol	Name	Specifications
	Disconnect on 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. Alarm when detecting the IP address of the other device is in conflict with the GVR in the network.
	IP Conflict Alarm	Alarm when detecting the IP address of the other device is in conflict with the GVR in the network.

Table 6: GVR3550 Abnormal Alarm Specifications

BASIC PREVIEW OPERATION

Users could put the cursor on the channel screen if need to make basic operations to a particular channel. Click on the screen to bring up the menu bar as shown in figure 16. Click the buttons on the menu bar to make corresponding operations.



Figure 16: GVR3550 Basic Preview Operations











- 
 - **REC Off:** The channel is not recording now.
- 
 - **Auto REC:** The channel is in Scheduled Record mode.
- 
 - **Manual REC:** The channel is in Manual record mode.
- 
 - **Capture:** Capture the preview image and the external storage devices (like USB, eSATA) need to be connected. Users could configure the save path and set it to default.
- 
 - **Volume OFF/On:** If the remote camera is installed with audio input device once the volume is on, users could listen in to the user whose voice is conveyed from the remote camera.
- 
 - **Intercom On/Off:** If the remote camera is installed with audio input device once the intercom is on, users could speak to the user from the remote camera via local audio input device.
- 
 - **PTZ Control :** Click to enable PTZ Control to make basic operations like PTZ preset, patrol, Pattern, Contrail.
- 
 - **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 Replay:** Playback the record in the preset time of the channel. It will prompt “The selected channel has no record”if there is no record, Users could set the preset time in the Basic System Settings.
- 
 - **Image Configurati on:** Enter Image Configuration page to adjust the current window image.

IMAGE CONFIGURATION


Click on the Image Configuration button  to bring up the Image Settings dialogue box as shown in figure 17. Users could adjust brightness, contrast, saturation and hue by clicking the corresponding Plus/Minus icon.

Figure 17: GVR3550 Image Configuration Page

NOTE:

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

USE PTZ

Click the PTZ Control button to bring up the PTZ Control page, as shown in figure 18 below.

Figure 18: GVR3550 PTZ Control Page




Name	Specifications
<i>PTZ Direction Control and Reset button</i>	8 PTZ direction buttons are used to control the corresponding eight directions of PTZ, the reset button is used to restore PTZ direction to the original position.
<i>Adjust Aperture+, Focus+, Lens +</i>	Zoom in the Aperture, Focus and Lens respectively. Lens + is only available when the channel is in full screen mode.
<i>Adjust Aperture-, Focus-, Lens -</i>	Zoom out the Aperture, Focus and Lens respectively. Lens - is only available when the channel is in full screen mode.
<i>More:</i>	Bring up more PTZ settings.
<i>PZT Control Selection</i>	Bring up preset setting and operation panel below the screen when PTZ is set to preset.
	Bring up patrol setting and operation panel below the screen when PTZ is set to patrol.
	Bring up pattern setting and operation panel below the screen when PTZ is set as contrail.
<i>Exit PTZ Control</i>	Click to exit the PTZ Control panel directly.

Table 7: GVR3550 PTZ Control Specifications

PRESET

Users could choose PTZ control as preset then make operations like add/delete/edit preset on the control panel below. The procedures are shown in figure 19.






Figure 19: GVR3550 PTZ Control Page---Preset

1. Adjust the remote camera position via the PTZ direction control.
2. Click on  below the preset control panel to add a new preset.
3. Enter the name of preset in the added input box or use the default name.
4. Click the check button on the right to save the preset, or click  on the right of the preset to edit the name.
5. Double click the preset with mouse(or the Confirm button on the front panel , or the Enter button on the control) to activate it.
6. Once selected the preset, users could click on the button  below the preset control panel to cancel the operation if don't need it.

PATROL(TBD)

Users could edit and apply patrols on the control panel if set PTZ operation to patrol. The factory default setting are 4 empty patrol paths. See figure 20.




Figure 20: GVR3550 PTZ Control Page---Patrol

1. Set PTZ control to patrol.
2. Select the patrol path.
3. Set the time duration the patrol path stays at each preset .
4. Click on  to add key point and set it as one preset. Users could click on  in the lower right corner of the panel to delete the key point if set the wrong key point.
5. Click on  before the patrol path. Once the button turns into a triangle , the PTZ will cycle according to the path. Click  again to stop the patrol.

CONTRAIL(TBD)

Users could edit and apply contrail on the control panel below if set PTZ operation to contrail. The factory default setting are 3 empty contrails. See figure 21.

Figure 21: GVR3550 PTZ Control Page---Contrail

- Set PTZ control to contrail.
- Select the contrail name you want to set.
- Click the “Start Record” button to adjust the contrail of the remote camera via using the PZT control wheel
- Click the “Save Record” button after adjusting the camera contrail to save the operation in step 3 mentioned above.
- Click on  before the contrail. Once the button turn into a triangle , the PTZ will cycle according to the contrail. Click  again to stop PTZ movement.

RIGHT-CLICK

Click the right mouse to bring up the right-mouse menu, users could enter Video Playback or the main menu as well as set local preview channel, Start/Stop Total Record, Start/Stop Patrol, Channel Config or unload the inserted USB device. The local preview mode can be set to Single Screen and Four Screen, and users need to set the specified channels.

Figure 22: GVR3550 Right-mouse Menu

Name	Specifications
Record Playback	Enter video playback page
Main Menu	Enter system settings page
Single Screen	Switch to one single channel to preview
Four Screen	Switch to 4 screen: IMG One-to-Four, IMG Five-to-Eight, IMG Nine-to-Twelve, IMG Thirteen-to-Sixteen.
Start/Stop Total Record	Start all manual record. Once enabled, the menu item turns to”Stop Total Record”.Click to stop all recordings including auto record.

Start/Stop Patrol	Enable Patrol. Once enabled, the menu item turns to "Stop Patrol". Click to stop patrol to stay on the current screen.
Channel Config	Quick access the channel settings.
Unload	Unload the inserted USB device.

NOTE:

- *Please go to Menu->System Settings->Local View Control to set Patrol Intervals.*
- *Patrol would pause if users make any arbitrary 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 screen to bring up the shortcuts options as shown in figure 23. Users can enter the Video Playback page or the main menu as well as login /logout or reboot the unit.

Figure 23: GVR3550 Preview Page Shortcut Button

LOCAL PLAYBACK

Click right mouse to select Video Playback to enter the playback page, as shown in figure 24 below. Users could make operations like Query, Playback, Tagging, Download, Clip, Locked Record, ect.

Figure 24: GVR3550 Record Playback Page

SEARCH RECORD

Users could query record by time as well as by tag.

QUERY BY TIME

Select Record Channel (up to maximum 4 channels) after selecting the Record Date, and then click the Query button to search. The queried record would be displayed in the video status toolbar below the playback page. See figure 25.

Figure 25: GVR3550 Record Playback - Record Status Toolbar

There are color descriptions about the record status on the bottom. As figure 25 shows, the priority of color display is from left to right, from highest to lowest. (Except for "Select All").

- | | | |
|-------------------------------------|------------------------------------|---|
| <input checked="" type="checkbox"/> | • Select All: | Display all record types |
| <input checked="" type="checkbox"/> | • IO Alarm: | Use the color to tag GVR3550 IO alarm record file |
| <input checked="" type="checkbox"/> | • IO Alarm(IPC): | Use the color to tag remote IO alarm(IPC) record file |
| <input checked="" type="checkbox"/> | • Motion Detection: | Use the color to tag motion detection record file |
| <input checked="" type="checkbox"/> | • Missing Object Detection: | Use the color to tag missing object detection record file |
| <input checked="" type="checkbox"/> | • Foreign Object Detection: | Use the color to tag foreign object detection record file |
| <input checked="" type="checkbox"/> | • Camera Lens Occlusion: | Use the color to tag camera occlusion record file |
| <input checked="" type="checkbox"/> | • Video Loss: | Use the color to tag video Loss file |
| <input checked="" type="checkbox"/> | • Manual Record: | Use the color to tag manual record file |
| <input checked="" type="checkbox"/> | • Scheduled Record: | Use the color to tag scheduled record file |

SEARCH BY TAG

Input the tag keyword on the query page, click “Query” to bring up the page as shown in figure 26.

Figure 26: GVR3550 Record Playback Page- Search by Tag

Tag Management: click the button to enter the Tag Management page as shown in figure 27, users could edit or delete tag(s).

Figure 27: GVR3550 Tag Management Page

NOTE:

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

RECORD PLAYBACK

GVR3550 support synchronous 4 channel playback, users can specify the date as well as the channel to play, or make operations like fast forward, Full Screen/Cancel Full Screen, Lock Record, Tagging, Download t one single screen or one video being played in full screen.

The playback toolbar is shown in figure 28.

Figure 28: GVR3550 Record Playback Toolbar



Set date manually, click to enter the Date Settings page to set when to play the record.



It can be used to play/pause record.



Stop playing record



Play backward the record at certain speed. Only available when the single channel is in full screen.



Playback single frame to the record, only available when the single channel is in full screen.



Play forward single frame to the record, only available when the single channel is in full screen.



To speed up the record, support 2 times, 4 times, 8 times and 16 times as well as 1/2 time, 1/4 time, 1/8 time and 1/16 time fast forward. Only available when the single channel is in full screen.



Select channel to enter full screen mode then mouse click the screen, the toolbar would appear on the bottom of the screen. The mouse that located outside the toolbar without any operations in three seconds would be hidden automatically.



Click the button to snapshot the current screen and save the image to the external storage device. If the snapshot failed, then a prompt will pop up as shown in figure 31. Please insert the USB device then go to Main Menu->System Settings ->Basic System Settings to set the save path.

Figure 29: GVR3550 Save Snapshot Failed Prompt



Click the button to bring up the volume control bar, click and drag it to adjust the volume. Click the button again to close the control bar.



Click the button to bring up the Tagging setting page as shown in figure 32. Input the tag name in the "Tag Name" input box and then click the "Save" button.

Figure 30: GVR3550 Tagging Management



Click a screen to initialize single screen play



Click to enter 4 screen






Click the button to enter the Record Lock page as shown in figure 33. Users could check all recordings the day and the locked recordings. Click on  to lock record and the locked record is labeled with , click on  to unlock the record. Users could also click on the Playback button to replay the record .

Figure 31: GVR3550 Locked Record Management



Click the button to set the current time as the start time to clip record.



Click the button to set the current time as the start time to clip record.



Click the button to bring up the Record Save Path Setting page as shown in figure 34 below. Click on the “Save” button to download record after setting the path.

Figure 32: GVR3550 Record Save Path Settings Page

NOTE:

- *The configured default path would be invalid if the external storage device is changed, the corresponding failure prompt would pop up if users click the “Snapshot” 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 clippings files or it may cause record download failure or error.*

MAIN MENU

Right click the mouse to enter the GVR3550 System Configuration page, see figure 33.

Figure 33: GVR3550 Main Menu Page

The configuration items are varied according to different user permissions. Administrator users can make operations like Record Configuration, Channel Management, Alarm Configuration, Network Settings, System Settings, Status and Maintenance.




RECORD CONFIGURATION

Record Settings include Record Mode Configuration, Record Plan Configuration and Record Policy Configuration.

RECORD MODE CONFIGURATION

Record Mode Configuration interface is as shown in figure 34 below, users could click the switches corresponding to the channel name to make operations like close record , open the manual record and auto record.

Figure 34: GVR3550 Record Channel Settings Page

 手动	Manual Record status, the channel is in manual record mode currently.
 自动	Auto Record status, the channel is in auto record mode currently.
 关闭	Auto Record status, the channel is in auto record mode currently.

Users could also click the “All Close ”, “All Manual”, “All Auto” buttons on the setting page to set all channels.

RECORD PLAN CONFIGURATION

Users could add new record plan on the corresponding setting page and manage the plan of each channel via manage the plan list. See figure 35.

Figure 35: GVR3550 Record Plan Settings Page

1. Click the “New Plan” button to bring up the following editing page. See figure 36.users could set the plan name you familiar with.

Figure 36: GVR3550 Add New Record Plan Page

2. Set record interval on the weekly basis: at least set one interval and users could set up to eight time intervals at maximum. Intervals could be duplicated to other weeks. The copy page is shown in figure 37.

Figure 37: GVR3550 Add New Record Plan Page---Duplicate Time Interval
Users could edit, modify, delete and apply the plan in the list.




Click  to display the record plan details as shown in figure 38.

Figure 38: GVR3550 Record Plan Display Page

Click the icon  to bring up the record plan editing page as shown in figure 38.

Click the icon  to bring up the applied channel setting page. Check one channel to apply the plan to this channel. The added channel would be showed in the “Applied Channels”.

NOTE:

- *One channel can only correspond to one schedule record*

RECORD POLICY CONFIGURATION

Record policy endows users with more efficient usage of limited HDD resources. Users could set the proper pre-record time so as to view the record a few seconds before alarm when there is an alarm event. Or users can also set stop record or overwrite the previous record when the HDD capacity is insufficient.

Figure 39: GVR3550 Record Policy Configuration Page

- **Pre-record Time:** Set up the pre-record time of the record .Valid time: 0 to 30 seconds.
- **When HDD is Full:** Set the policy when HDD is full: Users could select “Stop Record”, or “Overwrite Previous” , which means the new record would override the earliest ones when HDD is full.

CHANNEL MANAGEMENT

Channel Management includes Channel Config, Encoding Config and IPC Event Config.

CHANNEL CONFIG

Users could search all available IPC within the same LAN via “Search Device” as shown in figure 40.

Figure 40: GVR3550 Channel Config Page

Check the IPC you want to add, click the “Add” button to add it to the channel list below.

If the camera can't be searched automatically, users can also manually add the target camera to the channel list. As shown in figure 41.

Figure 41: GVR3550 Manual Add Channel

- **Channel :** Select the target channel to add, the added channel is unavailable for selection.
- **Protocol:** Choose channel protocol. GVR3550 currently only supports IPC compatible with ONVIF protocol and Grandstream GXV36xx series cameras.
- **IP:** Set the IP Transmission protocol to TCP or UDP.
- **IP Address:** Set the IP address of the remote IPC
- **Port:** Set the port No. of the remote IPC
- **Username:** Set the username connecting to the remote IPC
- **Password:** Set the password connecting the remote IPC

NOTE:

- *When adding the searched remote device, the username and password with which the GVR3550 trying to connect to the remote device are all default ones, If the username and password of the remote device are not accord with the default ones of GVR3550, connection may fail. Please manually modify the username and password of the remote device. The default username and*

password of the GVR3550 connecting to the remote device are respectively: admin, admin; or username and password are both empty.

ENCODING CONFIG

Encoding Config page is as shown in figure 42 below, users can set the Channel Name and define where and when to display it .

Figure 42: GVR3550 Encoding Config

- **Channel Selection:** Select the channel to apply encoding settings
- **Channel Name:** Set the name the channel displays on the preview screen
- **Display Time:** Set whether to display Time name on the preview screen
- **Display Channel Name:** Set whether to display channel name on the preview screen
- **Position:** Set the location the time/ channel name display on the preview screen: upper left corner, lower left corner.
- **Record Audio:** Set whether to record audio when recording
- **Mainstream:** Set the mainstream parameters
- **sub-stream:** Set the sub-stream parameters
- **Encoding Mode:** H.264
- **Resolution:** Mainstream resolution type is the encoding configuration of remote IPC. Support all IPC no higher than 2043*1536 resolution.
- **Stream Control:** Including Instant bit rate and Variable bit rate. Users could not set the image quality within Instant bit rat. When it refers to variable, image quality is optional. Set the image quality according to the scope IPC provides.
- **Image Quality:** Set according to the scope IPC provides within variable bit rate.
- **Bit Rate (kpbs):** Set bit rate to change the image quality, larger rate would bring better quality. The reference range is 256 ~ 8192 Kbps.

- **Frame Rate (fps) :** The reference range is 1 ~ 30 fps

I-frame Interval: The reference range is 1 ~ 100s

IPC EVENT CONFIG

IPC Event Config page is as shown in figure 43 below, Users could set different Alarm type to each channel.

Figure 43: GVR3550 IPC Event Config Page

- **Channel:** Select the channel you want to configure
- **Event Type:** Motion Detection, Camera Lens Occlusion, Signal Loss, IPC External Alarm, Missing Object Detection, Foreign Object Detection.
- **Alarm Enable:** Check to enable/unable the function
- **Arming Time Config:** Set arming time period

Click on “Arming Time Config” to bring out the page below. Users could set IPC arming time period.

Figure 44: GVR3550 IPC Arming Time Settings Page

- **Detection Area Settings:** Users could set detection area to IPC with Motion Detection, Missing Object Detection and Foreign Object Detection function.

Users could set various alarm actions in view of different channels and alarm types, such as Screen Prompt, Buzzer, HDMI Alarm, Send Email, Alarm Output and Record Video, or copy the alarm to other channels.

Parameters	Specifications
Screen Prompt	Check to alarm with screen prompt
Buzzer	Check to alarm with buzzer

HDMI Alarm	If the GVR3550 is connected to HDMI device, check to alarm with HDMI.
Send Email	Send Email to one mailbox when setting alarm. Go to Main Menu->Network Settings -> Server Settings to set the addressee address.
Record Channel	Check the record channel when alarm
Record Delay(Sec)	Set the start time to record when alarm
Alarm Output	Set the alarm output when alarm
Alarm Delay(Sec)	Set the alarm delay time when alarm
Copy to Other Channels	Select the channel to copy its configured alarm parameters to other channels

ALARM CONFIGURATION

The GVR3550 supports up to 16 channel alarm input and 2 channel alarm output. Please refer to the chapter “Connect Alarm Device ”to connect the output and input device.

(IO) ALARM CONFIG

Users could set different IPC alarm type to each channel corresponding channel, see figure 45.

Figure 45: GVR3550 IO Alarm Config Page

- **Input Port:** Select the input port No.
- **Event Type:** Select the event type like Port Input Alarm
- **Alarm Enable:** Check to enable/disable the function
- **Alarm Status:** Two options available: Normal Open, Normal Close (Default). Please select according to your alarm input type. Reboot to make changes take effect.
- **Port Name:** Input the name of alarm input to distinguish the alarm input ports
- **Arming Time Config:** Set arming time period

Click on “Arming Time Config” to bring out the page below. Users could set IO arming time period.

Figure 46: GVR3550 IO Alarm Config Page

Users could set various alarm actions in view of different channels and alarm types, such as Screen Prompt, Buzzer, HDMI Alarm, Send Email, Alarm Output and Record Video, or copy the alarm to other channels. Alarm Parameters settings procedures are the same as chapter “IPC Event Config”.

ABNORMAL ALARM CONFIG

Abnormal Alarm Config includes Disconnection Alarm, HDD Empty Alarm, HDD Full Alarm, HDD Error Alarm and IP Conflict Alarm. See figure 47 below, users can set the alarm actions after selecting the corresponding alarms.

Figure 47: GVR3550 Abnormal Alarm Settings Page

- **Disconnection** Alarm when detecting no cable access

Alarm:

- **HDD Empty** Alarm when detecting no HDD access

Alarm:

- **HDD Full Alarm:** Alarm when detecting full HDD
- **HDD Error** Alarm when detecting unusable HDD with error

Alarm:

- **IP Conflict** Alarm when detecting the IP address in the network conflict with the GVR3550.

Alarm:

The GVR3550 Abnormal Alarm Config includes Screen Prompt, Buzzer, HDMI Alarm, Send Email, Alarm Output .Alarm Action Parameters settings procedures are the same as chapter “IPC Event Config”.

NETWORK SETTINGS

Network Management includes Basic Settings, Advanced Settings and Server Settings. Users could easily imply network connection and ensure the security in network via Network Settings.

BASIC SETTINGS

Basic Settings page is shown in figure 48 below, users can choose to obtain IPv4 address automatically , manually set static IP address or use PPPoE. The GVR3550 is available only when network setup is correct.

Figure 48: GVR3550 Network Settings---Basic Setting

- **DHCP:** Check to obtain IPV4 address from DHCP server automatically
- **Static IP:** Check to set static network parameters
- **IP Address:** Input IPV4 address manually
- **Subnet Mask:** Input IPV4 subnet mask manually
- **Gateway:** Input IPV4 gateway manually
- **Preferred DNS Server:** Input Preferred DNS server manually

- **Secondary DNS Server :** Input secondary DNS server manually
- **MTU (B) :** Input MTU(Maximum Transmission Unit), the largest packet transmitted on the network.If the GVR3550 MTU is larger than the one of gateway, the larger packet will be disassembled to be transmitted, please confirm your gateway MTU before setup.
- **PPPoE:** Check to set static network parameters
- **Username** Input the username provided by the vendor
- **Password:** Input the password provided by the vendor

ADVANCED SETTINGS

Advanced Settings page is shown in figure 49. Users can set PPPoE, UPnP and multicast group.

Figure 49: GVR3550 Advanced Settings

ENABLE PPPoE

Enable DDNS to access GVR3550 via the domain name if already enabled PPPoE connection to the internet, with this way can effectively solve the problem that access GVR with dynamic IP.

The GVR3550 supports 3322, NOIP, DynDNS.Select the proper DNS type and input the correct domain name, username and password to complete the GVR3550 DDNS settings after enabled DDNS.

CONFIGURING UPnP

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


After clicking Enable UPnP, users can click on  to set the external port No., as shown in figure 50 below.

Figure 50: GVR3550 UPnP Settings

When the port status displays “Active”, it indicates the successful connection of the GVR3550 and the router, the parameters have taken effect.

ENABLE MULTICAST GROUP

When access the GVR3550 and apply live view via remote network, users will unable to preview if multiaccess exceeded the maximum bandwidth the GVR3550 allows. This problem could be solved with multicast protocol access by setting multicast IP.

Multicast IP is Class D IP address and its range is from 224.0.0.0 to 239.255.255.255. It is recommended to adopt address within 239.252.0.0 to 239.255.255.255.

SERVER SETTINGS

The GVR3550 supports NTP, DHCP and SMTP. See figure 51.

Figure 51: GVR3550 Server Settings Page

ENABLE NTP SERVER

GVR3550 could provide other devices in the network with NTP service. Check “Enable NTP Server” to initialize this function.

ENABLE DHCP SERVER

The GVR3550 could allocate dynamic IP address as DHCP server to other devices with the same segment.

The procedures are:

1. Check “Enable DHCP Server”.
2. Input the assignable IP address range as DHCP address pool.
3. Set Lease Time.
4. Set DNS server address and the secondary DNS server address.

MAIL SETTINGS

The GVR3550 could set alarm action to send Email, the procedures are as follows:

1. Set SMTP server and input the SMTP server address.
2. Input the Email subject, sender address, username and password.
3. Set receiver address. The GVR3550 could set 3 receiver addresses according to varied requirements to send the alarm to different receivers.
4. Set send interval, one alarm would send only one Email within the interval.
5. Set Email subject and template. The GVR3550 is equipped with default ones, users could also customize them by reference to the template rule.
6. Input the Email address, click on the “Test” button to testify whether the settings is correct.

Parameters	Keyword	Specification
1	\$name	Alarm Name
2	\$time	Time to trigger the alarm
3	\$channel	Channel No. to trigger alarm
4	\$mac	MAC address to trigger alarm
5	\$ip	IP address to trigger alarm
6	\$port	Port No. to trigger alarm
7	\$protocol	Protocol type to trigger alarm(Only valid for illegal software alarm)
8	\$keyword	Keyword to trigger alarm(Only valid for keyword alarm)
9	\$content	Summary to trigger alarm(Only valid for keyword alarm)

Table 8: GVR3550 Email Settings Parameters Specifications

STATUS

Status includes System Info , Network Status, HDD Info and Device Status .

SYSTEM INFORMATION

Users could view GVR3550 serial number and version information, as shown in figure 52 below.

Figure 52: GVR3550 System Information

NETWORK STATUS

Users could view network status includes IP address and network data sending& receiving status. As shown in figure 53.

Figure 53: GVR3550 Network Status

HDD INFO

Users can view information including HDD Space, Free Space, HDD Status, HDD Type, HDD Total Space, Total Free Space. As shown in the figure 54 below.

Figure 54: GVR3550 HDD INFO

DEVICE STATUS

Device status is shown in figure 55 below.

Figure 55: GVR3550 Device Status Page

- **CPU Usage:** Real-time display the GVR3550 CPU usage.
- **Memory Usage:** Real-time display the GVR3550 memory usage.

SYSTEM SETTINGS

System Settings include Basic Settings, Display Settings, Local View Control, HDD Management, User Management .

BASIC SETTINGS

Basic settings page is shown in figure 56 below, users could set Record File Size, Live View Performance, language, Time Zone, etc.

Figure 56: GVR3550 Basic System Settings

- **Language:** Set the language the unit displays
- **Logout when idle:** Users need to login again to make operations other than preview
- **Set the time:** Users could set time manually or obtain time automatically from the NTP server
- **Manually:** Set time in the drop-down box
- **Obtain Automatically:** Obtain time automatically from the NTP server
- **Synchronize IPC time:** Synchronize the time on the GVR3550 with the one on the connected PC
- **Time Zone:** Select the time zone of the GVR3550 manually
- **Manual set time:** Input the system time of the GVR3550 manually
- **Record File size(Clip/Backup):** Set the file size of the clip record and backup record, 256M and 512M is optional, the default one is 256M.
- **Live View Performance:** Set the size to 256 M, 512 M and 1 G, the default value is 256 M.
- **Play Performance:** Set the playback performance to least delay(Real-time video images), best fluency(Fluency of video images) and balanced.
- **Screenshot File Saving Path:** Set the default path to save the snapshots file when preview and playback
- **Records and Playback Clips:** Set the default path to save the clipping file when playback

Save Path:

- **Instant Playback Start Time(Min)** The default is 5 minutes
- **Open SSH:** Set whether to open SSH
- **Web Connection Mode:** Set the web connection mode to HTTP or HTTPS, the default is HTTP
- **Port :** Set the port No. of web connection, the default is 80
- **RTSP Port:** Set the port No. of RTSP, the default is 554

DISPLAY SETTINGS

Users could set Screen Resolution, Brightness, Contrast, Saturation, Hue on the connected display device as shown below.

Figure 57: GVR3550 Display Settings Page

- **Screen Resolution:** Set the default screen resolution among Auto, HDMI and VGA. Users could set the maximum resolution to 1080p to HDMI and VGA.
- **Brightness:** Set the brightness of the display device, the reference range is 0~100
- **Contrast:** Set the contrast of the display device, the reference range is 0~100
- **Saturation:** Set the saturation of the display device, the reference range is 0~100
- **Hue :** Set the hue of the display device, the reference range is 0~100

LOCAL VIEW CONTROL

Local View Control is used to set the corresponding channel screen and patrol intervals, as shown in figure 58 below.

Figure 58: GVR3550 Local View Control

The connected channel name will be displayed on the left of the screen, as shown in figure 59. Click on



to enter the channels page, as shown in figure 58 below, check before the channel to map it to the screen.

Figure 59: GVR3550 Local View Control--- Channel Application
Patrol intervals is the patrol interval in live view mode.

HDD MANAGEMENT

HDD Management interface is shown in figure 59 below. Users could view all HDD storage status as well as format HDD, Erase All data, Configure Property, ect.

Figure 60: GVR3550 HDD Management

- **HDD No.:** The HDD No.is allocated automatically according to the position sequence of HDD.
- **HDD Space:** Display the total capacity of HDD
- **Free Space:** Display the surplus capacity of HDD
- **HDD Status:** Display HDD state: Normal
- **Type:** Display HDD read-write state:Read/Write
- **Edit:** Click to enter HDD editing page as shown in table 25.. Users could make operations lile Format HDD, Erase all Data and Configure Property.
- **Unload:** Click to unload HDD, only eSATA could be unloaded.
- **HDD Total Space:** Display the total HDD capacity including eSATA
- **Total Free Space:** Display the Surplus HDD capacity including eSATA

HDD Property editing page is shown below.

Figure 61: GVR3550 Property Editing Page

- **Format HDD:** Users could format HDD. Please note that once formatted, all HDD data will be erased without recovery.
- **Erase All Data:** Users could erase all HDD data. Please note that once erased, all HDD data will be emptied without recovery.
- **Configure Property:** “Write” or “Read” is optional. The HDD will not save record if set to “Read”.

USER MANAGEMENT

The GVR3550 could be added up to 30 administrator users . Users can be operator or normal user. As shown in figure 62 below.

Figure 62: GVR3550 User Management Page

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 63 below. Users could input username, password and edit privilege: operator and normal user are two optional permissions available.

Figure 63: GVR3550 Add a User

Click “Save” after setting the user information to create a new user successfully.

EDITING USER INFO AND PRIVILEGE



The new created user privilege is default, users could modify the user information and privilege via clicking on  and . See figure 64 below, users could confirm new password and set user level.

Figure 64: GVR3550 Editing User Info Page

The normal user only has permissions to playback record and channel privilege on remote preview. Tick to set. See figure 65.

Figure 65: GVR3550 Editing Normal User Info Page

The operator user has permissions to set channel privilege and part of configuration privilege. Tick to set. See figure 66.

Figure 66: GVR3550 Editing Operator User Info Page

NOTE:

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

DELETING A USER

Other user accounts can be deleted in addition to the administrator account. Users only need to tick the user you want to delete then click on the “Delete” button below the page to make delete operations take effect.

PRIVILEGE SPECIFICATION

Administrator: Has all permissions by default.

Operator: Channel Privilege and part of configuration permissions other than User Management and Advanced System Settings.

Normal User: Part of Channel Privilege other than Manual Operation.

Channel Privilege: including Remote Preview, Manual Operation, playback.

Configure Privilege: including Record Configuration, Channel Management, Alarm Configuration, Network Settings, Status, System Setting and Maintenance.

Configuration Privilege Description:

Record Configuration: including Record Mode channel Configuration, Record Plan Configuration, Record Policy Configuration.

Channel Management: including Channel Config, encoding Config, IPC Event Config.

Alarm Configuration: including IO Alarm Config, Abnormal Alarm Config.

Network Settings: including Basic Settings, Advanced Settings, network security settings.

System Information: including device information and Server Settings.

Status: All status will be displayed by default.

System Settings: Including Basic Settings, Display Settings, Local View Control, HDD Management.

Maintenance: including Network Diagnosis, HDD Diagnosis, Query System Log.

MAINTENANCE

Users could make operations like Network Diagnosis, HDD Detection, System Log and Advanced System Settings on the maintenance page.

NETWORK DIAGNOSIS

Users could make operations like Network Test, Packet Capture. See table 9 below.

Table 9: GVR3550 Network Diagnosis Page

Parameters	Specifications
Network Test(ping):Destination Address	Input the address and click on "Start" to initiate the test, Click on "Stop" to end it.
Diagnosis Display	Display the diagnosis result of the GVR3550 and the destination IP address.
Path of file saving	Display the model of external storage device, available for choose if there are multiple models.

Refresh	Click the button to display the new connected device.
Start	Click the button to capture packet, The file will be saved automatically in the root directory of an selected external storage device.

Table 10: GVR3550 Network Diagnosis Specifications

HDD DETECTION

The GVR3550 provides S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) Detection and Bad Sector Detection. Users could check the running status of HDD via HDD detection.

S.M.A.R.T detection provides a variety of detections on HDD heads, temperature, material of disk surface, internal circuit as well as timely monitoring and forecasting the underlying problems of HDD that may occur.

S.M.A.R.T detection page is as shown in figure 67 below.

Figure 67: GVR3550 S.M.A.R.T Detection Page

- **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.
- **HDD No.:** The HDD No.1-4 will be allocated in sequence after HDD mount and the HDD No.will not be changed in the subsequence use.
- **Detection Type:** Set S.M.A.R.T. Detection type. There are three types: Short, Long, Conveyance.
- **Start:** Click the button to initiate S.M.A.R.T. Detection.
- **HDD Temperature** Display the HDD temperature S.M.A.R.T Detection detected.
- **Usage Time:** Display the total usage time of HDD S.M.A.R.T Detection detected.
- **Detection Status:** There are two statuses: Passed, Not passed.
- **Evaluation Result:** There are two results: Good, Bad.
- **Overall Evaluation:** Display the overall HDD status after detection.

The HDD bad sector could be detected via Bad Sector Detection as shown in figure 68 below.

Figure 68: GVR3550 HDD Bad Sector Detection Page

- **HDD No.:** The HDD No.1-4 will be allocated in sequence after HDD mount and the HDD No.will not be changed in the subsequence use.
- **Start:** Click the button to initiate Bad Sector Detection.
- **HDD Capacity** Display the total HDD capacity
- **Block Capacity:** Display the HDD block capacity
- **Status:** Display Bad Sector Detection status: Testing, Test Paused, Not Tested.
- **Error Count:** Display the number of HDD errors
- **Pause/Continue:** Pause/Continue Bad Sector Detection
- **Stop:** Stop Bad Sector Detection
- **Error Info:** Click the button to check the HDD error info details
- **HDD Status Display:** Tag HDD status with various colors:Good, Damaged, Shield.

SYSTEM LOG

Users could consult the running state of GVR3550 via System logs. See figure 69 below.

Figure 69: GVR3550 System Log Page

- **Start Time:** System log search start time
- **End Time:** System log search end time
- **Log Type:** System logs including: All Types, System Operation, Configuration Operation, Data Management,Alarm Event, Record Operation, User Management, Clear Log, File Operation.
- **Search:** Click this button to start searching the eligible log and display it in the log list.
- **Export Log:** The GVR3550 supports exporting the searched log to an external storage device,
- **Browse:** Click this button to select the destination address to save the exported log,
- **Export:** Click this button to save the exported log file to the selected destination path.
- **Clear:** Click this button to clear the log information.
- **Play:** When the log type is alarm event, the play button is in blue, click this button to enter the Playback page to replay the record.
- **Details:** Click this button to view detailed information of one log.

ADVANCED SYSTEM SETTINGS

BACKUP

GVR3550 supports quick backup and search backup. Users could choose the channel and set the record time for quick backup, and also could set the record type, file type and record time to search the needed record file for backup. The backup interface is shown in figure 70 below.

Figure 70: GVR3550 Record Backup Page

NOTE:

- *The longest record time for quick backup is no more than 24 hours, otherwise you will be prompted “The longest duration for quick backup is 24 hours!”*
- *Supports up to 1 channel quick backup.*
- *Quick backup and search backup function only support local backup, remote backup is not supportive.*

QUICK BACKUP

1. Select the backup channel and set Record Type, File Type, Start Time and End Time, click on “Quick Backup” Button.
2. Enter the Quick Backup page as shown in figure 71, refresh the device name to save the backup file.

Figure 71: GVR3550 Quick Backup Page

3. Click on the “Backup” button to enter Backup page as shown in figure 72 to export all files.

Figure 72: GVR3550 Quick Backup Progress

SEARCH BACKUP


1. Select the backup channel set Record Type, File Type, Start Time, End Time.
2. Click on the “Search Backup” button to enter the corresponding page as shown in figure 73 below. Users could also click on  to playback the record.

Figure 73: GVR3550 Search Backup Page

3. Select the record you want 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 this try still failed, it might be the problem that the backup device is not compatible with GVR3550. Please refer to “The Tested Backup Device List” on Grandstream website.*
- *If the file format of USB device is incorrect, please format the device then try again. GVR3550 supports USB device with FAT 32 format.*

IMPORT/EXPORT CONFIGURATION FILE

GVR3550 supports import/export configuration file. Users could import GVR3550 configuration file to external storage device for backup, or import the file to GVR3550 thus to avoid manual settings. Users could

apply backup function if multiple devices need to be set to the same parameters. The Import/Export page is shown in figure 74.

Figure 74: GVR3550 Import/Export Configuration File

WARNING!

Restart GVR3550 for the change to take effect after importing configuration file. The original file would be overwritten by the new one, Please use this function with caution.

- **Import Configuration File: Select** Select configuration file
- **Import** Click to bring up the warning interface, confirm whether to reboot GVR3550 for the configuration to take effect.
- **Export Configuration File: Browse** Browse to select the save path for configuration file.
- **Export** Click to export the configuration to the configured external storage device.

UPGRADE

The GVR3550 supports various upgrade modes: TFTP, HTTP, HTTPS, and manual upload for update.

Figure 75: GVR3550 Update Configuration Page

- **Update Type** When selecting Firmware /configuration file update, choose one type from TFTP, HTTP, HTTPS and Manual Upload. The default is TFTP.
- **Firmware Server Path** IP address or domain name of software update server, only effective when the update type is HTTP or HTTPS.
- **Enable DHCP** The default is No. If check Yes, then GVR3550 is allowed to obtain IP address as

Option 66 Server Settings well as firmware update server address(configured by DHCP server) via DHCP server simultaneously, this obtained address would overwrite the path the Firmware Server Path specifies to accomplish auto deployment. The upgrade Type will be mandatory TFTP.

Figure 76: GVR3550 Upgrade Status Page

FACTORY RESET

The GVR3550 upgrade needs to restart for change to take effect. Users could click the Reset button to confirm reset operation to restart.

There are two ways to reset factory settings: remove all the data, retain only the network data.

Figure 77: GVR3550 Factory Reset Page

WARNING!

The data on the GVR3550 will be erased if enable Factory Reset. Please take caution to use this function.

LOGOUT

GVR3550 would display preview status after logout. Please input username/password to login for authentication when entering the menu again.

WEB MANAGEMENT

OVERVIEW

The GVR3550 supports PC users to access and manage GVR via the web page. The Web client page provides operations like Channel View, Record playback & Search, Record Settings, Alarm Settings, System Settings, PTZ Control, most of which are abiding with the same operating mode as local GUI.

NOTE:

- *The following chapter is only to specify the operations differ from local GUI. Please refer to the chapter of local operations for other operations.*

SYSTEM LOGIN

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

1. Access a network.
2. Go to Main Menu->Status->Network Status to detect the GVR IP address when it runs normally.
3. Open a web browser and enter the GVR3550 IP address in the address bar, i.g.: http://192.168.10.101.
(The default port No.:80)
4. Press the "Enter" button to enter the GVR3550 Web Login page, input the username and password in the prompt box. The default administrator username and password are: admin, admin. Please modify the password after login without delay.

Figure 78: GVR3550 Web Page---Login

5. Select the Web page language in the drop-down menu. Chinese and English are supportive.
6. Click the "Login" button to enter Web interface.

WEB PAGE INTRODUCTION

Users could make operations like Live View, Record Playback, Record Download and System Configuration after login the GVR3550 remote Web page. See figure 79 below. Users can switch among live View, Record Playback and Settings page via Menu Settings, as well as set remote Web page language and logout.

Figure 79: GVR3550 Web Page--- System Menu

LIVE PREVIEW

Users need to download and install video playback plug-in “GVRView.exe” before make live Preview operations on the Web page. Refresh the webpage after downloading the plug-in. If the PC has installed the plug-in before, the system will prompt to close the browser to install it. The Remote live view page is shown in figure 80 below.

Figure 80: GVR3550 Remote Real-time Preview Page


Users can find the added channels in the channel list on the left side of the panel , double click one channel name to add it to the preview screen or click on  in the lower right corner to initiate all preview channels . Remote live view channel supports up to synchronous 16 channels. Multiple preview screen can be manipulated via the options on the bottom of the screen, such as single screen, 4 screen, 6 screen, 4 screen, 9 screen, 13 screen, 16 screens. Double click on one channel at random to realize live view, the preview window is shown in figure 81 below.

Figure 81: GVR3550 Remote Record Preview Window

- **REC Off:** The channel is not recording now.
-
- **Manual Record:** The channel has enabled manual record and the file is saved in “C:\GVR_Record” directory in PC
 - **Capture:** Capture the preview image and it would be saved in “C:\GVR_Capture” directory in PC.

- **Volume On/Off:** If the remote camera is installed with audio input device once the volume is on, users could listen in to the user whose voice is conveyed from the remote camera.
- **Intercom On/Off:** If the remote camera is installed with audio input device once the intercom is on, users could speak to the user from the remote camera via the local audio input device.
- **PTZ Control:** Click to enable PTZ Control to make basic operations like PTZ preset, patrol, pattern, contrail.
- **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 the record in the preset time of the channel. It will prompt “The selected channel has no record” if there is no record detected. Users could set the preset time on the Basic System Settings page
- **Image Configuration:** Enter Image Configuration page to adjust the current window image.

The info of each channel would be displayed on the upper left corner of the channel screen on the preview page as shown in figure 82 below.

Figure 82: GVR3550 Web Page---Channel Preview

Name	Specifications
Channel Name	Display the channel name , it would not be displayed if not configured.
Date&Time	Display the current time , it would not be displayed if not configured.
Channel IP Address	Display the IP address of IPC.
Channel Stream	Click right mouse to enter the stream setting page to view channel stream or tick to choose primary stream or secondary stream.
Record Status	Display the record status of the channel (being recorded or not).

Table 11: GVR3550 Web Page---Channel Preview Specifications

PLAYBACK

Please refer to the chapter “Local Playback” to view Remote Web record playback operation. It should be noted that the record which could be searched on the Web page is the one stored in the GVR3550 HDD, snapshots and clips could only be saved in PC, users could not make local GUI operation. The playback page on the Web page is as shown in figure 83 below.

Figure 83: GVR3550 Web Page---Record Playback

SETTINGS

Please refer to chapter “Main Menu” to make remote Web system settings. It should be noted that the path to save snapshots and clips are only the settings on the remote Web, the related files are saved in PC and users could not make local GUI operation.

BASIC SYSTEM SETTINGS

The basic system settings on the Web page is as shown below, please refer to chapter “Basic System Settings” to view other parameters settings, the path that save record & playback clips and Instant playback Start time(min) can only be set to local path in PC.

Figure 84: GVR3550 Web Page---Basic Settings Page

MAINTENANCE

The maintenance page on the Web page is shown in figure 85 below, please refer to chapter “Maintenance” to view other parameters settings. Users could make operations like Network Diagnosis, System Log and Advanced System Settings on the maintenance page.

Figure 85: GVR3550 Web Page- Maintenance Menu

FIRMWARE UPDATE

The GVR3550 supports software upgrade via TFTP server or HTTP/HTTPS server. Please go to Advanced System Settings page to configure upgrade settings.

The GVR3550 supports the following ways to update:

- Manual upload the firmware file to update
- Update via TFTP firmware server
- Update via HTTP/HTTPS firmware server

NOTE:

- *It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) be used in conjunction with the device in the process of update or it might be fail.*
- *Please unpack the compression package before upload the file for update.*

DOWNLOAD CONFIGURATION FILE

Grandstream GVR could be configured via the Web page as well as via TFTP or HTTP/HTTPS to reload the configuration file thus realize the same requirement. (Binary file or XML file). "Configure Server Path" refers to the TFTP and HTTP/HTTPS server path that save configuration file. A valid URL, FQDN or IP address should be configured. "Configure Server Path" could be differ from or the same as "Firmware Server Path".

Configuration file download address: <http://www.grandstream.com/support/firmware>

CONFIGURING SERVER

Users could use HTTP server which supports NAT provided by Grandstream if have no local TFTP server. Users could connect to the server to update firmware .

Grandstream Firmware server address: <http://www.grandstream.com/support/firmware>

Users could also download the free TFTP server or HTTP/HTTPS server by visiting the link below to download free Windows TFTP server:

http://www.solarwinds.com/register/?program=52&c=7015000000Cch2&INTCMP=DLIndexA_FreeTools_freeTFTPserver

Users could download free HTTP server from <http://httpd.apache.org/>, or use Microsoft IIS network server

CONFIGURING TFTP SERVER

In this chapter, we take 3C Daemon TFTP server as an example.

1. Open the TFTP server and the page is as shown in figure 86 below.

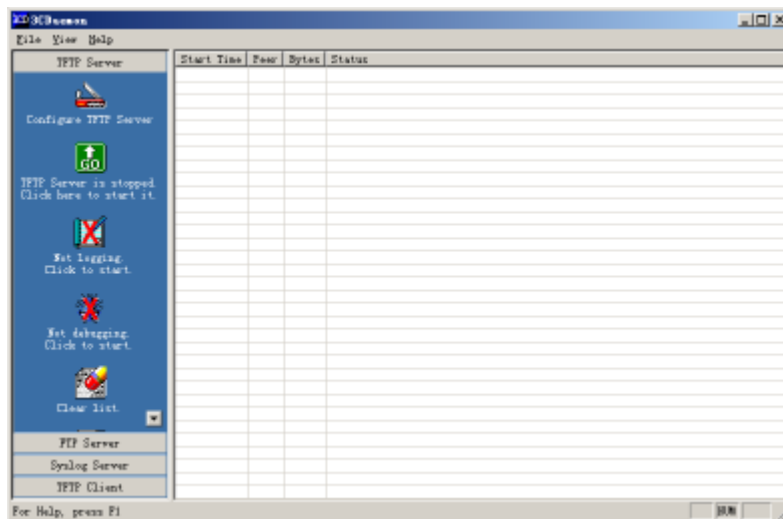


Figure 86: TFTP Server Page

2. Click “Configure TFTP Server” on the TFTP Server page as shown in figure 87 below.

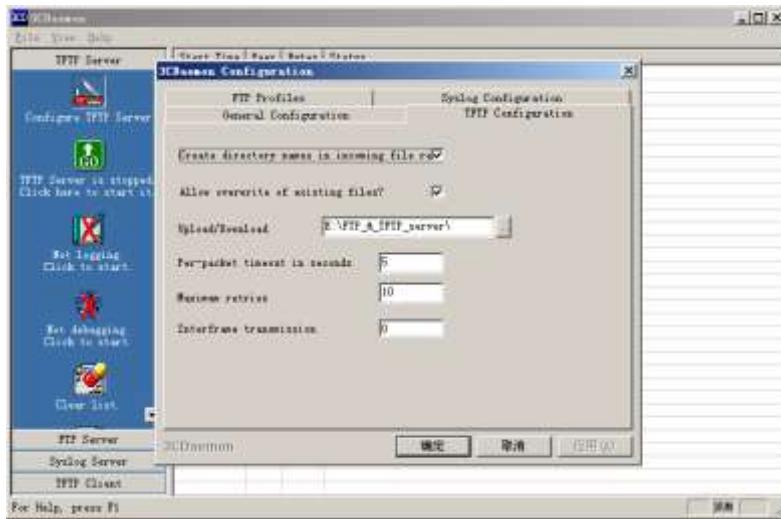


Figure 87: TFTP Dialog

3. Set the directory to store the loaded file in “Upload/Download ”section under TFTP Configuration tab. as shown in figure 88 below.

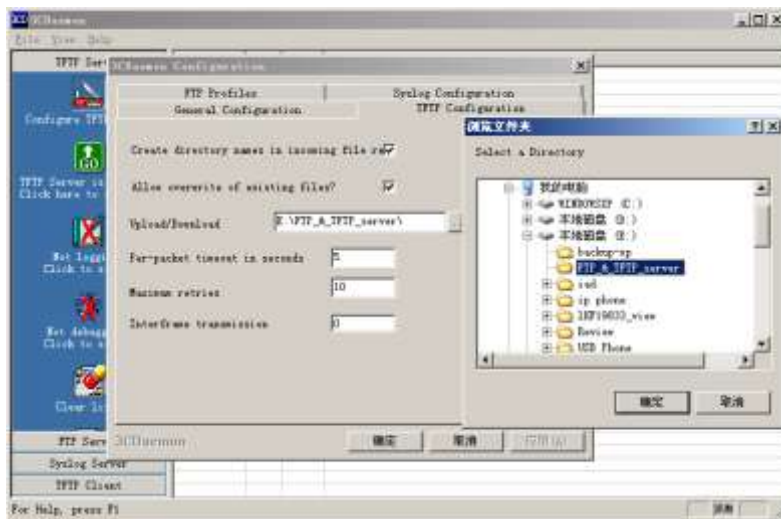


Figure 88: TFTP Server Directory Settings

4. Select the file storage directory and click “Apply” to bring up the dialog box as shown in figure 89 below.

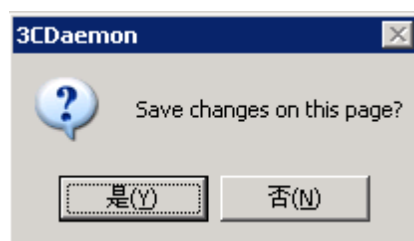


Figure 89: Confirm Modification

5. Click “Yes” to confirm modification.
6. Click “Confirm” to close the configuration dialog.



NOTE:

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

CONFIGURING HTTP SERVER

In this chapter, we take using Apache HTTP Server 2.2 server in windows XP to introduce the procedures of configuring HTTP server.

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

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

NOTE:

- If the prepared file is directly being put under the folder htdocs, the URL format that to access to the Apache server is: `http:// The IP address that installed with Apache server .I.g.: http://192.169.1.51`
- If the prepared file is put under the subfolder of htdocs, the URL format that to access to the Apache server is: `http:// The IP address that installed with Apache server/subfolder Name. I.g.: http://192.169.1.51/filename`

UPDATE WITH TFTP SERVER

1. Extract the firmware file, set the folder to save firmware file to the root directory of TFTP server.
2. Connect the PC with TFTP server and the GVR3550 to the same LAN.
3. Open TFTP server and go to File menu->Configure->Security to set “Transmission Only”.
4. Open TFTP server and set the update type to TFTP Transmission in Advanced Settings page of the GVR3550.
5. Set the firmware server path as the PC address, which is the TFTP server IP address.
6. Click “Start Update” and the device would restart automatically after the completion of the upgrade.

UPDATE WITH HTTP/HTTPS SERVER

1. Extract the firmware file and place it under the htdocs directory of TFTP server.
2. Open TFTP server and set the update type to TFTP Transmission in Advanced Settings page of the GVR3550.
3. Set the firmware server path as the PC address, which is the TFTP server IP address.
4. Click “Start Update” and the device would restart automatically after the completion of the upgrade.

MANUAL UPDATE

The procedures to manual update with downloaded firmware file:

1. Set the update mode to “Manual Upload ” on the Advanced System Settings page of the GVR3550.
2. Click on the “File” button in the “firmware path ” entry to select firmware file.
3. Click the “Confirm” button to upload firmware as shown in figure 90.

Figure 90: GVR3550 Remote Manual Upgrade

4. The upgrade process would begin automatically after the success file upload. The system will automatically restart once upgrade finished.

FACTORY RESET

There are many ways users could use to reset factory settings: Reset via local GUI, via Web page, via the reset button on the the back panel of the GVR3550.

WARNING!

Factory Reset will erase all the GVR3550 configuration information. Please back up all devices or print related info before making the following steps. If users lost all parameters or records, Grandstream will take no responsibility.

RESET VIA LOCAL GUI

Users could go to Main Menu->System Settings->Advanced System Settings on the GVR3550 local GUI and find the Factory Reset Settings: click on the “Reset” button after Erase all data /Only keep network data to bring up the prompt box as shown below. Click “OK” to reboot the device and restore factory settings.

Figure 91: GVR3550 Factory Reset on Local GUI Page

RESET VIA WEB PAGE

Users could go to Main Menu->System Settings->Advanced System Settings on the GVR3550 local GUI and find the Factory Reset settings: click on the “Reset” button after Erase all data /Only keep network data to bring up the prompt box as shown below. Click “OK” to reboot the device and restore factory settings.

Figure 92: GVR3550 Factory Rest on Local Web Page

RESET VIA BUTTON

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

EXPERIENCING GVR3550

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. <http://www.grandstream.com>

APPENDIX

FAQs

1. The GVR3550 is unable to start properly after normal startup

- Unmatched input power
- Poor contact of power cables
- Damaged power switch
- System upgrade errors
- Damaged HDD or HDD cables problem.
- Front panel error
- Damaged mainboard

2. The GVR3550 would reboot automatically or crashes frequently in a few minutes after startup

- Unstable input power or low voltage.
- No enough power
- Incorrect jumpers.

-
- Bad tracks or damaged HDD line.
 - Power shortage
 - Unstable front video signal
 - Poor heat dissipation, too much dust, poor running environment.
 - The GVR3550 hardware failure
3. **Undetected HDD after startup**
- Unconnected HDD power cord
 - Damaged HDD cable
 - Incorrect jumpers.
 - Damaged HDD
 - Damaged SATA port on mainboard
4. **No single channel/ Multi-channel/ video output**
- Unmatched programs, please update the proper procedures
 - Image brightness is 0, please restore the default settings.
 - The GVR3550 hardware failure
5. **Unable to search the video when local playback**
- Damaged HDD cables or jumpers.
 - Damaged HDD
 - Updated procedures varied from the original application file.
 - The video you want to search has been overwritten.
 - The record has not yet played
6. **Dazzling monitor when search local record**
- Wrong data reading, small code stream, full screen mosaic when playback, it will be back to normal after restarting the GVR3550 in general.
 - Damaged HDD cable or jumpers.
 - HDD error
 - Hardware failure
7. **Wrong Time Display**
- Wrong settings
 - Poor contact of cell button or low voltage.
 - Crystal oscillator is unworkable
8. **The GVR3550 can't monitor PTZ**
- Front PTZ error
 - Incorrect PTZ decoders Settings, wiring, installation.
 - Incorrect cable connection

Incorrect PTZ settings

Unmatched PTZ decoder with the GVR3550 protocol

Unmatched PTZ decoder with the GVR3550 address

When it refers to multiple decoders, the far end of AB line of PTZ decoder should be added 120Ω to eliminate the reflection and impedance matching, otherwise it will cause unstable PTZ control.

9. Unable to login WEB

Unable to install client or it can't be displayed properly.

The operation system is win98 or win me: It is recommended to update the operating system to win2000sp4 and above.

Network connection error

Network settings

Incorrect username and password.

10. Mosaic or no images when preview image or playback video

Poor internet connection

Resource limitations on the client side

The login user has no monitoring privilege.

11. Unstable internet connection

Unstable network

IP address confliction

MAC address confliction

Unstable connection of network card on PC or on the GVR3550

12. USB backup error

Too much resource utilization of CPU, please stop recording then back up.

Data volume exceeds backup capacity would cause backup error

Incompatible backup devices

Damaged backup devices

13. Unable to shutdown alarm signal

Incorrect alarm settings

Manually enabled alarm output

Input device failure or wrong connection

Individual version problems that can be solved via upgrade.

14. The alarm doesn't work

Incorrect alarm settings

Incorrect connection of the alarm cables

Incorrect alarm input signal

Two circuits having been connected to one alarm simultaneously

15. Unable to control the GVR3550 via remote control

Remote control distance is too far or the control angle is far too partial.

Run-down batteries

Damaged control/front panel

16. Insufficient record time

Large stream caused by poor quality of the front camera, dirty camera Lens, backlight installation, unadjusted aperture lens.

Insufficient HDD capacity

Damaged HDD

17. Unable to play downloaded file

You have no installed player or unplugged the external storage device improperly.

18. No image, black screen

Check whether the IP of remote IPC is correct

Check whether the port No. of remote IPC is correct

Check whether the username/password of remote IPC is correct

Check whether the internet connection of remote GVR3550 is correct

19. Incomplete display interface

Confirm the current resolution, check the resolution the LCD supports. If the 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

Check whether HDMI cable is in the wrong situation

Images are not fluent on multi-channel client monitor

Check network bandwidth, multi-channel monitor network bandwidth demand is high, need 100 MB above.

Check PC performance, multi-channel decoding has certain requirements for PC performance, 16-way PC is required. General configuration: four-core CPU, 2 G memory, independent card with 256M above.

21. Multi-channel monitoring record lag

Please check the network bandwidth, the multi-channel monitoring requires one hundred trillion bandwidth. Then please make sure the PC configuration is suitable for

multi-channel monitoring : Quad core CPU, discrete graphics, display adapters memory 256M or higher.

MAINTENANCE

The wet dust on the circuit board would cause short circuit thus influence GVR operation or cause damage, please regularly dusting the circuit board, connector and PC case with a brush at regular intervals.

Please ensure stable grounding condition so as to avoid video and audio signal interference as well as being damaged by static electricity or induced voltage.

Please do not electrify plug the audio/video cables and RS 232, otherwise these ports can be easily damaged.

Please don't turn off the GVR power switch directly, use the shutdown button on the front panel (long hold the button for more than 3 seconds) to enable the device to switch off automatically so as not to damage HDD.

Keep hot reservoir and high temperature environment away from the GVR.

Ensure unit is installed in a well-ventilated environment to facilitate heat dissipation.

Please carry out inspections and maintenance at regular intervals.

RECORD TIME CALCULATION

Please confirm the HDD has been installed when install the GVR3550 for the first time.

HDD Space formula is:

HDD Total Space(M) = The number of channels * Required Time(Hour)* The HDD space occupied per hour (M/H)

From the formula above we could conclude Record Time formula:

Record Time (hour) = HDD Total Space(M)/【The HDD space occupied per hour (M/H) *the number of channels】

The GVR3550 is equipped with MPEG4/H.264 compression technique, its dynamic range is quite large, thus the calculation of HDD space requires assessing the file size recorded per hour in each channel according to stream.

i.g.:

The record in one single channel takes up 200 m/h HDD space per hour, use the GVR3550 to record with synchronous 12 channels.

Record Time (hour) = (2*4*1024*1024) / 【200 (M/H) *12】 =3495.25 (Hour) (145.6 (Day))