



User Manual

IP-Camera

EN

Content

1.	Introduction	6
1.1	Model Overview	6
	GD-CI-AC4637P	6
1.2	System Requirements	7
2.	Network Connection	8
2.1	Setting up the Network Camera over the LAN.....	8
2.2	Setting the Network Camera over the WAN	15
3.	Access to the Network Camera	18
3.1	Accessing by Web Browsers	18
4.	Live View	20
4.1	Live View Page.....	20
4.2	Starting Live View	21
4.3	Recording and Capturing Pictures Manually	22
4.4	PTZ Control.....	22
4.4.1	PTZ Control Panel	22
4.4.2	Setting/Calling a Preset	23
4.4.3	Setting/Calling a Patrol	25
5.	Playback	26
6.	System	28
6.1	Basic Information	28
6.2	Time Settings.....	28
6.3	DST	30
6.4	Upgrade & Maintenance.....	31
6.5	System Service	32
6.6	RS232	33
6.7	RS485	34
6.8	About.....	34
6.9	Log.....	34
6.10	Local	35
7.	Security Settings.....	38
7.1	User Management	38

7.2 Online Users	41
7.3 Authentication	41
7.4 IP Address Filter	42
7.5 Security Service	43
8. Network	44
8.1 TCP/IP	44
8.2 DDNS	46
8.3 PPPoE	47
8.4 SNMP	48
8.5 802.1X	50
8.6 QoS	51
8.7 FTP	52
8.8 Email	54
8.9 NAT (Network Address Translation)	56
8.10 HTTPS	57
8.11 Integration Protocol	59
9. Video/Audio	60
9.1 Streaming	60
9.2 Display Settings	63
9.3 OSD Settings	69
9.4 Privacy Mask	70
9.5 ROI	71
9.6 Display Info. on Stream	72
9.7 Target Cropping	73
10. Event Settings	74
10.1 Motion Detection	74
10.2 Video Tampering	80
10.3 Alarm Input	81
10.4 Alarm Output	82
10.5 Exception	83
10.6 Line Crossing Detection	83
10.7 Intrusion Detection	85

10.8 Audio Exception	88
10.9 Face Detection	89
10.10 Region Entrance Detection	90
10.11 Region Exiting Detection	91
10.12 Unattended Baggage Detection	93
10.13 Object Removal Detection	95
11. Storage Settings.....	97
11.1 HDD Management	97
11.2 Record Schedule.....	98
11.3 Capture.....	101
11.4 Net HDD	102
12. Additional Fisheye Camera Settings (only for Fisheye Cameras).....	106
12.1 Live View Page.....	106
12.2 Starting Live View	111
12.3 Recording and Capturing Pictures Manually	113
12.4 PTZ Control.....	113
12.4.1 PTZ Control Panel	114
12.4.2 Setting/Calling/Deleting a Preset	115
12.4.3 Setting/Calling/Deleting a Patrol.....	117
13. Additional PTZ Camera Settings (only for Speed Dome Cameras)	119
13.1 Start-up Action of Speed Dome Cameras.....	119
13.2 Live View Page.....	119
13.3 Starting Live View	120
13.4 PTZ Control.....	122
13.4.1 PTZ Control Panel	122
13.4.2 Auxiliary Functions	125
13.4.3 Setting/Calling a Preset	126
13.4.4 Setting/Calling a Patrol	128
13.4.5 One-touch Patrol	130
13.4.6 Setting/Calling a Pattern.....	130
14. Further PTZ Camera Settings (only for Speed Dome Cameras).....	132
14.1 Basic Settings	132
14.2 PTZ Limit.....	133
14.3 Initial Position	134
14.4 Park Action	135

14.5 Privacy Mask	136
14.6 Scheduled Tasks	137
14.7 Clear Configuration	139
14.8 Smart Tracking.....	139
14.9 Prioritize PTZ	140
14.10 Position Settings.....	140
14.11 Rapid Focus	141
15. Additional Functions (depending on Camera Model)	143
15.1 Heat Map / Heat Map Statistics	143
15.2 Road Traffic	146
16. GRUNDIG FINDER Software Introduction	149
16.1 Description of the GRUNDIG FINDER	149
16.2 Searching Active Devices Online	149
16.3 Modifying Network Parameters.....	150
17. Port Mapping.....	151

1. Introduction

Thank you for purchasing a Grundig product. Before installing or connecting the product, please read first the following documents which you can find on the CD Rom in the product package or in printed form in the product package:

- Legal Disclaimer
- Safety Instructions
- Installation Manual and/or Quick Guide for the respective product model

Further information about the product like Data Sheets, CE Documents, etc. can also be found on the CD Rom in the product package.

This User Guide is a user manual for IP Cameras. Please see in the table of 1.1 Model Overview the applicable models.

Please read this User Guide carefully and retain it for future use.

1.1 Model Overview

This User Guide is for the following products:

GD-CI-BC2626T	GD-CI-AP2605B	GD-CI-AT12617F
GD-CI-BC2626V	GD-CI-AP2627T	GD-CI-AT12626T
GD-CI-BC4627T	GD-CI-AP2627V	GD-CI-AT2505B
GD-CI-BC4627V	GD-CI-AP2647P	GD-CI-AT2637T
GD-CI-BC4637T	GD-CI-AP2747P	GD-CI-AT2637TH
GD-CI-BC4637V	GD-CI-AP4617C	GD-CI-AT2637V
GD-CI-CC2616T	GD-CI-AP4617T	GD-CI-AT2637VH
GD-CI-CC2616V	GD-CI-AT4617V	GD-CI-AT3637T
GD-CI-CC4617T	GD-CI-AP4617W	GD-CI-AT3637V
GD-CI-CC4617V	GD-CI-AP4637T	GD-CI-AT4505B
GD-CI-DC2616T	GD-CI-AP4637V	GD-CI-AT4637T
GD-CI-DC2616V	GD-CI-AP4746P	GD-CI-AT4637TH
GD-CI-DC4617T	GD-CI-AP5617F	GD-CI-AT4637V
GD-CI-DC4617V	GD-CI-BP2747P	GD-CI-AT4637VH
GD-CI-AC4637P	GD-CI-BP4637E	GD-CI-AT4747P
		GD-CI-AT8505B
		GD-CI-AT8637T
		GD-CI-AT8637V
		GD-CI-AT8746P

1.2 System Requirements

Operating System:

Microsoft Windows XP SP1 and later versions

CPU:

2.0 GHz or higher

RAM:

1G or higher

Display:

1024×768 resolution or higher

Web Browser:

Internet Explorer 8.0 and later versions, Apple Safari 5.0.2 and later versions, Mozilla Firefox 5.0 and later versions and Google Chrome 18 and later versions.

2. Network Connection

Note:

- You shall acknowledge that the use of the product with Internet access might put you under network security risks. To avoid any network attacks and information leakage, please strengthen your own protection. If the product does not work properly, please contact your dealer or the nearest service center.
- To ensure the network security of the network camera, we recommend you have the network camera regularly assessed and maintained.

Before you start:

- If you want to set up the network camera via a LAN (Local Area Network), please refer to Section 2.1 **Setting up the Network Camera via LAN**.
- If you want to set the network camera via a WAN (Wide Area Network), please refer to Section 2.2 **Setting up the Network Camera over the WAN**.

2.1 Setting up the Network Camera over the LAN

To view and configure the camera via a LAN, you need to connect the network camera in the same subnet with your computer, and install the GRUNDIG FINDER to search and change the IP address of the network camera.

Note: For a detailed introduction of the GRUNDIG FINDER, please refer to Chapter 16.

Wiring over the LAN

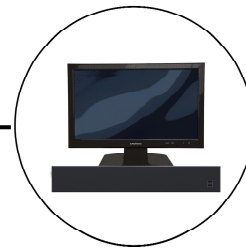
The following pictures show the two ways of connecting a network camera and a computer with a cable:

- To test the network camera, you can directly connect it to the computer with a network cable as shown in the first picture (Connecting Directly) below.
- Refer to the second picture (Connecting via Switch or Router) to set up the network camera over the LAN via a switch or a router.

Network Camera



Computer



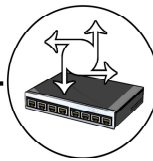
Network Cable

Connecting Directly

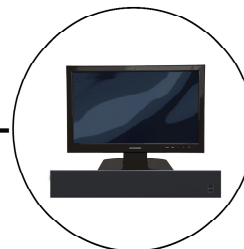
Network Camera



Router/Switch



Computer



Network cable

Network cable

Connecting via a Switch or a Router

Activating the Camera

First, before you can use the camera, you are required to activate the camera by setting a strong password for it.

Activation via Web Browser, Activation via GRUNDIG FINDER, and Activation via the Grundig SCMS are all supported.

- Activation via the Web Browser:

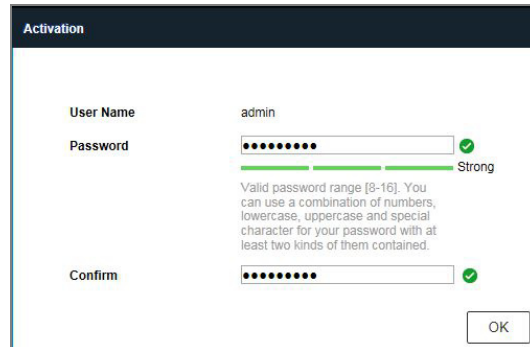
Steps:

1. Turn on the camera, and connect the camera to the network.
2. Type the IP address into the address bar of the web browser, and click **<Enter>** to enter the activation interface.

Notes:

- The default IP address of the camera is 192.168.1.100.

- The computer and the camera should belong to the same subnet.
- If the camera enables the DHCP by default, you need to use the GRUNDIG FINDER software to search the IP address.



Activation via Web Browser

3. Create a password and type the password into the password field.

We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can enhance the protection of your product.

4. Confirm the password.
5. Click <OK> to save the password and enter the live view interface.

- Activation via the GRUNDIG FINDER Software:

GRUNDIG FINDER software is used for detecting the online device, activating the camera, and resetting the password.

Get the GRUNDIG FINDER software from the supplied disk or our website www.grundig-security.com and install the GRUNDIG FINDER according to the prompts. Follow the steps to activate the camera.

Steps:

1. Run the GRUNDIG FINDER software to search the online devices.
2. Check the device status on the device list, and select the inactive device.

Note: The GRUNDIG FINDER software supports activating the camera in batch. Refer to the user manual of GRUNDIG FINDER software for details.

3. Create a password and input the password in the password field, and confirm the password.

We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

4. Click on **<Activate>** to save the password.

You can check whether the activation is completed in the popup window. If the activation failed, please make sure that the password meets the requirements and try again.

5. Change the device IP address to the same subnet with your computer by either modifying the IP address manually or checking the checkbox of **<DHCP>**.

Update network params

☐ DHCP

IP Address: 192.168.64.107

Mask: 255.255.255.0

Gateway: 192.168.64.5

SDK Port: 8000

HTTP Port: 80

Security Verification

User:

Password:

Update

Modify the IP Address

6. Input the password and click the <Update> button to activate your IP address modification.

The batch IP address modification is supported by the GRUNDIG FINDER. Refer to the GRUNDIG FINDER user manual for details.

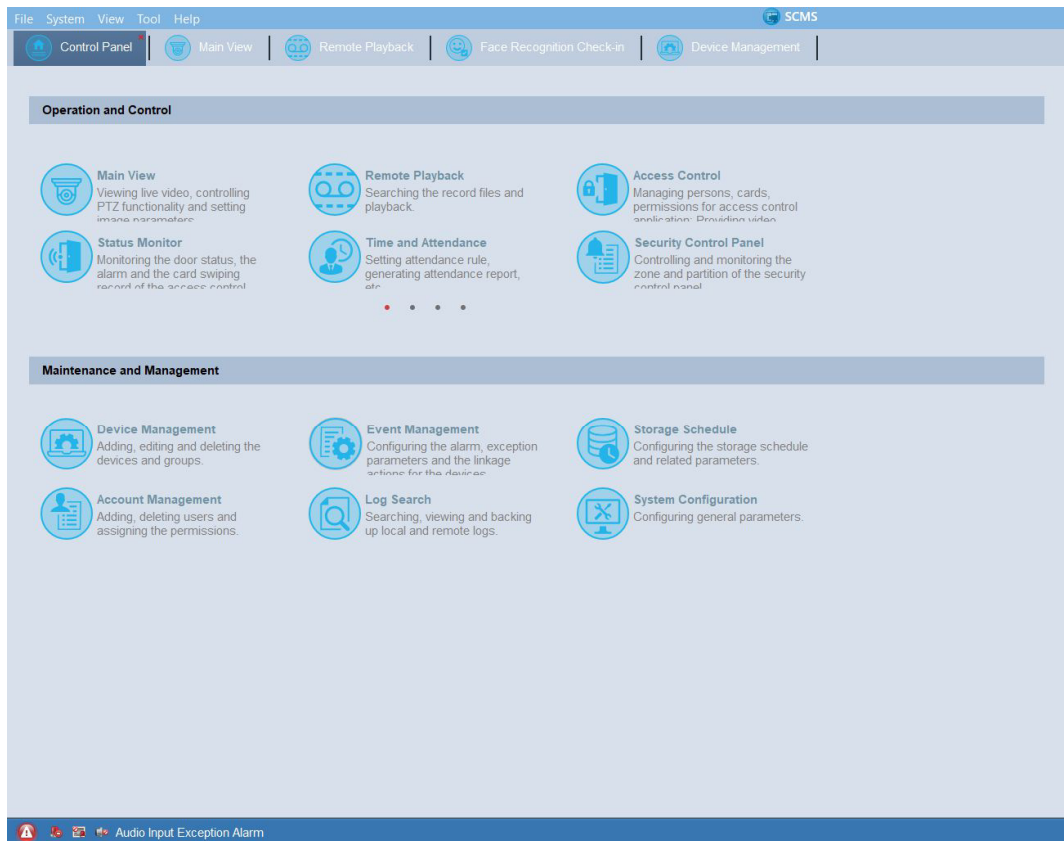
- Activation via Grundig SCMS:

The Grundig SCMS is versatile video management software for multiple kinds of devices.

Get the Grundig SCMS from the supplied disk or the official website, and install the software according to the prompts. Follow the steps to activate the camera.

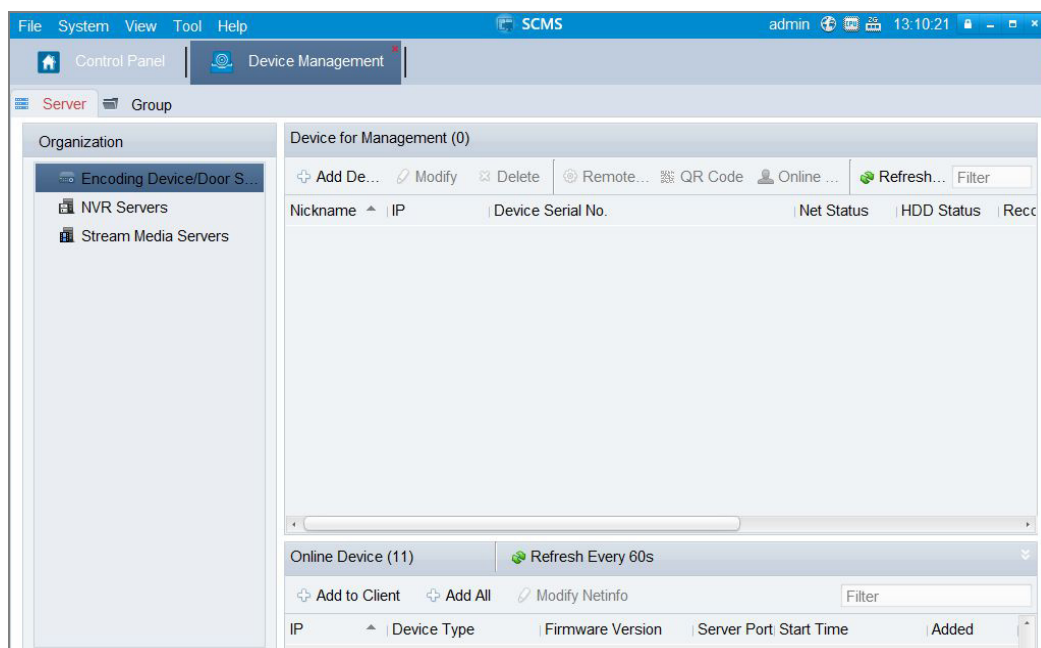
Steps:

1. Run the Grundig SCMS and the control panel of the software pops up, as shown in the Picture below.



Control Panel

- Click the <Device Management> icon to enter the Device Management interface, as shown in the Picture below.

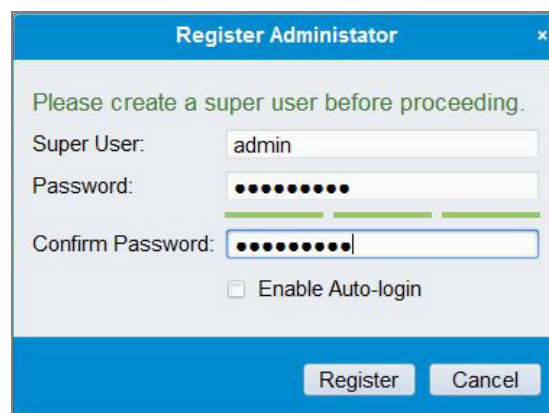


Device Management Interface

- Check the <Device Status> from the device list, and select an inactive device.

4. Click the **<Activate>** button to pop up the Activation interface.
5. Create a password and input the password in the password field, and confirm the password.

We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. We recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.



Activation Interface (Grundig SCMS)

6. Click **<OK>** button to start activation.
7. Click the **<Modify Netinfo>** button to pop up the **<Network Parameter Modification interface>**.
8. Change the device IP address to the same subnet with your computer by either modifying the IP address manually or checking the checkbox of **<Enable DHCP>**.
9. Input the password to activate your IP address modification.

(Optional) Setting Security Question

A security question is used to reset the admin password in case the admin user forgets the password.

The admin user can follow the pop-up window to complete the security question settings during the camera activation. Alternatively, the admin user can go to the **<User Management>** interface to set up this function.

2.2 Setting the Network Camera over the WAN

This section explains how to connect the network camera to the WAN with a static IP or a dynamic IP.

Static IP Connection

Before you start:

Please apply a static IP from an ISP (Internet Service Provider). With the static IP address, you can connect the network camera via a router or connect it to the WAN directly.

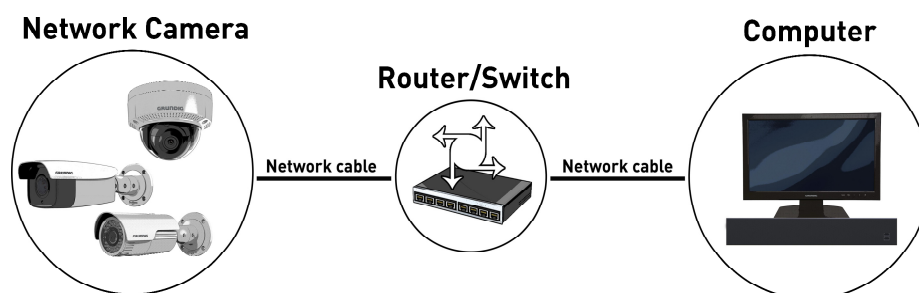
- Connecting the network camera via a router:

Steps:

1. Connect the network camera to the router.
2. Assign a LAN IP address, the subnet mask and the gateway. Refer to the paragraphs below "Creating a Password" for detailed IP address configuration of the network camera.
3. Save the static IP in the router.
4. Set port mapping, e.g., 80, 8000, and 554 ports. The steps for port mapping vary according to the different routers. Please call the router manufacturer for assistance with port mapping.

Note: Refer to Chapter 17 for detailed information about port mapping.

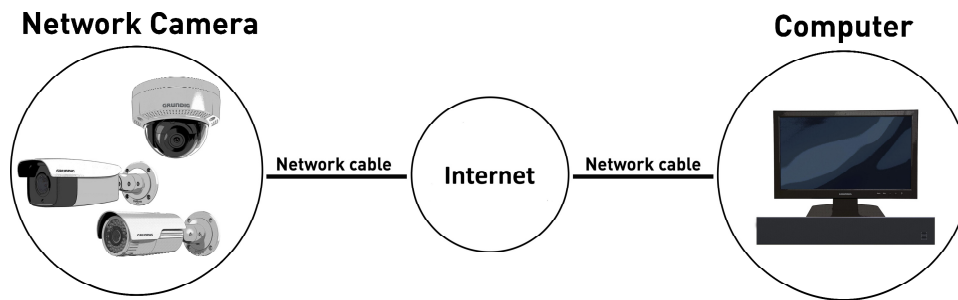
5. Visit the network camera through a web browser or the Grundig SCMS over the internet.



Accessing the Camera through Router with Static IP

- Connecting the network camera with static IP directly:

You can also save the static IP in the camera and directly connect it to the internet without using a router. Refer to the paragraphs below "Creating a Password" for detailed IP address configuration of the network camera.



Accessing the Camera with Static IP Directly

Dynamic IP Connection

Before you start:

Please apply a dynamic IP from an ISP. With the dynamic IP address, you can connect the network camera to a modem or a router.

- Connecting the network camera via a router:

Steps:

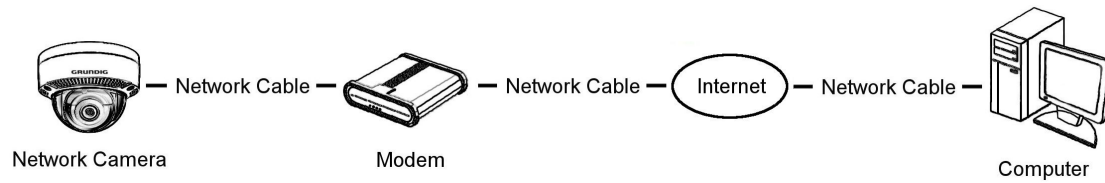
1. Connect the network camera to the router.
2. In the camera, assign a LAN IP address, the subnet mask and the gateway. Refer to the paragraphs below "Creating a Password" for detailed IP address configuration of the network camera.
3. In the router, set the PPPoE user name, password and confirm the password.
4. Set port mapping. E.g. 80, 8000, and 554 ports. The steps for port mapping vary depending on different routers. Please call the router manufacturer for assistance with port mapping.

Note: Refer to Chapter 17 for detailed information about port mapping.

5. Apply a domain name from a domain name provider.
6. Configure the DDNS settings in the setting interface of the router.
7. Visit the camera via the applied domain name.

- Connecting the network camera via a modem:

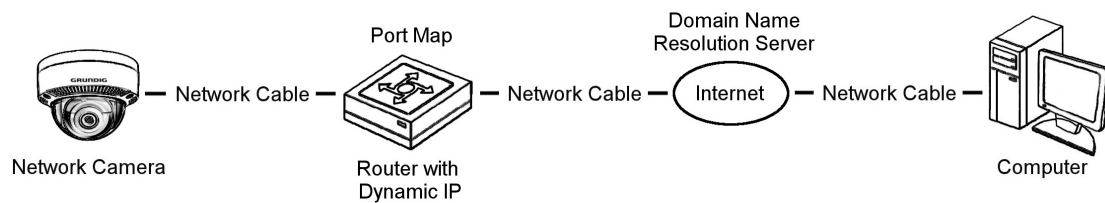
This camera supports the PPPoE auto dial-up function. The camera gets a public IP address by ADSL dial-up after the camera is connected to a modem. You need to configure the PPPoE parameters of the network camera. Refer to Section **8.3. PPPoE** for detailed configuration.



Accessing the Camera with Dynamic IP

Note: The obtained IP address is dynamically assigned via PPPoE, so the IP address always changes after rebooting the camera. To solve the inconvenience of the dynamic IP, you need to get a domain name from the DDNS provider (E.g. DynDns.com). Please follow the steps below for normal domain name resolution and private domain name resolution to solve the problem.

◆ Normal Domain Name Resolution



Normal Domain Name Resolution

Steps:

1. Apply a domain name from a domain name provider.
2. Configure the DDNS settings in the **<DDNS> Settings** interface of the network camera. Refer to the Chapter **DDNS** for detailed configuration.
3. Visit the camera via the applied domain name.

3. Access to the Network Camera

3.1 Accessing by Web Browsers

Steps:

1. Open the web browser.
2. In the browser address bar, enter the IP address of the network camera, and press the <Enter> key to enter the <login> interface.

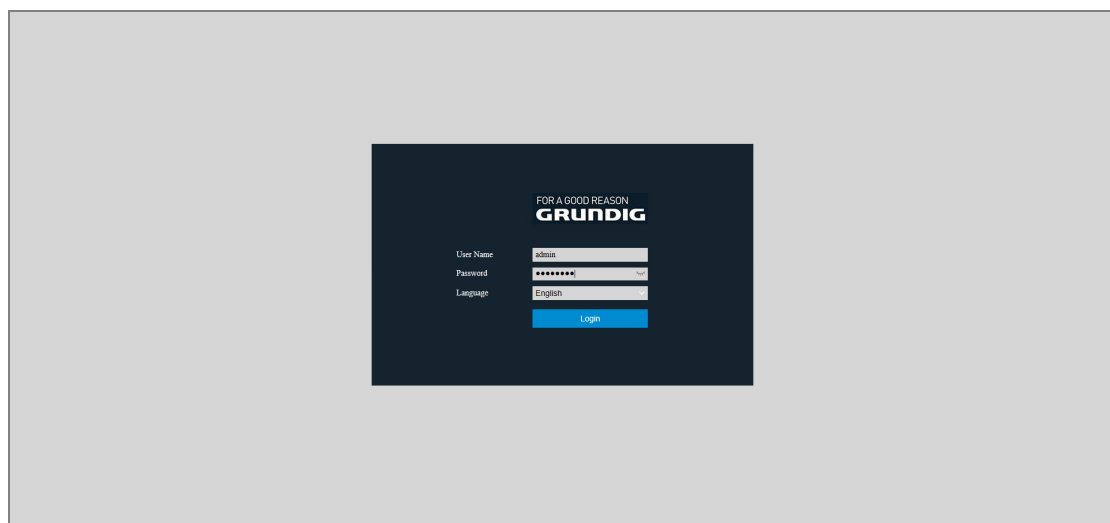
Note: The default IP address is 192.168.1.100. You are recommended to change the IP address to the same subnet with your computer.

3. Input the user name and password and click <Login>.

The admin user should configure the device accounts and user/operator permissions properly.

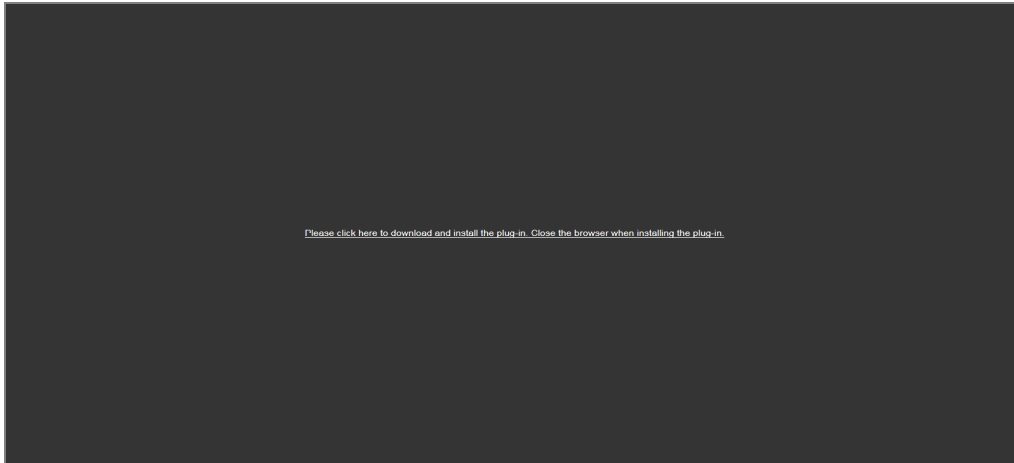
Delete the unnecessary accounts and user/operator permissions.

Note: The IP address gets locked if the admin user performs 7 failed password attempts (5 attempts for the user/operator).



Login Interface

4. Click <Login>.
5. Install the plug-in before viewing the live video and operating the camera. Please follow the installation prompts to install the plug-in.



Download and Install Plug-in

Note: You may have to close the web browser to finish the installation of the plug-in.

6. Reopen the web browser after the installation of the plug-in and repeat steps 2 to 4 to login.

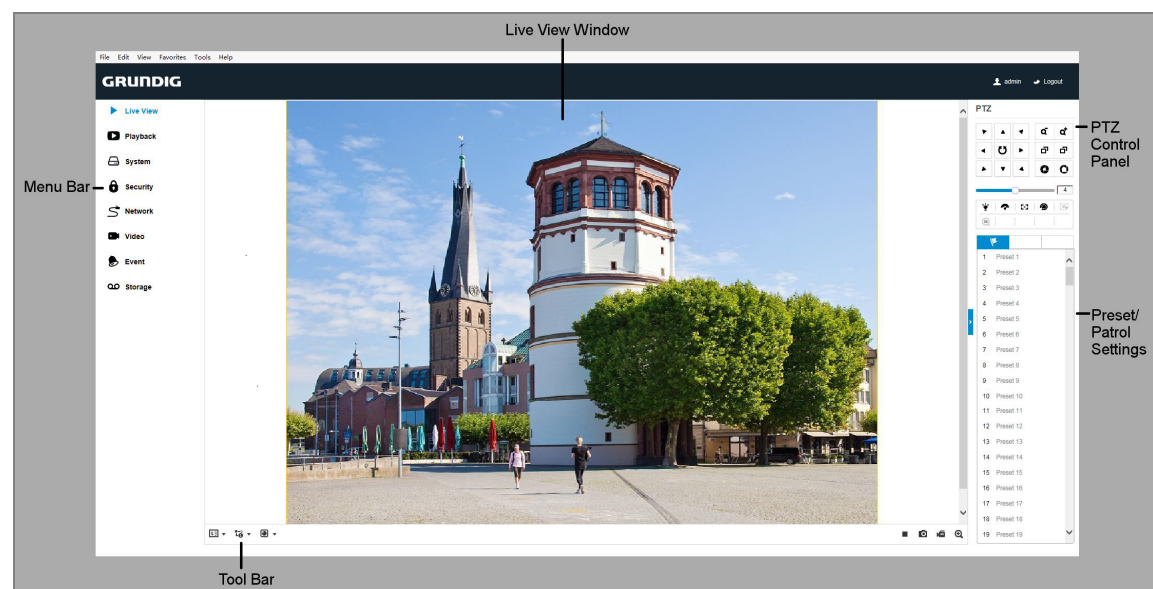
4. Live View

4.1 Live View Page

The live view page allows you to view the real-time video, capture images, realize PTZ control, set/call presets and configure video parameters.

Log in the network camera to enter the live view page, or you can click <Live View> on the menu bar of the main page to enter the live view page.

Description of the live view page:



Live View Page

Menu Bar:

Click the corresponding tab to enter the <Live View>, <Playback>, <System>, <Security>, <Network>, <Video>, <Event> or <Storage> page.

Live View Window:

Displays the live video.

Tool Bar:

The <Toolbar> tab allows you to adjust the live view window size, the stream type, and the plug-ins. It also allows you to process the operations on the live view page, e.g., start/stop live view, capture, record, audio on/off, two-way audio, start/stop digital zoom, etc.

For IE (Internet Explorer) users, plug-ins as webcomponents and quick time are selectable. And for Non-IE users, webcomponents, quick time, VLC or MJPEG is selectable if they are supported by the web browser.


PTZ Control Panel:

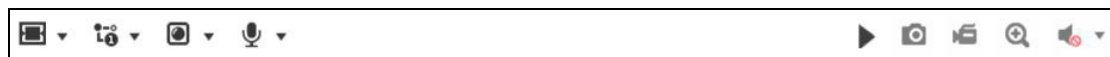
Perform panning, tilting and zooming actions of the camera. Control the light and the wiper (only available for cameras supporting the PTZ function).

Preset/Patrol Settings:

Set/call/delete the presets or patrols for PTZ cameras.










4.2 Starting Live View






In the live view window as shown below, click  on the toolbar to start the live view of the camera.



Live View Toolbar



Description of the Toolbar:

Icon	Description
	Start/Stop live view.
	The window size is 4:3.
	The window size is 16:9.
	The original window size.
	Self-adaptive window size.
	Live view with the main stream.
	Live view with the sub stream.
	Live view with the third stream.
	Click to select the third-party plug-in.

Icon	Description
	Manually capture the picture.
	Manually start/stop recording.
	Audio on and adjust volume /Mute.
	Turn on/off microphone.
	Start/stop digital zoom function.

Note: The icons vary according to the different camera models.

4.3 Recording and Capturing Pictures Manually

In the live view interface, click  on the toolbar to capture the live pictures or click  to record the live view. The saving paths of the captured pictures and clips can be set on the **System** > **Local** page. To configure the remote scheduled recording, please refer to Section **6.10 Local**.



Note: The captured image will be saved as <JPEG> file or <BMP> file on your computer.

4.4 PTZ Control

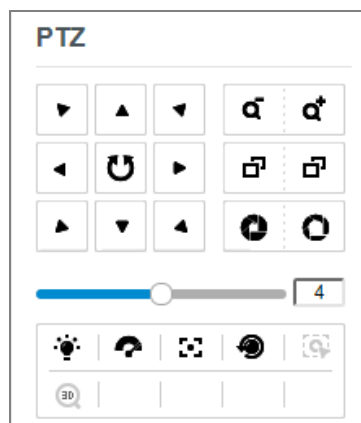
In the <live view interface>, you can use the PTZ control buttons to realize pan/tilt/zoom control of the camera.

Note: To realize PTZ control, the camera connected to the network must support the PTZ function or have a pan/tilt unit installed to the camera. Please set the PTZ parameters properly on the RS485 settings page by referring to Section **6.7 RS485**.

4.4.1 PTZ Control Panel

On the live view page, click  next to the right side of the live view window to show the PTZ control panel and click  to hide it.

Click the direction buttons to control the pan/tilt movements.



PTZ Control Panel

Click the zoom/focus/iris buttons to realize lens control.

Notes:

- There are eight direction arrows (⬆️, ⬇️, ⬅️, ➡️, ⬅️, ⬆️, ⬆️, ⬅️) in the control panel. Click the arrows to make an adjustment in the relative positions.
- For the cameras which support lens movements only, the direction buttons are invalid.

Description of the PTZ Control Panel:

Icon	Description
🔍 🔍+	Zoom in/out
📐 📐	Focus near/far
🌀 🌀	Iris +/-
🎛️ 4	PTZ speed adjustment
💡	Light on/off
🌀	Wiper on/off
📐	Auxiliary focus
🌀	Initialize lens
≡	Adjust speed of pan/tilt movements
👁️	Start Manual Tracking
3D	Start 3D Zoom

4.4.2 Setting/Calling a Preset

- **Setting a Preset:**


1. In the <PTZ> control panel, select a <preset number> from the preset list.



Setting a Preset


2. Use the PTZ control buttons to move the lens to the desired position.

- Pan the camera to the right or left.
- Tilt the camera up or down.
- Zoom in or out.
- Refocus the lens.

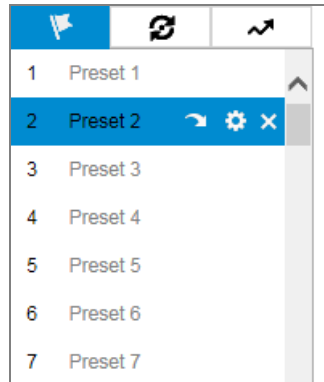
3. Click  to finish the setting of the current preset.

4. You can click  to delete the preset.

● **Calling a Preset:**

This feature enables the camera to point to a specified preset scene manually or when an event takes place. You can call a defined preset at any time to the desired preset scene. In the PTZ control panel, select a defined preset from the list and click  to call the preset.

Or you can place the mouse on the presets interface, and call the preset by typing the preset No. to call the corresponding presets.






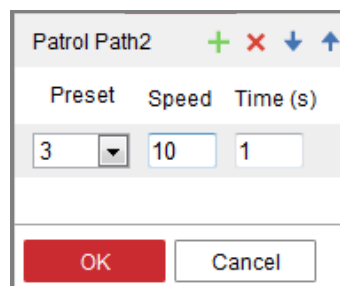
Calling a Preset

4.4.3 Setting/Calling a Patrol




Note: No less than 2 presets have to be configured before you set a patrol.

Steps:

1. Click  to enter the patrol configuration interface.
2. Select a path No., click  and click  to add the configured presets.
3. Select the preset, and input the patrol duration and patrol speed.
4. Click OK to save the first preset.
5. Follow the steps above to add the other presets.



Add a Patrol Path

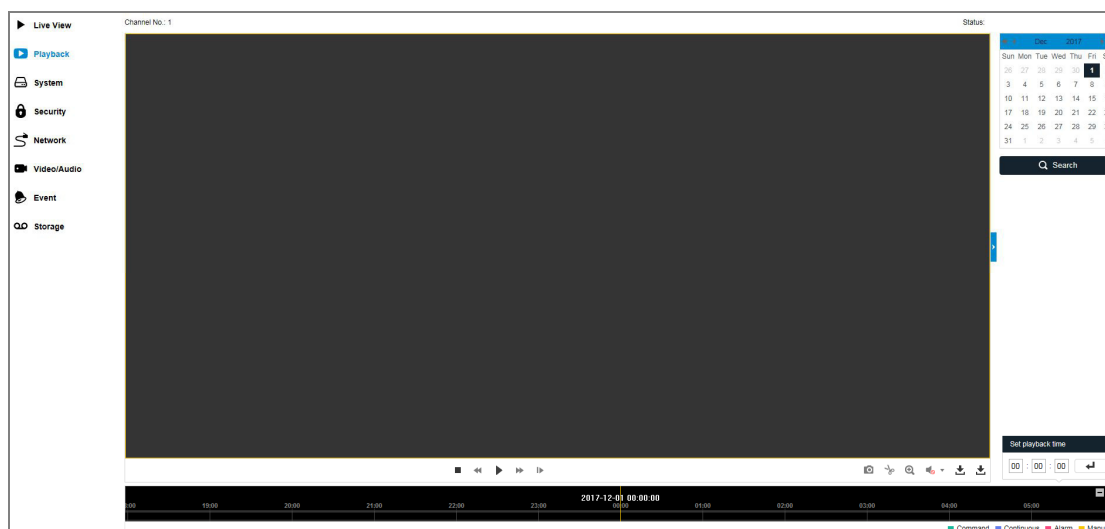
6. Click <OK> to save a patrol.
7. Click  to start the patrol, and click  to stop it.
8. (Optional) Click  to delete a patrol.

5. Playback

This section explains how to view the remotely recorded video files stored in the network disks or memory cards.

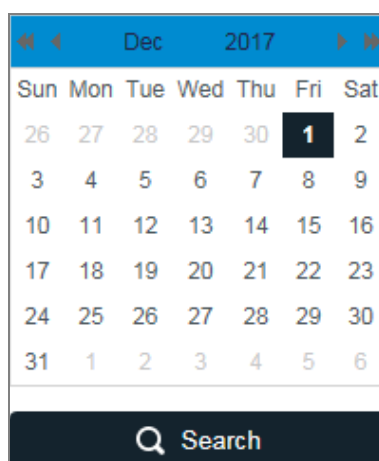
Steps:

1. Click <Playback> on the menu bar to enter the playback interface.



Playback Interface

2. Select the date and click <Search>.



Search Video

3. Click ► to play the video files found on this date.

The toolbar on the bottom of the Playback interface can be used to control the playing process.



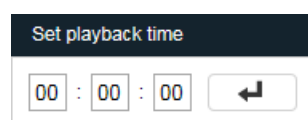
Playback Toolbar

Description of the buttons of the Playback Toolbar:

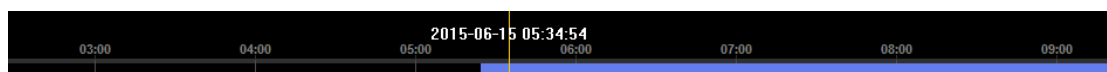
Button	Operation	Button	Operation
	Play		Capture a picture
	Pause		Start/Stop clipping video files
	Stop		Audio on and adjust volume/Mute
	Speed down		Download
	Speed up		Playback by frame
	Enable/Disable digital zoom		

Note: You can choose the file paths locally for downloaded playback video files and pictures in the Local Configuration interface.

You can also enter the time and click to locate the playback point in the <Set playback time> field. You can also click to zoom out/in the progress bar.



Set Playback Time



Progress Bar

The different colors of the video on the progress bar stand for the different video types.

Command Continuous Alarm Manual

6. System

6.1 Basic Information

Enter the Device Information interface: **System > Basic Information**.

In the <Basic Information> interface, you can edit the <Device Name> and <Device No.>

Other information of the network camera, such as <Model>, <Serial No. >, <Firmware Version>, <Encoding Version>, <Number of Channels>, <Number of HDDs>, <Number of Alarm Input> and <Number of Alarm Output> are displayed. The information cannot be changed in this menu. It is the reference for maintenance or modification in the future.

Online Upgrade

For some camera models, when the memory card is mounted, you can click the <Update> button that appears on the right of the <Firmware Version> text field to see if there is a new version available. If a new version is available, the version number will be displayed in the <New Version> text field below, and you can click the <Upgrade> button to upgrade the firmware for the camera.

Note: Do not power off the camera when the camera is upgrading. The camera may not be accessible while upgrading. You need to wait 1 or 2 minutes before the upgrade finishes.

6.2 Time Settings

You can follow the instructions in this section to configure the time synchronization and DST settings.

Steps:

1. Enter the Time Settings interface, **System> Time Settings**.

Time Settings

2. Select the Time Zone of your location from the drop-down menu.
3. Configure the NTP settings.

(1) Click to enable the <NTP> function.

(2) Configure the following settings:

<Server Address>: IP address of the NTP server.


<NTP Port>: Port of the NTP server.

Interval: The time interval between the two synchronizing actions with NTP server.

- (3) (Optional) You can click the <Test> button to test the time synchronization function via the NTP server.

Time Sync by NTP Server

Note: If the camera is connected to a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: ptbtime1.ptb.de). If the camera is set up in a customized network, the NTP software can be used to establish an NTP server for the time synchronization.

- Configure the manual time synchronization.
 - (1) Check the <Manual Time Sync.> item to enable the manual time synchronization function.
 - (2) Click the icon  to select the date and time from the pop-up calendar.
 - (3) (Optional) You can check the <Sync. with computer time> item to synchronize the time of the device with that of the local PC.



Time Sync Manually

- Click <Save> to save the settings.

6.3 DST

Daylight Saving Time (DST) is a way of making better use of the natural daylight by setting your clock forward one hour during the summer months, and back again in the fall.

Configure the DST according to your actual demand.

Steps:

1. Enter the DST configuration interface.

System > DST

Basic Information	Time Settings	RS232	RS485	DST
<input type="checkbox"/> Enable DST				
Start Time		Jan	First	Sun 00
End Time		Jan	First	Sun 00
DST Bias		30min		

DST Settings

2. Select the <Start Time> and the <End Time>.
3. Select the <DST Bias>.
4. Click <Save> to activate the settings.

6.4 Upgrade & Maintenance

The upgrade & maintenance interface allows you to process several operations, including rebooting, partly restoring, restoring to default, exporting/importing the configuration files and upgrading the device.

Enter the Maintenance interface:

System > Upgrade & Maintenance

- **<Reboot>**: Restart the device.
- **<Restore>**: Reset all the parameters, except the IP parameters and user information, to the default settings.
- **<Default>**: Restore all the parameters to the factory default.

Notes:

After restoring the default settings, the IP address will also be restored to the default IP address, please be careful with this action.

For cameras that support Wi-Fi, wireless dial or wlan function, the <Restore> action does not restore the related settings of these mentioned functions to the default setting.

- Information Export

<Device Parameters>: Click to export the current configuration file of the camera.

This operation requires the <Admin Password> in order to proceed.

For the exported file, you also have to create an <Encryption Password>. The encryption password is required when you import the file to other cameras.

<Diagnose Information>: Click to download the log and system information.

- **Import Configuration File**

The configuration file is used for the batch configuration of the cameras.

Steps:

1. Click <Browse> to select the saved configuration file.
2. Click <Import> and input the encryption password to start importing configuration **Note:**
You need to reboot the camera after importing the configuration file.

- **Upgrade:** Upgrade the device to a certain version.

Steps:

1. Select firmware or firmware directory to locate the upgrade file.


Firmware: Locate the exact path of the upgrade file.

Firmware Directory: Only the directory to which the upgrade file belongs to is required.
2. Click <Browse> to select the local upgrade file and then click <Upgrade> to start the remote upgrade.

Note: The upgrading process will take 1 to 10 minutes. Please don't disconnect the power of the camera during this process. The camera reboots automatically after the upgrade.

6.5 System Service

The System service settings refer to the software and hardware service that is supported by the camera. Supported functions vary according to the different cameras. For the cameras supporting IR LED, ABF (Auto Back Focus), Auto Defog or Status LED, you can select to enable or disable the corresponding service according to the actual needs.

ABF: When the ABF function is enabled, you can click  on the PTZ control panel to obtain an auxiliary focus.

Third Stream: For some models, you can check the checkbox of <Enable Third Stream> to reboot the system and to enable the third stream.

Software
<input checked="" type="checkbox"/> Enable Third Stream
Note: When Third Stream is enabled, functions such as, Rotate, WDR, and H.264+, are not supported. New settings will take effect after a reboot.

Enable Third Stream


6.6 RS232

The RS232 port can be used in two ways:

- Parameters Configuration: Connect a computer to the camera through the serial port. The device parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as the serial port parameters of the camera.
- Transparent Channel: Connect a serial device directly to the camera. The serial device will be remotely controlled by the computer via the network.

Steps:

1. Enter the RS232 Port Setting interface: **System > RS232**.
2. Configure the <Baud Rate>, <Data Bit>, <Stop Bit>, <Parity>, <Flow Control> and <Usage>.

	Basic Information	Time Settings	DST	Upgrade & Maintenance	System Service	RS-232
Live View						
Playback						
System						
Security						
Network						
Video/Audio						
Event						
Storage						
	Baud Rate	115200				
	Data Bit	8				
	Stop Bit	1				
	Parity	None				
	Flow Ctrl	None				
	Usage	Console				
	 Save					

Note: If you want to connect the camera by the RS232 port, then the parameters of the RS232 should be exactly the same as the parameters you configured here.

3. Click <Save> to save the settings.

6.7 RS485

The RS485 serial port is used to control the PTZ of the camera. The configuring of the PTZ parameters should be done before you control the PTZ unit.

Steps:

1. Enter the RS-485 Port Setting interface: **System > RS485**.

Baud Rate	9600	▼
Data Bit	8	▼
Stop Bit	1	▼
Parity	None	▼
Flow Ctrl	None	▼
PTZ Protocol	PELCO-D	▼
PTZ Address	0	

RS-485 Settings

2. Set the RS485 parameters and click <Save> to save the settings.

By default, the <Baud Rate> is set as <9600 bps>, the <Data Bit> is <8>, the <Stop Bit> is 1> and the <Parity> and <Flow Control> is <None>.

Note: The Baud Rate, PTZ Protocol and PTZ Address parameters should be exactly the same as the PTZ camera parameters.

6.8 About

Here you can view information about the camera.

6.9 Log

The operation, alarm, exception and information of the camera can be stored in log files. You can also export the log files on demand.

Before you start:

Please configure the network storage for the camera or insert an SD card in the camera.

Steps:

1. Enter the log searching interface: **System > Log**.

No.	Time	Major Type	Minor Type	Channel No.	Local/Remote User	Remote Host IP
-----	------	------------	------------	-------------	-------------------	----------------

Log Searching Interface

2. Set the log search conditions to specify the search, including the <Major Type>, <Minor Type>, <Start Time> and <End Time>.
3. Click <Search> to search the log files. The matched log files will be displayed on the log list interface.
3. To export the log files, click <Export> to save the log files.

6.10 Local

The local configuration refers to the parameters of the live view, record files and captured pictures. The record files and captured pictures are the ones you record and capture using the web browser and thus the saving paths of them are on the PC running the browser.

Steps:

1. ENTER THE LOCAL CONFIGURATION INTERFACE: **SYSTEM > LOCAL**.

The screenshot displays the 'Local' configuration tab in a web interface. The left sidebar contains navigation icons for Live View, Playback, System, Security, Network, Video/Audio, Event, and Storage. The main content area is divided into several sections:

- Live View Parameters:**
 - Protocol: ☒ TCP, ☐ UDP, ☐ MULTICAST, ☐ HTTP
 - Play Performance: ☐ Shortest Delay, ☒ Balanced, ☐ Fluent
 - Rules: ☒ Enable, ☐ Disable
 - Image Format: ☒ JPEG, ☐ BMP
- Record File Settings:**
 - Record File Size: ☐ 256M, ☒ 512M, ☐ 1G
 - Save record files to: C:\Users\Web\RecordFiles (with Browse and Open buttons)
 - Save downloaded files to: C:\Users\Desktop (with Browse and Open buttons)
- Picture and Clip Settings:**
 - Save snapshots in live vi...: C:\Users\Web\CaptureFiles (with Browse and Open buttons)
 - Save snapshots when pla...: C:\Users\Web\PlaybackPics (with Browse and Open buttons)
 - Save clips to: C:\Users\Web\PlaybackFiles (with Browse and Open buttons)

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

Local Configuration Interface

2. CONFIGURE THE FOLLOWING SETTINGS:

- **<Live View Parameters>:** Set the protocol type and live view performance.

<Protocol Type>: <TCP>, <UDP>, <MULTICAST> and <HTTP> are selectable.

- **<TCP>:** Ensures complete delivery of the streaming data and better video quality, yet the real-time transmission will be affected.
- **<UDP>:** Provides real-time audio and video streams.
- **<HTTP>:** Allows the same quality as of TCP without setting specific ports for streaming under some network environments.
- **<MULTICAST>:** It's recommended to select the MCAST type when using the Multicast function. For detailed information about Multicast, refer to Section **8.1 TCP/IP**.

<Play Performance>: Set the play performance to <Shortest Delay>, <Fluent> or <Balanced>.

<Rules>: This refers to the rules on your local browser. You can select <enable> or <disable> to display or not display the colored marks when the motion detection, face detection, or intrusion detection is triggered. E.g., When the face detection is enabled and the display of the colored marks as well, then the face will be marked with a green

rectangle on the live view when a face is detected.

<Image Format>: Choose the format for capturing a picture.

- **<Record File Settings>:** Set the saving path of the recorded video files. This is valid for the record files you recorded with the web browser.

<Record File Size>: Select the packed size of the manually recorded and downloaded video files to <256M>, <512M> or <1G>. After the selection, the maximum record file size is the value you selected.

<Save record files to>: Set the saving path for the manually recorded video files.

<Save downloaded files to>: Set the saving path for the downloaded video files in playback mode.

- **<Picture and Clip Settings>:** Set the saving paths of the captured pictures and clipped video files. This is valid for the pictures you capture with the web browser.

<Save snapshots in live view to>: Set the saving path of the manually captured pictures in live view mode.

<Save snapshots when playback to>: Set the saving path of the captured pictures in playback mode.

<Save clips to>: Set the saving path of the clipped video files in playback mode.

Note: You can click <Browse> to change the directory you want to save the clips and pictures to and you can click <Open> to open the set folder for saving clips and pictures.

3. Click <Save> to save the settings.

7. Security Settings

Configure the parameters, including Authentication, IP Address Filter, and Security Service from the security interface.

7.1 User Management

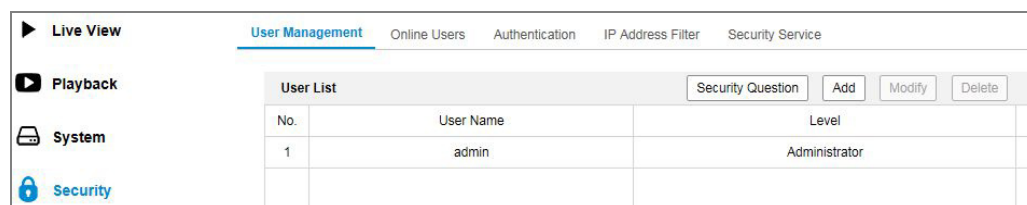
- As Administrator:

The admin user can add, delete or modify user accounts, and grant them different permissions. We highly recommend you manage the user accounts and permissions properly.

Enter the User Management interface: **Security > User Management**

Note:

The admin password is required for adding and modifying a user account.



User Management Interface

- Adding a User:

The admin user has all permissions by default and can create/modify/delete other accounts.

The admin user cannot be deleted and you can only change the admin password.

Steps:

1. Click <Add> to add a user.
2. Enter the <Admin Password> and <User Name>, select <Level> and enter a <Password>.

Notes:

- Up to 31 user accounts can be created.
- Users of different levels own different default permissions. <Operator> and <User> are selectable.

We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

3. You can check or uncheck the permissions for the new user.
4. Click <OK> to finish the user addition.

- **Modifying a User:**

Steps:

1. Left-click on the mouse to select the user from the list and click <Modify>.
2. Modify the <User Name>, <Level> and <Password>.

We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

3. You can check or uncheck the permissions.
4. Click <OK> to finish the user modification.

- **Deleting a User:**

Steps:

1. Click to select the user you want to delete and click <Delete>.
2. Click <OK> on the pop-up dialogue box to confirm the deletion.

- **As Operator or User:**

The operator or the user can modify the password. The old password is required for this action.

(Optional) Security Question

The security question is used to reset the admin password when the admin user forgets the password.

Set a Security Question:

You can set the security questions during the camera activation. Or you can set the function at the user management interface.

The security question setting is not cleared when you restore the camera (not to default).

Steps:

1. Enter the setting interface: **Security > User Management**
2. Click <Security Question>.
3. Enter the correct admin password.
4. Select questions and enter the answers.
5. Click <OK> to save the settings.

Reset the Admin Password:

Before you start:

The PC that is used to reset the password and the camera should belong to the same IP address segment of the same LAN.

Steps:

1. Go to the login interface via the web browser.
2. Click <Forget Password>.
3. Answer the security question.
4. Create a new password.

Note: The User IP address is locked for 30 minutes after 7 failed attempts of answering security questions.

7.2 Online Users

This function is not available for all cameras.

You can see the current users who are visiting the device through this interface. User information, such as <User Name>, <Level>, <IP Address>, and <Operation Time>, is displayed in the <User List>.

Click <Refresh> to refresh the list.



No.	User Name	Level	IP Address	User Operation Time
1	admin	Administrator	10.6.1.103	2017-11-30 08:56:28

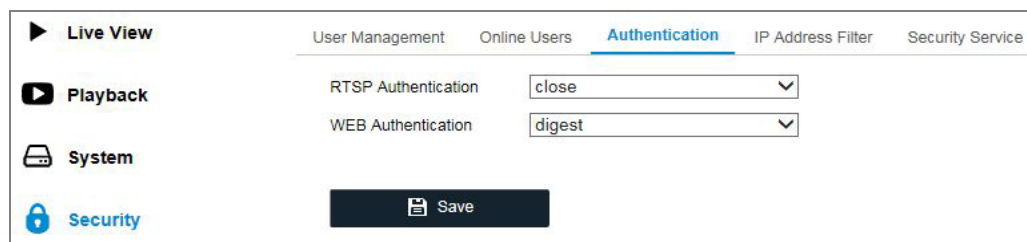
View the Online Users

7.3 Authentication

You can specifically secure the stream data of live view.

Steps:

1. Enter the Authentication interface: **Security > Authentication**.



Authentication

2. Set up up the authentication method for <RTSP authentication> and <WEB authentication>.

Caution:

<Digest> is the recommended authentication method for better data security. You must be aware of the risk if you adopt <Basic> as the authentication method.

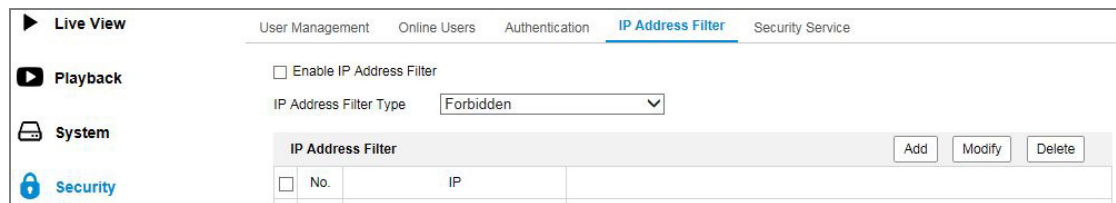
3. Click <Save> to save the settings.

7.4 IP Address Filter

This function makes access control possible.

Steps:

1. Enter the IP Address Filter interface: **Security > IP Address Filter**

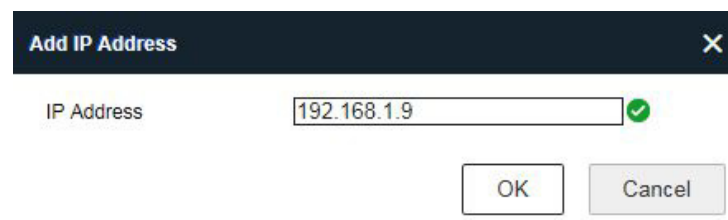


IP Address Filter Interface

2. Check the checkbox of <Enable IP Address Filter>.
3. Select the type of <IP Address Filter> in the drop-down list, <Forbidden> and <Allowed> are selectable.
4. Set the <IP Address Filter> list.
 - <Add an IP Address>:

Steps:

- (1) Click the <Add> button to add an IP address.
- (2) Enter the IP address.



Add an IP

- (3) Click the <OK> button to finish adding the IP| address.
- <Modify an IP Address>:

Steps:

- (1) Click with the mouse on an IP address from the filter list and click on <Modify>.
- (2) Modify the IP address in the text field.

Modify an IP

(3) Click the <OK> to finish modifying.

- Delete an IP Address or IP Addresses.

Select the IP address(es) and click <Delete>.

2. Click <Save> to save the settings.

7.5 Security Service

To enable the remote login, and improve the data communication security, the camera provides the security service for better user experience.

Steps:

1. Enter the security service configuration interface: **Security > Security Service**.

Security Service

2. Check the checkbox of <Enable Illegal Login Lock>.

Illegal Login Lock: This is used to limit the user login attempts. A login attempt from the IP address is rejected if the admin user performs 7 failed user name/password attempts (5 times for the operator/user).

Note: If the IP address is rejected, you can try to login the device after 30 minutes.

8. Network

Follow the instructions in this chapter to configure the network settings. You can configure the parameters, including TCP/IP, DDNS, PPPoE, Port, and NAT, etc., by following the instructions in this section.

8.1 TCP/IP

The TCP/IP settings must be properly configured before you operate the camera over a network.

The camera supports both the IPv4 and IPv6. Both versions can be configured simultaneously without interfering with each other and at least one IP version should be configured.

Steps:

1. Enter the TCP/IP Settings interface: **Network > TCP/IP**

The screenshot displays the 'TCP/IP' settings page. On the left is a sidebar with icons for 'Live View', 'Playback', 'System', 'Security', 'Network' (highlighted), 'Video/Audio', 'Event', and 'Storage'. The main area has tabs for 'TCP/IP', 'DDNS', 'PPPoE', 'SNMP', '802.1x', 'QoS', 'FTP', 'Email', 'NAT', 'HTTPS', and 'Integration Protocol'. The 'TCP/IP' tab is active, showing settings for 'NIC Type' (Auto), 'DHCP' (checked), 'IPv4 Address' (10.65.67.20), 'IPv4 Subnet Mask' (255.255.255.0), 'IPv4 Default Gateway' (10.65.67.254), 'IPv6 Mode' (Route Advertisement), 'IPv6 Address' (2017::4ebd:8fff:fefb:f589), 'IPv6 Subnet Mask' (64), 'IPv6 Default Gateway' (::), 'Mac Address' (4c:bd:8f:fb:f5:89), 'MTU' (1500), 'Multicast Address' (empty), and 'Enable Multicast Discovery' (checked). There is a 'Test' button next to the IPv4 Address field and a 'View Route Advertisement' button next to the IPv6 Mode dropdown. At the bottom, there is a 'DNS Server' section with 'Preferred DNS Server' (10.1.7.77) and 'Alternate DNS Server' (10.1.7.88), and a 'Save' button.

TCP/IP Settings

2. Configure the basic network settings, including the <NIC Type, <IPv4 or IPv6 Address, <IPv4 or IPv6 Subnet Mask>, <IPv4 or IPv6 Default Gateway>, <MTU settings> and <Multicast Address>.

3. (Optional) Check the checkbox of <Enable Multicast Discovery>, and then the online network camera can be automatically detected by Grundig SCMS via the private multicast protocol in the LAN.
4. Configure the DNS server. Enter the <Preferred DNS Server> and an <Alternate DNS Server>.
5. Click <Save> to save the above settings.

Notes:

- The valid value range of MTU is 1280 to 1500.
- The Multicast sends a stream to the multicast group address and allows multiple clients to acquire the stream at the same time by requesting a copy from the multicast group address. Before utilizing this function, you have to enable the Multicast function of your router.
- A reboot is required for the settings to take effect.

You can also set here the port No. of the camera, e.g., HTTP port, RTSP port and HTTPS port.

Steps:

1. Set the <HTTP port>, <RTSP port>, <HTTPS port> and <server port> of the camera.

<HTTP Port>: The default port number is 80, and it can be changed to any port No. which is not occupied.

<RTSP Port>: The default port number is 554 and it can be changed to any port No. ranging from 1 to 65535.

<HTTPS Port>: The default port number is 443, and it can be changed to any port No. which is not occupied.

<Server Port>: The default server port number is 8000, and it can be changed to any port No. ranging from 2000 to 65535.

2. Click <Save> to save the settings.

Note: A reboot is required for the settings to take effect.

8.2 DDNS

If your camera is set to use PPPoE as its default network connection, you can use the Dynamic DNS (DDNS) for network access.

Before you start:

Registration on the DDNS server is required before configuring the DDNS settings of the camera.

Steps:

1. Enter the DDNS Settings interface: **Network > DDNS**.
2. Check the <Enable DDNS> checkbox to enable this feature.
3. Select the **<DDNS Type>**. Two <DDNS Types> are selectable: <DynDNS> and <NO-IP>.
 - <DynDNS>:

Steps:

- (1) Enter <Server Address> of DynDNS (e.g. members.dyndns.org).
- (2) In the <Domain> text field, enter the domain name obtained from the DynDNS website.
- (3) Enter the <User Name> and <Password> registered on the DynDNS website.
- (4) Click <Save> to save the settings.

The screenshot shows the 'Live View' interface with a sidebar on the left containing icons for Playback, System, Security, Network (highlighted), Video/Audio, Event, and Storage. The main area has tabs for TCP/IP, DDNS (selected), PPPoE, SNMP, 802.1x, QoS, FTP, Email, NAT, HTTPS, and Integration Protocol. Under the DDNS tab, there is a checkbox for 'Enable DDNS' which is checked. Below it is a dropdown menu for 'DDNS Type' set to 'DynDNS'. Further down are text input fields for 'Server Address', 'Domain', 'User Name', 'Port' (set to 0), 'Password', and 'Confirm'. A 'Save' button is at the bottom.

DynDNS Settings

- <NO-IP>:

Steps:

- (1) Choose the <DDNS Type> as <NO-IP>.

NO-IP DNS Settings

- (2) Enter the <Server Address> as www.noip.com
- (3) Enter the <Domain> name you registered.
- (4) Enter the <User Name> and <Password>.
- (5) Click <Save> and then you can view the camera with the domain name.

Note: Reboot the device to make the settings take effect.

8.3 PPPoE

Steps:

1. Enter the PPPoE Settings interface: **Network > PPPoE**

PPPoE Settings

2. Check the <Enable PPPoE> checkbox to enable this feature.
3. Enter the <User Name>, <Password>, and <Confirm> the password for PPPoE access.

Note: The User Name and Password should be assigned by your ISP.

WARNING:

- For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.
 - Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
4. Click <Save> to save and exit the interface.

Note: A reboot is required for the settings to take effect.

8.4 SNMP

You can set the SNMP function to get camera status, parameters and alarm related information, and manage the camera remotely when it is connected to the network.

Before you start:

Before setting the SNMP, please download the SNMP software and manage to receive the camera information via SNMP port. By setting the Trap Address, the camera can send the alarm event and exception messages to the surveillance center.

Note: The SNMP version you select should be the same as that of the SNMP software. And you also need to use the different version according to the security level you required. SNMP v1 provides no security and SNMP v2 requires password for access. And SNMP v3 provides encryption and if you use the third version, HTTPS protocol must be enabled.

WARNING:

- For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The

password should be something of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

Steps:

1. Enter the SNMP Settings interface: **Network > SNMP**.

The screenshot displays the 'SNMP' configuration page within a network management application. The left sidebar shows a navigation menu with 'Network' highlighted. The top navigation bar includes tabs for TCP/IP, DDNS, PPPoE, **SNMP**, 802.1x, QoS, FTP, Email, NAT, HTTPS, and Integration Protocol. The main content area is divided into three sections: 'SNMP v1/v2', 'SNMP v3', and 'SNMP Other Settings'. In the 'SNMP v1/v2' section, there are checkboxes for 'Enable SNMPv1' and 'Enable SNMP v2c', both of which are currently unchecked. Below these are text input fields for 'Read SNMP Community' (set to 'public'), 'Write SNMP Community' (set to 'private'), 'Trap Address', 'Trap Port' (set to '162'), and 'Trap Community' (set to 'public'). The 'SNMP v3' section contains checkboxes for 'Enable SNMPv3' (unchecked), followed by fields for 'Read' and 'Write' configurations. Each Read/Write configuration includes a 'UserName' field, a 'Security Level' dropdown menu (set to 'no auth, no priv'), radio buttons for 'Authentication Algorithm' (MD5 selected, SHA unselected), a masked 'Authentication Password' field, radio buttons for 'Private-key Algorithm' (DES selected, AES unselected), and a masked 'Private-key password' field. The 'SNMP Other Settings' section at the bottom has a single 'SNMP Port' field set to '161'. A dark blue 'Save' button is located at the bottom center of the interface.

SNMP Settings

2. Check the checkbox of <Enable SNMPv1>, <Enable SNMP v2c>, <Enable SNMPv3> to enable the corresponding feature.
3. Configure the SNMP settings.

Note: The settings of the SNMP software should be the same as the settings you configure here.

4. Click <Save> to save and finish the settings.

Notes:

- A reboot is required for the settings to take effect.
- To lower the risk of information leakage, you are suggested to enable SNMP v3 instead of SNMP v1 or v2.

8.5 802.1X

The IEEE 802.1X standard is supported by the network cameras, and when the feature is enabled, the camera data is secured and user authentication is needed when connecting the camera to the network protected by the IEEE 802.1X.

Before you start:

The authentication server must be configured. Please apply and register a user name and password for 802.1X in the server.

WARNING:

- For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.
- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

Steps:

1. Enter the 802.1X Settings interface: **Network > 802.1X**

802.1X Settings

2. Check the <Enable IEEE 802.1X> checkbox to enable the feature.
3. Configure the 802.1X settings, including <Protocol>, <EAPOL version>, <User Name>, <Password> and <Confirm>.

Note: The <EAPOL version> must be identical with that of the router or the switch.

4. Enter the user name and password to access the server.
5. Click <Save> to finish the settings.

Note: A reboot is required for the settings to take effect.

8.6 QoS

QoS (Quality of Service) can help solve the network delay and network congestion by configuring the priority of data sending.

Steps:

1. Enter the QoS Settings interface: **Network > QoS**

QoS Settings

2. Configure the QoS settings, including <Video/Audio DSCP>, <Event/Alarm DSCP> and <Management DSCP>.

The valid value range of the DSCP is 0 to 63. The bigger the DSCP value is, the higher the priority is.

Note: DSCP refers to the Differentiated Service Code Point, and the DSCP value is used in the IP header to indicate the priority of the data.

3. Click <Save> to save the settings.

Note: A reboot is required for the settings to take effect.

8.7 FTP

You can configure the FTP server related information to enable the uploading of the captured pictures to the FTP server. The captured pictures can be triggered by events or a timing snapshot task.

Steps:

1. Enter the FTP Settings interface: **Network > FTP**.

	TCP/IP	DDNS	PPPoE	SNMP	802.1x	QoS	FTP	Email	NAT	HTTPS	Integration Protocol
Live View											
Playback											
System											
Security											
Network											
Video/Audio											
Event											

Server Address	0.0.0.0
Port	21
User Name	<input type="text"/> <input type="checkbox"/> Anonymous
Password	<input type="password"/>
Confirm	<input type="password"/>
Directory Structure	Save in the root directory ▼
Picture Filing Interval	OFF ▼ Day(s)
Picture Name	Default ▼
<input type="checkbox"/> Upload Picture	
<input type="button" value="Test"/>	

FTP Settings

2. Enter the FTP address and port.
3. Configure the FTP settings, the user name and password are required for the FTP server login.

WARNING:

- For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.
 - Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
4. Set the directory structure and picture filing interval.

<Directory>: In the **Directory Structure** field you can select the root directory, parent directory and child directory. When the parent directory is selected, you have the option to use the <Device Name>, <Device Number> or <Device IP> for the name of the directory, when the child directory is selected, you can use the camera name or camera no. as the name of the directory.

<Picture Filing Interval>: For better picture management you can set the picture filing interval from 1 day to 30 days. Pictures captured in the same time interval will be saved in one folder named after the beginning date and ending date of the time interval.

<Picture Name>: Set the naming rule for captured picture files. You can choose <Default> in the drop-down list to use the default rule, that is,

IP address_channel number_capture time_event type.jpg

(e.g., 10.11.37.189_01_20150917094425492_FACE_DETECTION.jpg).

Or you can customize it by adding a <Custom Prefix> to the default naming rule.

5. Check the <Upload Picture> checkbox to enable the function.

<Upload Picture>: To enable uploading the captured picture to the FTP server.

Anonymous Access to the FTP Server (in which case the user name and password won't be required.): Check the <Anonymous> checkbox to enable the anonymous access to the FTP server.

Note: The anonymous access function must be supported by the FTP server.

6. Click <Save> to save the settings.

8.8 Email

The system can be configured to send an Email notification to all designated receivers if an alarm event is detected, e.g., motion detection event, video loss, video tampering, etc.

Before you start:

Please configure the DNS Server settings under **Network > TCP/IP** before using the Email function.

Steps:

1. Enter the TCP/IP Settings (**Network > TCP/IP**) to set the <IPv4 Address>, <IPv4 Subnet Mask>, <IPv4 Default Gateway> and the <Preferred DNS Server>.

Note: Please refer to Section **8.1 TCP/IP** for detailed information.

2. Enter the Email Settings interface: **Network > Email**.
3. Configure the following settings:

<Sender>: The name of the email sender.

<Sender's Address>: The email address of the sender.

<SMTP Server>: IP address or host name (e.g., smtp.263xmail.com) of the SMTP Server.

<SMTP Port>: The SMTP port. The default TCP/IP port for SMTP is 25 (not secured). And the SSL SMTP port is 465.

<Email Encryption>: <None>, <SSL>, and <TLS> are selectable. When you select SSL or TLS and disable STARTTLS, e-mails will be sent after being encrypted by SSL or TLS. The SMTP port should be set as 465 for this encryption method. When you select SSL or TLS and enable STARTTLS, emails will be sent after being encrypted by STARTTLS, and the SMTP port should be set as 25.

Note: If you want to use STARTTLS, make sure that the protocol is supported by your e-mail server. If you check the <Enable STARTTLS> checkbox when the protocol is not supported by your e-mail sever, your e-mail will not be encrypted.

Attached Image: Check the checkbox of <Attached Image>, if you want to send emails with attached alarm images.

<Interval>: The interval refers to the time between two actions of sending attached pictures.

<Authentication> (optional): If your email server requires authentication, check this checkbox to use authentication to log in to this server and enter the login user name and password.

WARNING:

- For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case

letters, numbers and special characters) in order to increase the security of your product.

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

The <Receiver> table: Select the receiver to which the email is to be sent. Up to 3 receivers can be configured.

<Receiver>: The name of the user to be notified.

<Receiver's Address>: The email address of user to be notified.

Receiver			
No.	Receiver	Receiver's Address	Test
1			<input type="button" value="Test"/>
2			
3			

Email Settings

4. Click <Save> to save the settings.

8.9 NAT (Network Address Translation)

NAT interface allows you to configure the UPnP™ parameters.

Universal Plug and Play (UPnP™) is a networking architecture that provides compatibility among networking equipment, software and other hardware devices. The UPnP protocol allows devices to connect seamlessly and to simplify the implementation of networks in the home and corporate environments.

With the function enabled, you don't need to configure the port mapping for each port, and the camera is connected to the Wide Area Network via the router.

Steps:

1. Enter the NAT settings interface. **Network > NAT.**
2. Check the checkbox to enable the <UPnP™> function.
3. Choose a nickname for the camera, or you can use the default name.
4. Select the port mapping mode. <Manual> and <Auto> are selectable. And for manual port mapping, you can customize the value of the external port.
5. Click <Save> to save the settings.

Port Type	External Port	External IP Address	Internal Port
HTTP	80	0.0.0.0	80
RTSP	554	0.0.0.0	554
Server Port	8000	0.0.0.0	8000

UPnP Settings

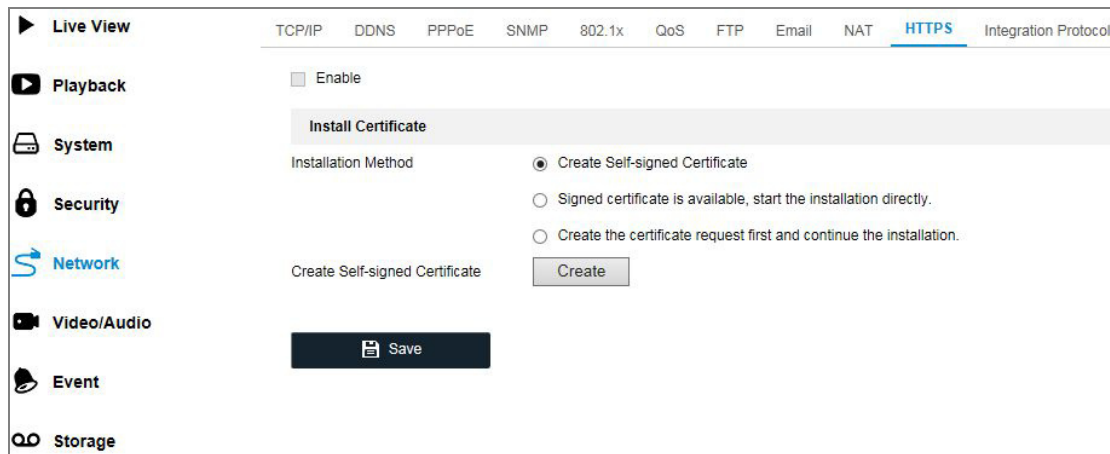
8.10 HTTPS

HTTPS provides authentication of the web site and its associated web server, which protects against Man-in-the-middle attacks. Perform the following steps to set the port number of https.

E.g., If you set the port number as 443 and the IP address is 192.168.1.100, you may access the device by inputting https://192.168.1.100:443 via the web browser.

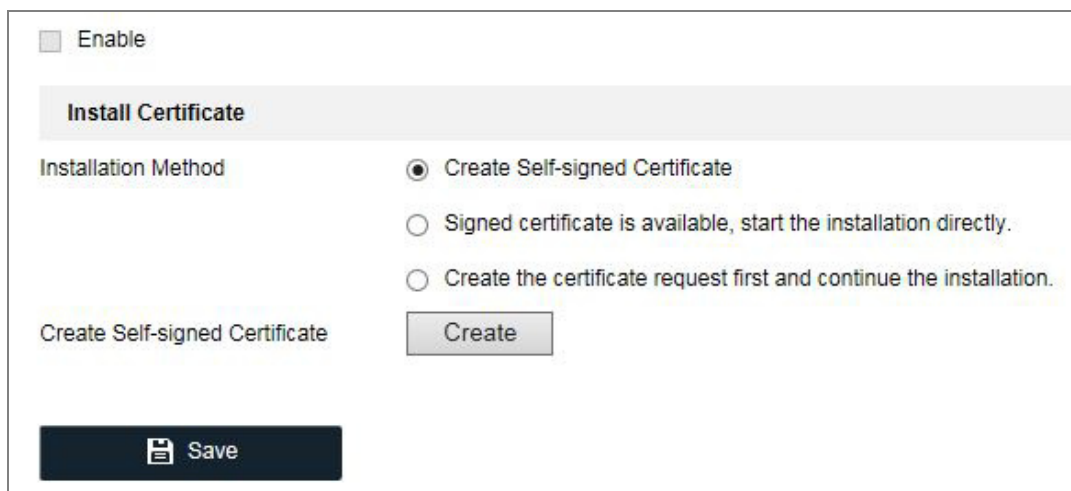
Steps:

1. Enter the HTTPS settings interface: **Network > HTTPS**
2. Check the checkbox of <Enable> to enable the function.



HTTPS Configuration Interface

3. Create the self-signed certificate or authorized certificate.
 - Create the self-signed certificate
 - (1) Select <Create Self-signed Certificate> as the Installation Method.
 - (2) Click <Create> button to enter the creation interface.



Create Self-signed Certificate

- (3) Enter the <Country>, <Host name/IP>, <Validity> and <Other Information>.
- (4) Click <OK> to save the settings.

Note: If you already had a certificate installed, the <Create Self-signed Certificate> is grayed out.

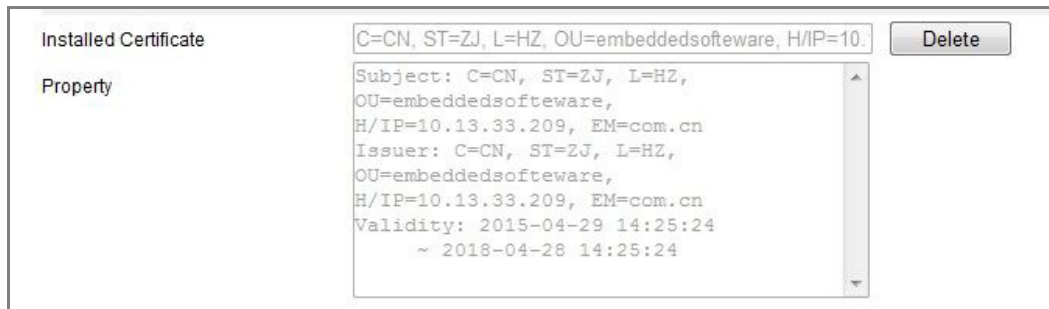
- Create the authorized certificate
 - (1) Select <Create the certificate request first and continue the installation> as the Installation Method.
 - (2) Click <Create> button to create the certificate request. Fill in the required information in

the popup window.

(3) Download the certificate request and submit it to the trusted certificate authority for signature.

(4) After receiving the signed valid certificate, import the certificate to the device.

4. There will be the certificate information after you have successfully created and installed the certificate.



Installed Certificate

5. Click the <Save> button to save the settings.

8.11 Integration Protocol

This function is not available for all cameras.

If you need to access the device through ONVIF protocol, you can configure a ONVIF user in this interface. Refer to ONVIF standard for detailed configuration rules.

1. Check the <Enable ONVIF> checkbox to enable the function.
2. Add ONVIF users. Up to 32 users are allowed.

Set the user name and password, and confirm the password. You can set the user as <media user>, <operator>, and <administrator>.

Note: The ONVIF user account is different from the camera user account. You have set the ONVIF user account independently.

3. Save the settings.

Note: User settings of ONVIF are cleared when you restore the camera.

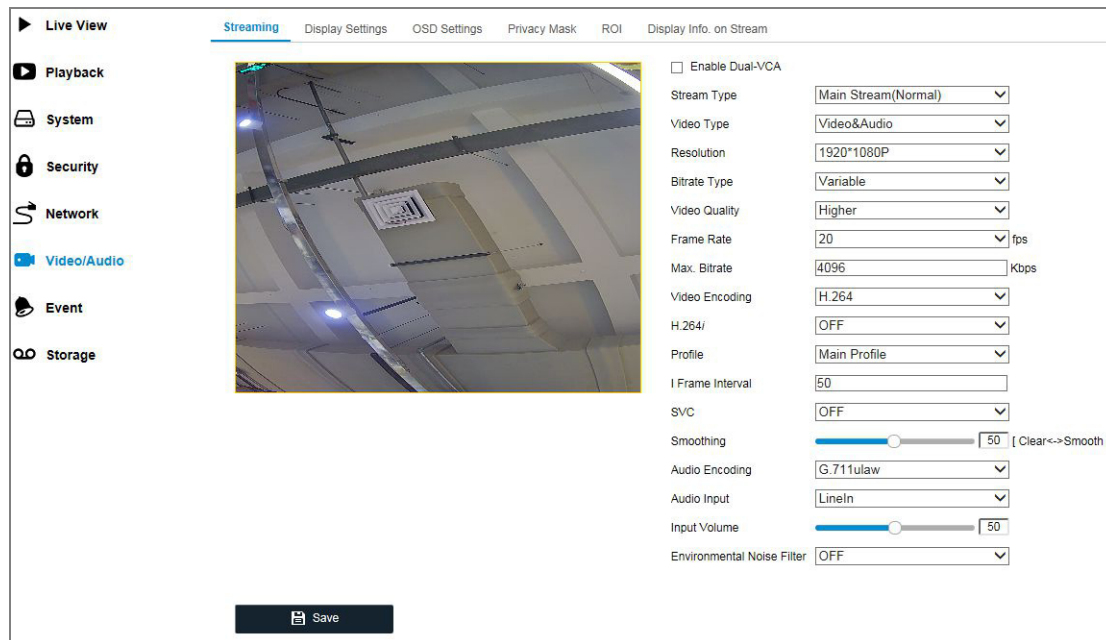
9. Video/Audio

Follow the instructions below to configure the video settings, audio settings, ROI etc.

9.1 Streaming

Steps:

1. Enter the Video Settings interface: **Video/Audio > Streaming**



Video Settings

2. Select the <Stream Type> of the camera to <Main Stream (Normal)>, <Sub Stream> or <Third Stream>.

Notes:

- For some models, to enable the third stream, go to **System> System Service> <Software>** and check the checkbox of <Enable Third Stream> to reboot the system and enable the third stream.
- The main stream is usually for recording and live view with good bandwidth, and the sub-stream can be used for live view when the bandwidth is limited.
- To enable the third stream, go to **System> System Service** and then to the section **Software** and check the checkbox of **Enable Third Stream** to reboot the system and enable the third stream.

3. You can customize the following parameters for the selected stream type.

<Video Type>:

Select the stream type to <Video Stream> or <Video & Audio Composite Stream>. The audio signal will be recorded only when the <Video Type> is <Video & Audio>.

<Resolution>:

Select the resolution of the video output.

<Bitrate Type>:

Select the <Bitrate Type> to <Constant> or <Variable>.

<Video Quality>:

When <Bitrate Type> is selected as <Variable>, 6 levels of video quality are selectable.

<Frame Rate>:

Set the <Frame Rate>. The frame rate is to describe the frequency at which the video stream is updated and it is measured by frames per second (fps). A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughout.

<Max. Bitrate>:

Set the <Max. Bitrate> from 32 to 16384 Kbps. The higher value corresponds to the higher video quality, but the better bandwidth is required.

Note: The maximum limit of the max. bitrate value varies according to different camera platforms. For certain cameras, the maximum limit is 8192 Kbps or 12288 Kbps.

<Video Encoding>:

If the Stream Type is set to main stream, H.264 and H.265 are selectable, and if the stream type is set to sub stream or third stream, H.264, MJPEG, and H.265 are selectable. H.265 is a new encoding technology. Compared with H.264, it reduces the transmission bitrate under the same resolution, frame rate and image quality.

Note: Selectable video encoding types may vary according to different camera modes.

<H.264+ and H.265+>:

- **H.264+:** If you set the main stream as the stream type, and H.264 as the video encoding, you can see <H.264+> available. H.264+ is an improved compression coding technology based on H.264. By enabling H.264+, users can estimate the HDD consumption by its

maximum average bitrate. Compared to H.264, H.264+ reduces storage by up to 50% with the same maximum bitrate in most scenes.

- **H.265+:** If you set the main stream as the stream type, and H.265 as the video encoding, you can see <H.265+> available. H.265+ is an improved compression coding technology based on H.265. By enabling <H.265+>, users can estimate the HDD consumption by its maximum average bitrate. Compared to H.265, H.265+ reduces storage by up to 50% with the same maximum bitrate in most scenes.

You need to reboot the camera if you want to turn on or turn off the H.264+/H.265+. If you switch from H.264+ to H.265+ directly, and vice versa, a reboot is not required by the system.

Notes:

- Upgrade your video player to the latest version if live view or playback does not work properly due to compatibility.
- With H.264+/H.265+ enabled, the parameters such as profile, I frame interval, video quality, and SVC are greyed out if the bitrate type is variable.
- With H.264+/H.265+ enabled, some functions are not supported. For those functions, corresponding interfaces will be hidden.
- H.264+/H.265+ can spontaneously adjust the bitrate distribution according to the requirements of the actual scene in order to realize the set maximum average bitrate in the long term. The camera needs at least 24 hours to adapt to a fixed monitoring scene.

<Max. Average Bitrate>:

When you set a maximum bitrate, its corresponding recommended maximum average bitrate will be shown in the <Max. Average Bitrate> box. You can also set the maximum average bitrate manually from 32 Kbps to the value of the set maximum bitrate.

<Profile>:

Basic profile, Main Profile, and High Profile for coding are selectable.

<I Frame Interval>:

Set I Frame Interval from 1 to 400.

<SVC>:

Scalable Video Coding is an extension of the H.264/AVC standard. Select OFF/ON to disable/enable the SVC function. Select <Auto> and the device will automatically extract frames from the original video when the network bandwidth is insufficient.

<Smoothing>:

It refers to the smoothness of the stream. The higher the value of the smoothing is, the better the fluency of the stream will be, though, the video quality may not be so satisfactory. The lower the value of the smoothing is, the higher the quality of the stream will be, though it may not appear fluent.

Note: Audio settings vary according to different camera models.

<Audio Encoding>: <G.722.1>, <G.711 ulaw>, <G.711alaw>, <G.726>, <MP2L2> and <PCM> are selectable. For <MP2L2>, the <Sampling Rate> and <Audio Stream Bitrate> are configurable. For <PCM>, the <Sampling Rate> can be set.

<Audio Input>: <MicIn> and <LineIn> are selectable for the connected microphone and pickup respectively.

<Input Volume>: 0-100 adjustable.

<Environmental Noise Filter>: Set it as <OFF> or <ON>. When the function is enabled, the noise in the environment can be filtered to some extent.

4. Click <Save> to save the settings.

Note:

The video and audio parameters vary according to the different camera models. Refer to the actual display page for camera functions.

9.2 Display Settings

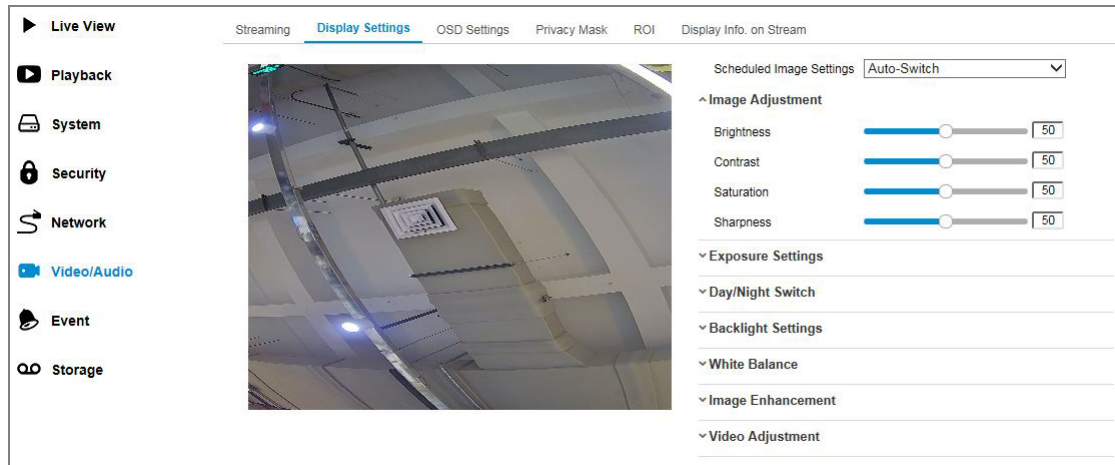
Configure the image adjustment, exposure settings, day/night switch, backlight settings, white balance, image enhancement, video adjustment, and other parameters in <Display Settings>.

Note: The display parameters vary according to the different camera models. Please refer to the actual interface for details.

Day/Night Auto-Switch

Steps:

1. Enter the Display Settings interface: **Video/Audio > Display Settings**.



Display Settings of Day/Night Auto-Switch

2. Set the image parameters of the camera.

Note: In order to guarantee the image quality in different illumination, it provides two sets of parameters for users to configure.

● Image Adjustment

<**Brightness**> describes the brightness of the image, which ranges from 1 to 100.

<**Contrast**> describes the contrast of the image, which ranges from 1 to 100.

<**Saturation**> describes the colorfulness of the image color, which ranges from 1 to 100.

<**Sharpness**> describes the edge contrast of the image, which ranges from 1 to 100.

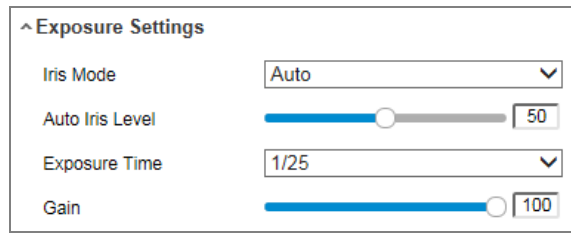
● Exposure Settings

If the camera is equipped with the fixed lens, only <Manual> is selectable, and the <Iris Mode> is not configurable.

If <Auto> is selected, you can set the auto iris level from 0 to 100.

The <Exposure Time> refers to the electronic shutter time, which ranges from 1 to 1/100,000s. Adjust it according to the actual luminance condition.

<Gain> of image can also be manually configured from 0 to 100. The bigger the value is, the brighter the image will be, and the noise will also be amplified to a larger extent.

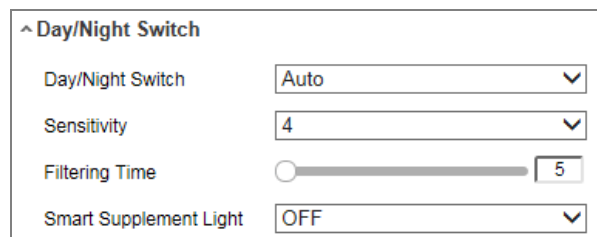
A screenshot of the 'Exposure Settings' panel. It contains four settings: 'Iris Mode' is a dropdown menu set to 'Auto'; 'Auto Iris Level' is a slider bar with a value of 50; 'Exposure Time' is a dropdown menu set to '1/25'; and 'Gain' is a slider bar with a value of 100.

Exposure Settings

- **Day/Night Switch**

Select the <Day/Night Switch> mode according to different surveillance demand.

<Day>, <Night>, <Auto>, <Scheduled-Switch>, and <Triggered by alarm input> are selectable for day/night switch.

A screenshot of the 'Day/Night Switch' panel. It contains four settings: 'Day/Night Switch' is a dropdown menu set to 'Auto'; 'Sensitivity' is a dropdown menu set to '4'; 'Filtering Time' is a slider bar with a value of 5; and 'Smart Supplement Light' is a dropdown menu set to 'OFF'.

Day/Night Switch

<Day>: the camera stays at day mode.

<Night>: the camera stays at night mode.

<Auto>: the camera switches automatically between the day mode and the night mode according to the illumination. The <sensitivity> ranges from 0 to 7, the higher the value is, the easier the mode switches. The <filtering time> refers to the interval time between the day/night switch. You can set it from 5s to 120s.

<Scheduled-Switch>: Set the start time and the end time to define the duration for day/night mode.

<Triggered by alarm input>: The switch is triggered by an alarm input. You can set the triggered mode to <Day> or <Night>. (This function is not available in all models.)

<Smart Supplement Light>: Set the supplement light as ON. <Auto> and <Manual> are selectable for light mode.

If you select <Auto>, the supplement light will change according to the actual luminance. E.g., if the current scene is bright enough, then the supplement light adjusts itself to lower power, and if the scene is not bright enough, the light adjusts itself to higher power.

If you select <Manual>, you can adjust the supplement by adjusting the distance. E.g., if the object is near the camera, the device adjusts the supplement light to a lower power, and the light will be in higher power if the object is far away.

● Backlight Settings

<BLC Area>: If you focus on an object against strong backlight, the object will be too dark to be seen clearly. BLC compensates light to the object in the front to make it clear. <OFF>, <Up>, <Down>, <Left>, <Right>, <Center>, <Auto>, and <Custom> are selectable.

Note: If <BLC mode> is set as <Custom>, you can draw a red rectangle on the live view image as the BLC area.

<WDR>: Wide Dynamic Range can be used when there is a high contrast of the bright area and the dark area of the scene.

<HLC>: High Light Compression function can be used when there are strong lights in the scene affecting the image quality.

● White Balance

White balance is the white rendition function of the camera used to adjust the color temperature according to the environment.



White Balance

- **Image Enhancement**

<Digital Noise Reduction>: <DNR> reduces the noise in the video stream. <OFF>, <Normal> and <Expert> are selectable. Set the DNR level from 0 to 100 in <Normal Mode>. Set the DNR level from both space DNR level [0-100] and time DNR level [0-100] in <Expert Mode>.

<Defog Mode>: You can enable the defog function when the environment is foggy and the image is misty. It enhances the subtle details so that the image appears clearer.

<EIS (Electrical Image Stabilizer)>: EIS reduces the effects of vibration in a video.

<Grey Scale>: You can choose the range of the grey scale as [0-255] or [16-235].

- **Video Adjustment**

<Mirror>: It mirrors the image so you can see it inversed. <Left/Right>, <Up/Down>, <Center>, and <OFF> are selectable.

<Rotate>: To make a complete use of the 16:9 aspect ratio, you can enable the rotate function when you use the camera in a narrow view scene.

When installing, turn the camera to the 90 degrees or rotate the 3-axis lens to 90 degrees, and set the <Rotate> mode as <On>, you will get a normal view of the scene with a 9:16 aspect ratio to ignore the needless information such as the wall, and get more meaningful information of the scene.

<Scene Mode>: Choose the scene as <indoor> or <outdoor> according to the real environment.

<Video Standard>: <50 Hz> and <60 Hz> are selectable. Choose according to the different video standards, normally 50 Hz for PAL standard and 60 Hz for NTSC standard.

<Capture Mode>: It's the selectable video input mode to meet the different demands of field of view and resolution.

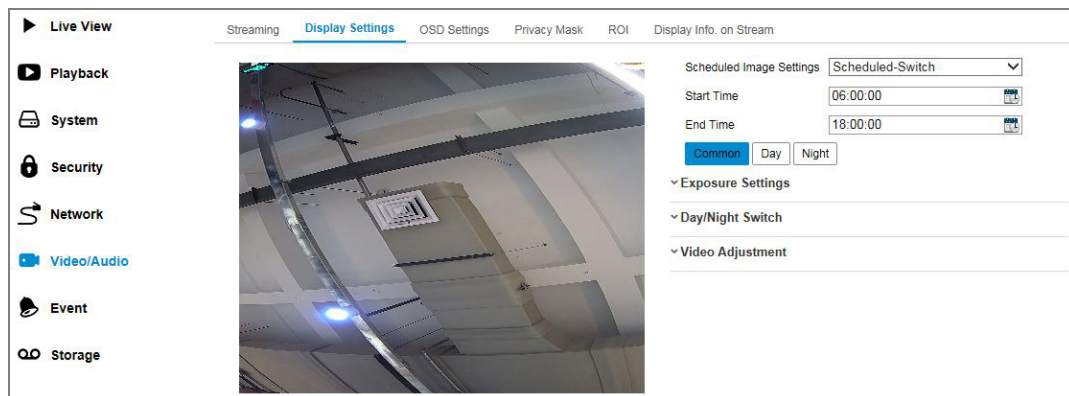
<Lens Distortion Correction>: For cameras equipped with a motor-driven lens, the image may appear distorted to some extent. Turn this function on to correct the distortion.

- **Others**

Some camera models support CVBS, SDI, or HDMI output. Set the local output to <ON> or <OFF> according to the actual device.

Day/Night Scheduled-Switch

Day/Night scheduled-switch configuration interface enables you to set the camera parameters for day and night separately, guaranteeing the image quality in different illumination.



Day/Night Scheduled-Switch Configuration Interface

Steps:

1. Click the Calendar icon to select the start time and the end time of the switch.

Notes:

- The start time and the end time refer to the valid time for day mode.
 - The time period can start and end on two days in a row. For example, if you set start time as 10:00 and end time as 1:00, the day mode will be activated at 10 o'clock in the morning and stopped at 1 o'clock early in the next morning.
2. Click the <Common> tab to configure the common parameters applicable to the day mode and night mode.

Note: For the detailed information of each parameter, please refer to Section 9.2 > Day/Night Auto-Switch.

3. Click the <Day> tab to configure the parameters applicable for the day mode.
4. Click the <Night> tab to configure the parameters applicable for night mode.

Note: The settings are automatically saved if any parameter is changed.

9.3 OSD Settings

You can customize the <Camera name>, <Time>/<Date> format, <Display Mode>, and <OSD> size displayed on the live view.

The screenshot displays the 'OSD Settings' window. On the left is a sidebar with icons for Live View, Playback, System, Security, Network, Video/Audio, Event, and Storage. The main area is divided into a top navigation bar (Streaming, Display Settings, OSD Settings, Privacy Mask, ROI, Display Info. on Stream) and a central video feed. To the right of the feed are configuration options: checkboxes for 'Display Name', 'Display Date', and 'Display Week' (checked); input fields for 'Camera Name' (Camera 01), 'Time Format' (24-hour), and 'Date Format' (MM-DD-YYYY); a 'Text OverLay' section with four checkboxes (1-4) and text boxes; and dropdown menus for 'Display Mode' (Not transparent & Not flashing), 'OSD Size' (Auto), 'Font Color' (Custom), and 'Alignment' (Custom). A 'Save' button is located at the bottom left of the settings panel.

OSD Settings

Steps:

1. Enter the OSD Settings interface: **Video/Audio > OSD Settings**.
 2. Check the corresponding checkbox to select the display of camera name, date or week if required.
 3. Edit the camera name in the text field of <Camera Name>.
 4. Select from the drop-down list to set the time and date format.
 5. Select from the drop-down list to set the <Time Format>, <Date Format>, <Display Mode>, <OSD Size>, and <Alignment>.
 6. Configure the text overlay settings.
 - (1) Check the checkbox in front of the textbox to enable the On-screen Display.
 - (2) Enter the characters into the textbox.
- Note:** Up to 8 text overlays are configurable.
7. Adjust the position and the alignment of the text frames.

<Left> align, <Right> align and <Custom> are selectable. If you select custom, you can use the mouse to click and drag text frames in the live view window to adjust their positions.

Note: The alignment adjustment is only applicable to Text Overlay items.

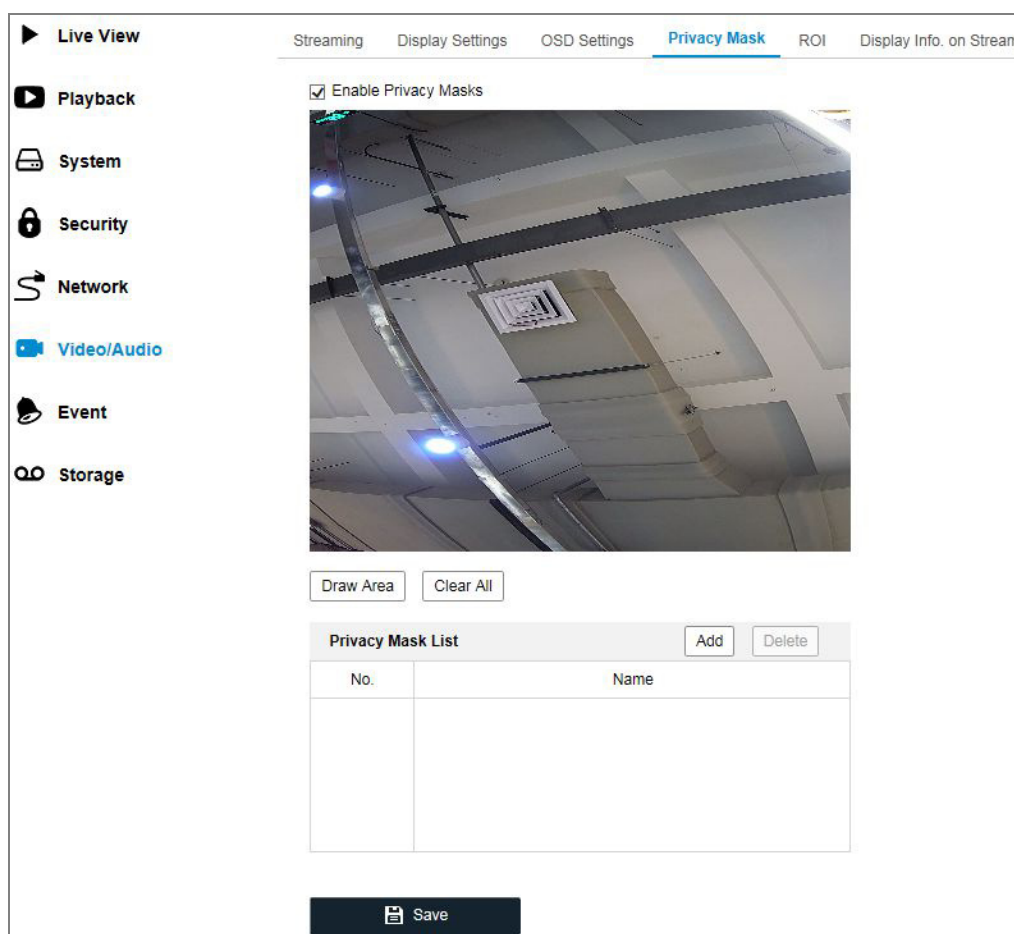
8. Click <Save> to save the settings.

9.4 Privacy Mask

The Privacy mask enables you to cover certain areas on the live video to prevent certain spots in the surveillance area from being live viewed and recorded.

Steps:

1. Enter the Privacy Mask Settings interface: **Video/Audio > Privacy Mask**.
2. Check the checkbox of <Enable Privacy Mask> to enable this function.
3. Click <Draw Area>.



Privacy Mask Settings

- Click and drag the mouse in the live video window to draw the mask area.

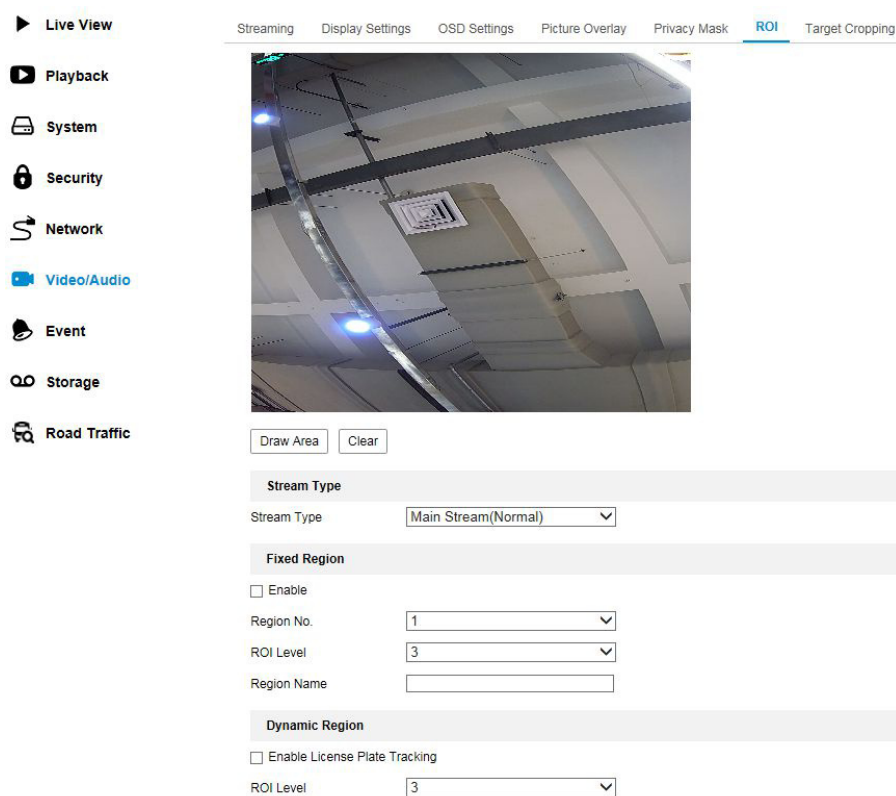
Note: You are allowed to draw up to 4 areas on the same image.

- Click <Stop Drawing> to finish drawing or click <Clear All> to clear all of the areas you set without saving them.
- Click <Save> to save the settings.

9.5 ROI

The ROI (Region of Interest) encoding helps to discriminate the ROI and background information in video compression, which means, the technology assigns more encoding resource to the region of interest, thus to increase the quality of the ROI whereas the background information is less focused.

Note: The ROI function varies according to different camera models.



Live View

Streaming Display Settings OSD Settings Picture Overlay Privacy Mask **ROI** Target Cropping

Draw Area Clear

Stream Type

Stream Type Main Stream(Normal)

Fixed Region

☐ Enable

Region No. 1

ROI Level 3

Region Name

Dynamic Region

☐ Enable License Plate Tracking

ROI Level 3

Region of Interest Settings

Steps:

1. Enter the ROI settings interface: **Video/Audio > ROI**.
2. Select the <Stream Type> for ROI encoding.
3. Check the checkbox of <Enable> under the <Fixed Region> item.
4. Set the <Fixed Region> for the ROI.
 - (1) Select the <Region No.> from the drop-down list.
 - (2) Check the <Enable> checkbox to enable ROI function for the chosen region.
 - (3) Click <Draw Area>. Click and drag the mouse on the view screen to draw a red rectangle as the ROI region. You can click <Clear> to cancel former drawing. Click <Stop Drawing> when you finish.
 - (4) Select the <ROI level>.
 - (5) Enter a <Region Name> for the chosen region.
 - (6) Click <Save> to save the ROI settings for the chosen fixed region.
 - (7) Repeat steps (1) to (6) to setup other fixed regions.
5. Set <Dynamic Region> for ROI.
 - (1) Check the checkbox of <Face Tracking> to enable this function.

Note: To enable the face tracking function, the face detection function should be supported and enabled.

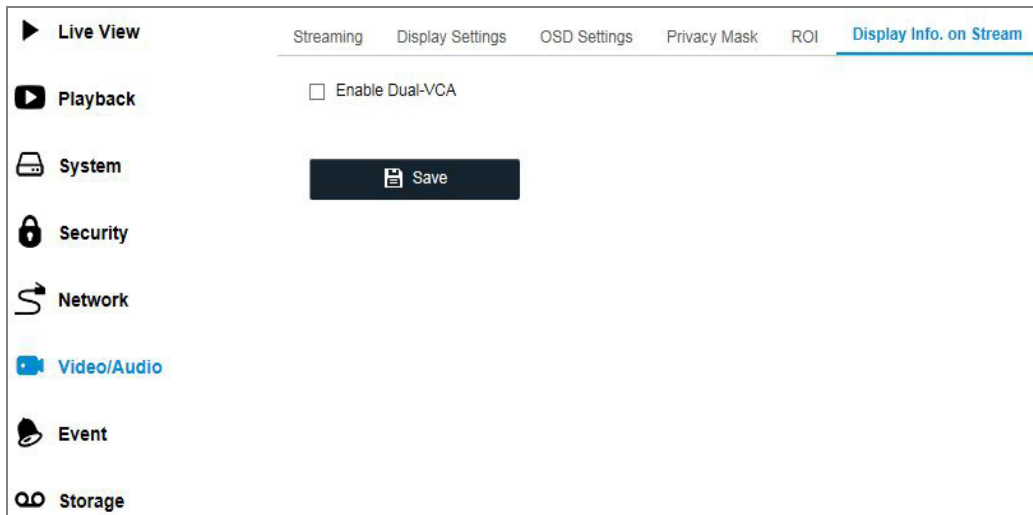
- (2) Select the <ROI level>.
6. Click <Save> to save the settings.

Note: ROI level means the image quality enhancing level. The larger the value is, the better the image quality would be.

9.6 Display Info. on Stream

This function is not available for all of the cameras.

Check the checkbox of <Enable Dual-VCA>, and the information of the objects (e.g. human, vehicle, etc.) will be marked in the video stream. Then, you can set rules on the connected rear-end device to detect the events including line crossing, intrusion, etc.



Display Info. on Stream

9.7 Target Cropping

This function is not available for all of the cameras.

You can specify a target area on the live video and then the specified video area can be displayed via the third stream in a certain resolution, providing more details of the target area if needed.

Note: The Target cropping function varies according to different camera models.

Steps:

1. Enter the <Target Cropping> settings interface.
2. Check <Enable Target Cropping> checkbox to enable the function.
3. Set <Third Stream> as the <stream type>.
4. Select the <cropping resolution> for the video display of the target area. A red rectangle is displayed on the live video to mark the target area and you can click-and-drag the rectangle to locate the target area as desired.
5. Click <Save> to save the settings.

10. Event Settings

This section explains how to configure the network camera to respond to alarm events.

You can configure the events by following the instructions in this section, including motion detection, video tampering, alarm input, alarm output and exception, etc. These events can trigger the <Linkage Methods>, such as <Notify Surveillance Center>, <Send Email>, <Trigger Alarm Output>, etc.

Note: Check the checkbox of <Notify Surveillance Center> if you want the alarm information to be pushed to the Grundig SCMS as soon as the alarm is triggered.

10.1 Motion Detection

Motion Detection detects the moving objects in the configured surveillance area and a series of actions can be taken when the alarm is triggered.

In order to detect the moving objects accurately and reduce the false alarm rate, <Normal Configuration> and <Expert Configuration> are selectable for different motion detection environment.

● Normal Configuration

Normal Configuration adopts the same set of motion detection parameters in the daytime and at night.

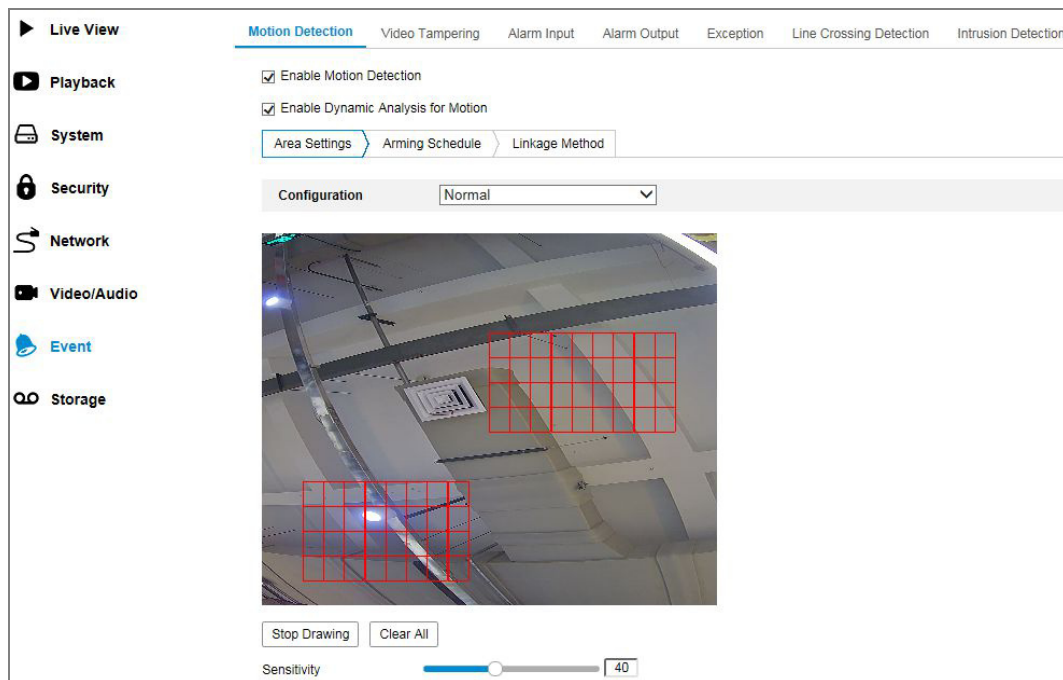
Tasks 1: Set the Motion Detection Area

Steps:

1. Enter the motion detection settings interface: **Event > Motion Detection.**

2. Check the checkbox of <Enable Motion Detection>.
3. Check the checkbox of <Enable Dynamic Analysis for Motion> if you want to mark the detected objects with green rectangles.

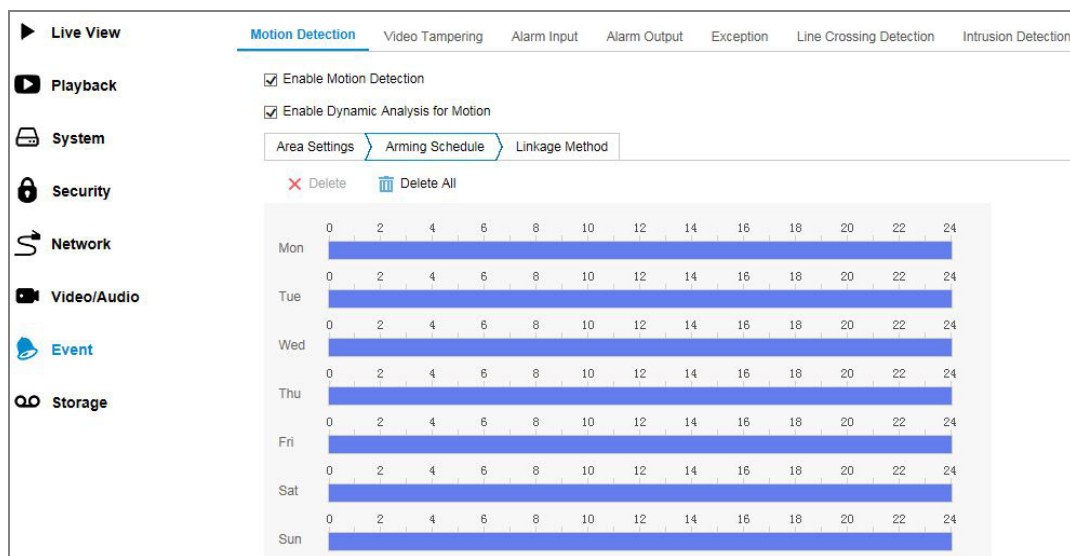
Note: Select <Disable> for rules if you don't want the detected object displayed with the green rectangles. Select <Disable Rules> from the Local Live View Parameters-rules.



Enable Motion Detection

4. Click <Draw Area>. Click and drag the mouse on the live video to draw a motion detection area. Click <Stop Drawing> to finish drawing one area.
5. (Optional) Click <Clear All> to clear all of the areas.
6. (Optional) Move the slider to set the sensitivity of the detection.

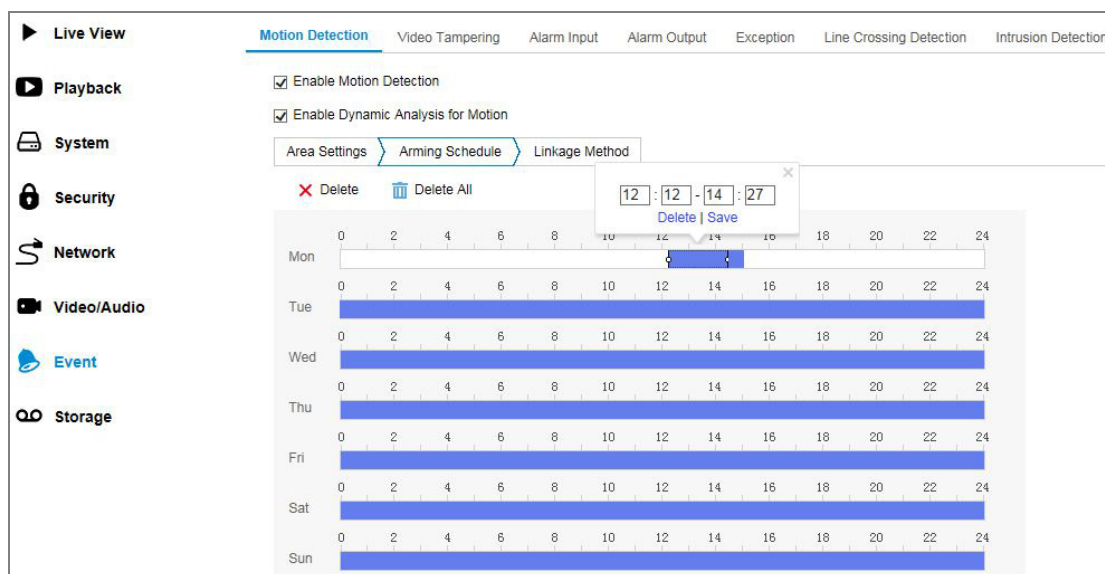
Task 2: Set the Arming Schedule for Motion Detection



Arming Schedule

Steps:

1. Click <Arming Schedule> to edit the arming schedule.
2. Click on the time bar and drag the mouse to select the time period.



Arming Schedule

Note: Click on the selected time period. You can adjust the time period to the desired time by either moving the time bar or input the exact time period.

3. (Optional) Click <Delete> to delete the current arming schedule, or click <Save> to save the settings.
4. Move the mouse to the end of each day, a copy dialogue box pops up, and you can copy the

current settings to other days.

5. Click <Save> to save the settings.

Note: The time of each period can't be overlapped. Up to 8 periods can be configured for each day.

Task 3: Set the Linkage Method for Motion Detection

Check the checkbox to select the <Linkage Method>. <Audible Warning>, <Send Email>, <Notify Surveillance Center>, <Upload to FTP/Memory Card/NAS>, <Trigger Channel> and <Trigger Alarm Output> are selectable. You can specify the Linkage Method for when an event occurs.

The screenshot shows a web interface for configuring motion detection settings. On the left is a sidebar with icons for Live View, Playback, System, Security, Network, Video/Audio, Event, and Storage. The main area has tabs for Motion Detection, Video Tampering, Alarm Input, Alarm Output, Exception, Line Crossing Detection, and Intrusion Detection. Under the Motion Detection tab, there are checkboxes for 'Enable Motion Detection' and 'Enable Dynamic Analysis for Motion'. Below these are sub-tabs for Area Settings, Arming Schedule, and Linkage Method. The Linkage Method tab is active and contains three columns of settings:

Normal Linkage	Trigger Alarm Output	Trigger Recording
<input type="checkbox"/> Send Email	<input type="checkbox"/> A->1	<input type="checkbox"/> A1
<input type="checkbox"/> Notify Surveillance Center		
<input type="checkbox"/> Upload to FTP/Memory Card/...		

Linkage Method

Note: The linkage methods vary according to the different camera models.

- **<Audible Warning>**

Trigger the audible warning locally. And it is only supported by the devices that have the audio output.

- **<Notify Surveillance Center>**

Send an exception or alarm signal to remote management software when an event occurs.

- **<Send Email>**

Send an email with alarm information to a user or users when an event occurs.

Note: To send the Email when an event occurs, please refer to Section **8.8 Email** to complete the Email setup in advance.

- **<Upload to FTP/Memory Card/NAS>**

Capture the image when an alarm is triggered and upload the picture to a FTP server.

Notes:

- Set the FTP address and the remote FTP server first. Refer to Section **8.7 FTP** for detailed information.
- Go to the **Storage > Capture** page, enable the event-triggered snapshot, and set the <Capture Interval> and <Capture Number>.
- The captured image can also be uploaded to the available SD card or network disk.

- **<Trigger Channel>**

The video will be recorded when the motion is detected. You have to set the recording schedule to realize this function. Please refer to Section **11.2 Record Schedule** for detailed information.

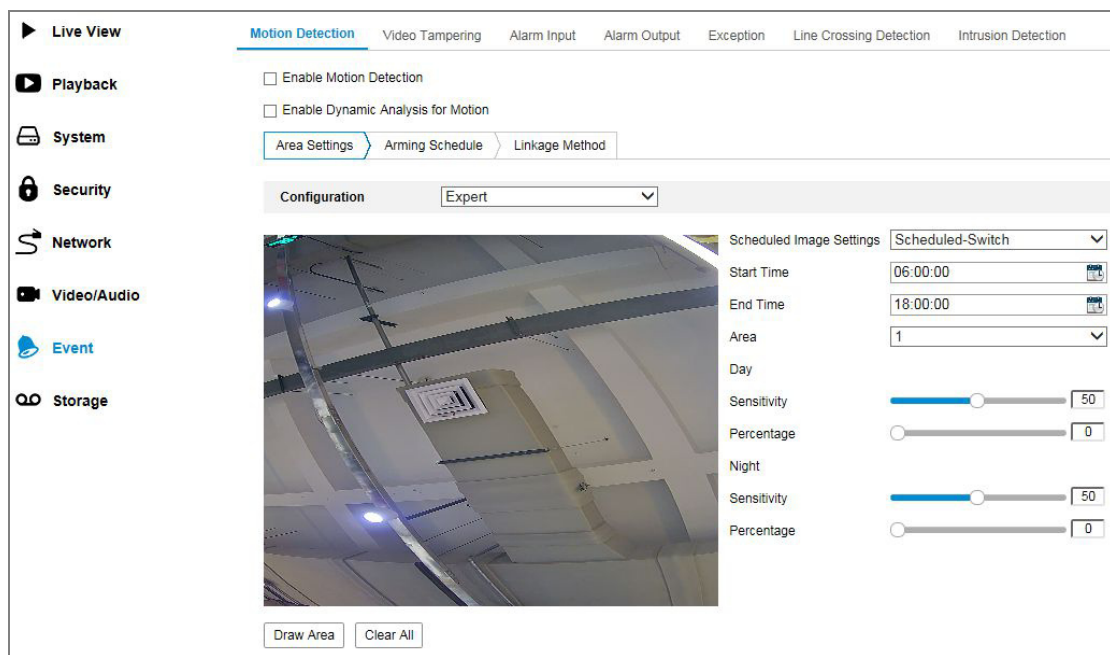
- **<Trigger Alarm Output>**

Trigger one or more external alarm outputs when an event occurs.

Note: To trigger an alarm output when an event occurs, please refer to Section **10.3 Alarm Output** to set the related parameters.

- **<Expert Configuration>**

<Expert mode> is mainly used to configure the sensitivity and proportion of the object on each area for different day/night switch.



Expert Mode of Motion Detection

- <Day/Night Switch OFF>

Steps:

1. Draw the detection area as in the normal configuration mode. Up to 8 areas are supported.
2. Select <OFF> for <Switch Day and Night Settings>.
3. Select the area by clicking the <Area> number.
4. Slide the cursor to adjust the sensitivity and proportion of the object on the area for the selected area.
5. Set the arming schedule and linkage method as in the normal configuration mode.
6. Click <Save> to save the settings.

- <Day/Night Auto-Switch>

Steps:



1. Draw the detection area as in the normal configuration mode. Up to 8 areas are supported.
2. Select <Auto-Switch> for <Switch Day and Night Settings>.
3. Select the area by clicking the <Area> number.
4. Slide the cursor to adjust the sensitivity and proportion of the object on the area for the selected area in the daytime.

- Slide the cursor to adjust the sensitivity and proportion of the object on the area for the selected area at night.
- Set the arming schedule and the linkage method as in the normal configuration mode.
- Click <Save> to save the settings.

- <Day/Night Scheduled-Switch>

Steps:

- Draw the detection area as in the normal configuration mode. Up to 8 areas are supported.
- Select <Scheduled-Switch> for <Switch Day and Night Settings>.

Scheduled Image Settings	Scheduled-Switch	
Start Time	06:00:00	
End Time	18:00:00	

Day/Night Scheduled-Switch

- Select the <Start Time> and the <End Time> for the switch timing.
- Select the area by clicking the <Area> number.
- Slide the cursor to adjust the sensitivity and proportion of the object on the area for the selected area in the daytime.
- Slide the cursor to adjust the sensitivity and proportion of the object on the area for the selected area at night.
- Set the arming schedule and the linkage method as in the normal configuration mode.
- Click <Save> to save the settings.

10.2 Video Tampering

You can configure the camera to trigger the alarm when the lens is covered and take certain alarm response actions.

The detection area for this alarm is the whole screen.

Steps:

- Enter the Video Tampering settings interface: **Event > Video Tampering**.

2. Check <Enable Video Tampering> checkbox to enable the video tampering detection.
3. Click <Edit> to edit the arming schedule for video tampering. The arming schedule configuration is the same as the setting of the arming schedule for motion detection. Refer to **Task 2: Set the Arming Schedule for Motion Detection** in Section 10.1.
4. Check the checkbox to select the linkage method taken for the video tampering. Please refer to **Task 3: Set the Linkage Method for Motion Detection** in Section 10.1.
5. Click <Save> to save the settings.

10.3 Alarm Input

Steps:

1. Enter the Alarm Input Settings interface: **Event > Alarm Input**.
2. Choose the <Alarm Input No.> and the <Alarm Type>. The alarm type can be <NO> (Normally Open) and <NC> (Normally Closed). Edit the name to set a name for the alarm input (optional).

The screenshot displays the 'Alarm Input' configuration page. The left sidebar contains navigation icons for various system functions. The top navigation bar includes tabs for different alarm types, with 'Alarm Input' currently selected. The configuration area includes dropdown menus for 'Alarm Input No.' and 'Alarm Type', a text field for 'IP Address', and a disabled 'Alarm Name' field. A checkbox for 'Enable Alarm Input Handling' is present. Below these are two sub-tabs: 'Arming Schedule' and 'Linkage Method'. The 'Arming Schedule' sub-tab shows a weekly schedule grid where blue bars represent the active arming periods for each day of the week. At the bottom of the interface are 'Copy to...' and 'Save' buttons.

Alarm Input Settings

3. Click <Arming Schedule> to set the arming schedule for the alarm input. Refer to **Task 2: Set the Arming Schedule for Motion Detection** in Section 10.1.
4. Click <Linkage Method> and check the checkbox to select the linkage method taken for the

alarm input. Refer to **Task 3: Set the Linkage Method for Motion Detection** in Section 10.1.

5. You can copy your settings to other alarm inputs.
6. Click <Save> to save the settings.

10.4 Alarm Output

The screenshot shows the 'Alarm Output' settings page. The sidebar on the left contains icons for 'Live View', 'Playback', 'System', 'Security', 'Network', 'Video/Audio', 'Event', and 'Storage'. The top navigation bar includes tabs for 'Motion Detection', 'Video Tampering', 'Alarm Input', 'Alarm Output' (which is active), 'Exception', 'Line Crossing Detection', and 'Intrusion Detection'. The 'Alarm Output' section contains the following fields: 'Alarm Output No.' with a dropdown menu showing 'A->1', 'Delay' with a dropdown menu showing '5s', 'Alarm Status' with a dropdown menu showing 'OFF', 'IP Address' with a text field containing 'Local', and 'Alarm Name' with a text field containing '(cannot copy)'. Below these fields is the 'Arming Schedule' section, which includes a 'Delete' button and a 'Delete All' button. The arming schedule is represented by a grid with days of the week (Mon, Tue, Wed, Thu, Fri, Sat, Sun) on the vertical axis and time slots (0, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24) on the horizontal axis. Blue bars indicate the active arming schedule for each day. At the bottom of the interface, there are three buttons: 'Manual Alarm', 'Copy to...', and 'Save'.

Alarm Output Settings

Steps:

1. Enter the Alarm Output Settings interface: **Event > Alarm Output**.
2. Select one alarm output channel in the <Alarm Output> drop-down list. You can also set a name for the alarm output (optional).
3. The <Delay> time can be set to 5sec, 10sec, 30sec, 1min, 2min, 5min, 10min or <Manual>. The delay time refers to the time duration that the alarm output remains in effect after an alarm occurs.
4. Click <Arming Schedule> to enter the <Edit Schedule Time interface>. The time schedule configuration is the same as the settings of the arming schedule for motion detection. Refer to **Task 2: Set the Arming Schedule for Motion Detection** in Section 10.1.
5. You can copy the settings to other alarm outputs.
Click <Save> to save the settings.

10.5 Exception

The <Exception Type> can be <HDD full>, <HDD error>, <Network Disconnected>, <IP Address Conflicted> and <Illegal Login> to the cameras.

Steps:

1. Enter the Exception Settings interface: **Event > Exception**.
2. Check the checkbox to set the actions taken for the <Exception Alarm>. Refer to **Task 3: Set the Linkage Method for Motion Detection** in Section 10.1.

The screenshot shows the 'Exception' settings page. The 'Exception Type' is set to 'Illegal Login'. Under 'Normal Linkage', the 'Send Email' and 'Notify Surveillance Center' options are available. Under 'Trigger Alarm Output', the 'A->1' option is available. A 'Save' button is located at the bottom of the settings area.

Exception Settings

3. Click <Save> to save the settings.

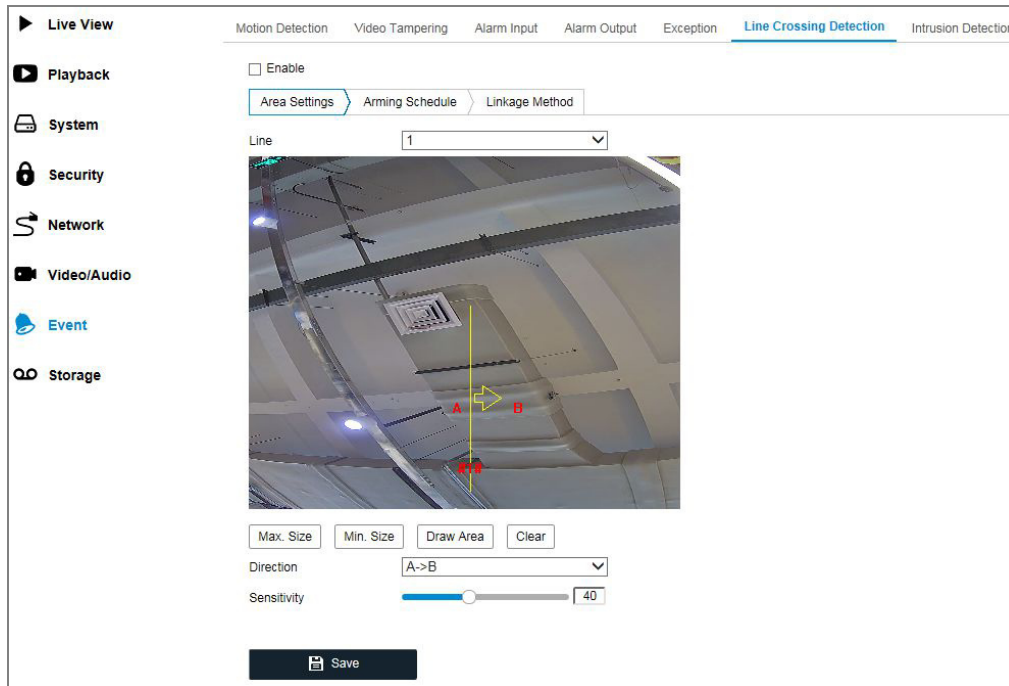
10.6 Line Crossing Detection

The Line Crossing Detection function detects people, vehicles or other objects which cross a pre-defined virtual line. And certain actions can be taken when the alarm is triggered.

Note: The Line Crossing Detection function varies according to the different camera models.

Steps:

1. Enter the Line Crossing Detection settings interface: **Event > Line Crossing Detection**.



Line Crossing Detection

2. Check the checkbox of <Enable> to enable the function.
3. Select the <Line> number from the drop-down list.
4. Click the <Area Settings> tab and click the <Draw Area> button, and a virtual line is displayed on the live video.
5. Drag the line and you can locate it on the live video as desired. Click on the line and two red squares are displayed on each end, and you can click-and-drag one of the red squares to define the shape and length of the line.
6. Set the <Max. Size> and <Min. Size> for the valid targets. Targets smaller or larger than the valid target size are not able to trigger any detection.

<Max. Size>: This is the maximum size of a valid target. Targets with larger sizes will not trigger any detection.

<Min. Size>: This is the minimum size of a valid target. Targets with smaller sizes will not trigger any detection.

7. Select the direction for the line crossing detection. You can select the directions as <A->B>, <A-, and <B->A>.

<A<->B>: The object going across the plane with both directions can be detected and alarms are triggered.

<A->B>: The object crossing the configured line from A side to B side can be detected.

<B->A>: The object crossing the configured line from B side to A side can be detected.

8. Click <Stop Drawing> when finished drawing.

9. Drag the slider to set the sensitivity value.

<Sensitivity>: Range [1-100]. It stands for the percentage of the body part of an acceptable target that goes across the pre-defined line.

$$\text{Sensitivity} = 100 - S_1/S_T * 100$$

S_1 stands for the target body part that goes across the pre-defined line. S_T stands for the complete target body.

Example: if you set the value as 60, the action can be counted as a line crossing action only when 40 percent or more body part goes across the line.

Note: The <Sensitivity> of the detection is supported by certain models. Refer to the actual display for details.

10. Repeat the above steps to configure other lines. Up to 4 lines can be set. You can click the <Clear> button to clear all pre-defined lines.

11. Click the <Arming Schedule> to set the arming schedule.

12. Select the <Linkage Methods> for the line crossing detection including <Notify Surveillance Center>, <Send Email>, <Upload to FTP/Memory Card/NAS>, <Trigger Channel> and <Trigger Alarm Output>.

13. Click <Save> to save the settings.

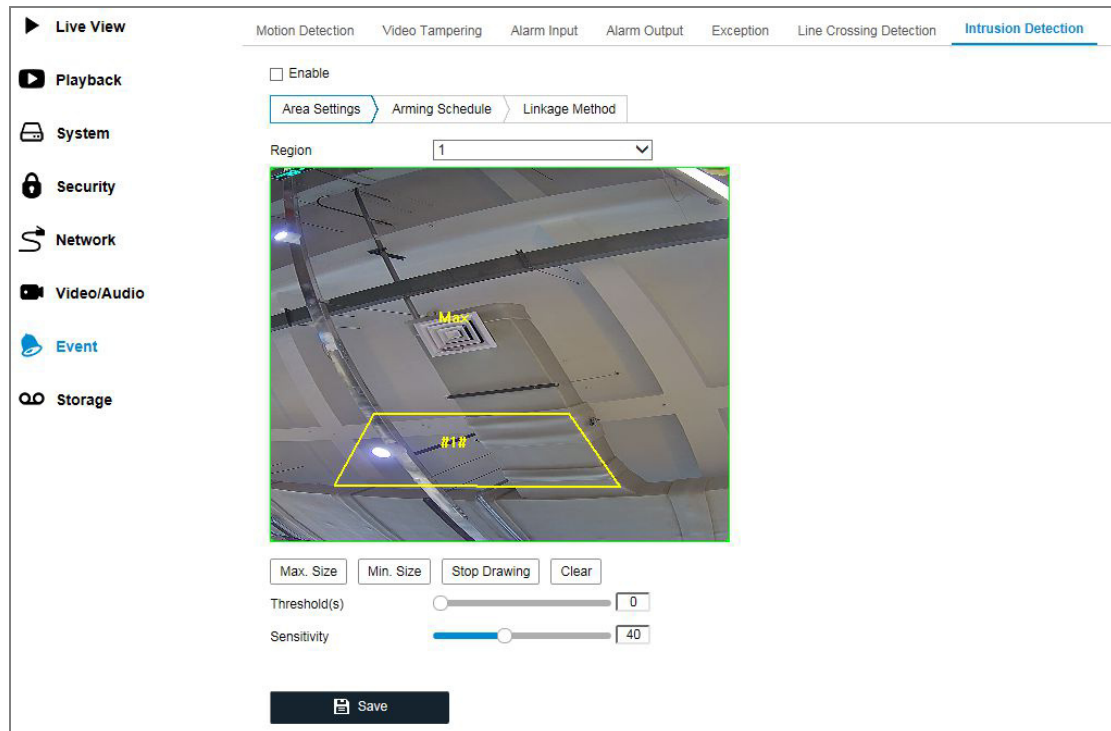
10.7 Intrusion Detection

The Intrusion Detection function detects people, vehicles or other objects which enter and loiter in a pre-defined virtual region and certain actions can be taken when the alarm is triggered.

Note: The Intrusion Detection function varies according to different camera models.

Steps:

1. Enter the Intrusion Detection settings interface: **Event > Intrusion Detection**.



Intrusion Detection

2. Check the checkbox of <Enable> to enable the function.
 3. Select a region number from the drop-down list of <Region>.
- <Region>:** A pre-defined vertexes area on the live view image. Targets, such as people, vehicles and other objects that enter and loiter in the region will be detected and trigger the set alarm.
4. Click the <Area Settings> tab and then click the <Draw Area> button to start the region drawing.
 5. Click on the live video to specify the four vertexes of the detection region, and right click to complete the drawing.
 6. Set the <Max. Size> and <Min. Size> for valid targets. Targets smaller or larger than the valid target size are not able to trigger the detection.

<Max. Size>: This is the maximum size of a valid target. Targets with larger sizes will not trigger any detection.

<Min. Size>: This is the minimum size of a valid target. Targets with smaller sizes will not trigger any detection.

7. Click <Stop Drawing> when finished drawing.
8. Set the time threshold for intrusion detection.

<Threshold>: Range [0s-10s]. This is the threshold for the time of the object loitering in the region. If you set the value as 0, the alarm is triggered immediately after the object enters the region.

9. Drag the slider to set the sensitivity value.

<Sensitivity>: Range [1-100]. Sensitivity stands for the percentage of the body part of an acceptable target that enters the pre-defined region.

$$\text{Sensitivity} = 100 - S_1/S_T * 100$$

S_1 stands for the target body part that goes across the pre-defined region. S_T stands for the complete target body.

Example: if you set the value as 60, the action can be counted as an intrusion only when 40 percent body part enters the region.

Note: The <Sensitivity> of the detection is supported by certain models. Refer to the actual display for details.

10. Repeat the above steps to configure other regions. Up to 4 regions can be set. You can click the <Clear> button to clear all pre-defined regions.
11. Click <Arming Schedule> to set the arming schedule.
12. Click <Linkage Method> to select the linkage methods for the intrusion detection, including <Notify Surveillance Center>, <Send Email>, and <Trigger Alarm Output>.
13. Click <Save> to save the settings.

10.8 Audio Exception

This function is not available for all of the cameras.

The Audio Exception detection function detects abnormal sounds in the surveillance scene, such as the sudden increase/decrease of the sound intensity. Certain actions can be taken when the alarm is triggered.

Note: The Audio Exception detection function varies according to different camera models.

Steps:

1. Enter the Audio Exception Detection settings interface: **Event > Audio Exception**.

Exception Detection Arming Schedule Linkage Method

Exception Detection

☐ Audio Loss Detection

☒ Sudden Increase of Sound Intensity Detection

Sensitivity 40

Sound Intensity Threshold 50

☒ Sudden Decrease of Sound Intensity Detection

Sensitivity 40

Real-time Volume

Save

Audio Exception Detection

2. Check the checkbox of <Audio Loss Detection> to enable the audio loss detection function.
3. Check the checkbox of <Sudden Increase of Sound Intensity Detection> to detect a sound's steep rise in the surveillance scene. You can set the detection sensitivity and the threshold for the steep rise of a sound.
4. Check the checkbox of <Sudden Decrease of Sound Intensity Detection> to detect the steep drop of a sound in the surveillance scene. You can set the detection sensitivity and the threshold for the steep drop of a sound.

Notes:

- Sensitivity: Range [1-100], the smaller the value is, the more severe the change should be to trigger the detection.
 - Sound Intensity Threshold: Range [1-100], it can filter the sound in the environment, the louder the sound of the environment is, the higher the value should be. You can adjust it according to the real environment.
 - You can view the real-time volume of the sound on the interface.
5. Click <Arming Schedule> to set the arming schedule. Refer to **Task 2 Set the Arming Schedule for Motion Detection** in Section 10.1 for detailed steps.
 6. Click <Linkage Method> and select the linkage methods for audio exception, including <Notify Surveillance Center>, <Send Email>, <Upload to FTP/Memory Card/NAS>, <Trigger Channel> for recording and <Trigger Alarm Output>.
 7. Click <Save> to save the settings.

10.9 Face Detection

This function is not available for all of the cameras.

The Face Detection function detects a face that appears in the surveillance scene. Certain actions can be taken when the alarm is triggered.

Steps:

1. Enter the Face Detection settings interface: **Event > Face Detection**.
2. Check the <Enable Face Detection> checkbox to enable the function.
3. Check the checkbox of <Enable Dynamic Analysis> for the Face Detection. Then the detected face is marked with a green rectangle on the live video.

Note: To mark the detected face on the live video, go to **System > Local** to enable the **Rules**.

4. Click-and-drag the slider to set the detection sensitivity. The Sensitivity ranges from 1 to 5.
The higher the value is, the more easily the face can be detected.
5. Click <Arming Schedule> to set the arming schedule. Refer to **Task 2 Set the Arming Schedule for Motion Detection** in Section 10.1 for detailed steps.

- Click <Linkage Method> to select the linkage methods for face detection. Refer to **Task 3: Set the Linkage Method Taken for Motion Detection** in Section 10.1.

☐ Enable Face Detection
☐ Enable Dynamic Analysis for Face Detection
 Sensitivity 2

Face Detection

- Click <Save> to save the settings.

10.10 Region Entrance Detection

This function is not available for all of the cameras.

The Region Entrance Detection function detects people, vehicles and other objects which enter a pre-defined virtual region from the outside place. Certain actions can be taken when the alarm is triggered.

Steps:

- Enter the Region Entrance Detection settings interface: **Event > Region Entrance Detection**.

☐ Enable
 Area Settings | Arming Schedule | Linkage Method
 Region: 1
 Unlock(167s)
 1 Preset 1
 2 Preset 2
 3 Preset 3
 4 Preset 4
 5 Preset 5
 6 Preset 6
 7 Preset 7
 8 Preset 8
 Stop Drawing Clear
 Sensitivity: 40
 Detection Target: All
 Save

Region Entrance Detection

- Check the <Enable> checkbox to enable the function.

3. Select the <Region> from the drop-down list for the detection settings.
4. Click <Area Settings> and then click the <Draw Area> button to start the area drawing.
5. Click on the live video to specify the four vertexes of the detection region. Right-click to complete the drawing.
6. Click <Stop Drawing> when finished drawing.
7. Drag the slider to set the sensitivity value.

<Sensitivity>: Range [1-100]. Sensitivity stands for the percentage of the body part of an acceptable target that enters the pre-defined region.

$$\text{Sensitivity} = 100 - S_1/S_T * 100$$

S_1 stands for the target body part that enters the pre-defined region S_T stands for the complete target body.

Example: if you set the value as 60, the action can be counted as a region entrance action only when 40 percent body part enters the region.

Note: The <Sensitivity> of the detection is supported by certain models. Refer to the actual display for details.

8. Repeat the above steps to configure other regions. Up to 4 regions can be set. You can click the <Clear> button to clear all pre-defined regions.
9. Click the <Arming Schedule> to set the arming schedule.
10. Click the <Linkage Method> to select the linkage methods.
11. Click <Save> to save the settings.

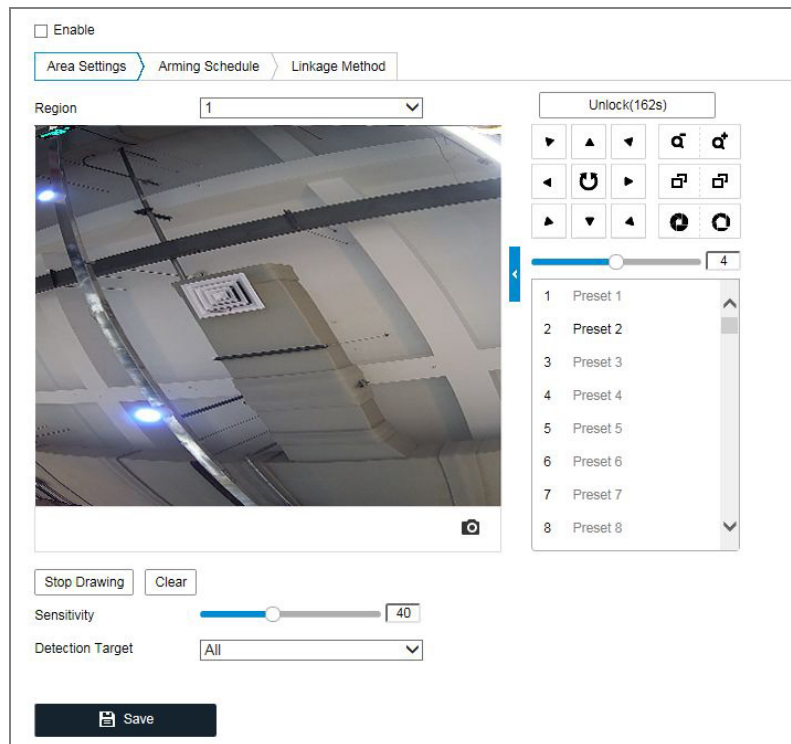
10.11 Region Exiting Detection

This function is not available for all of the cameras.

The Region exiting detection function detects people, vehicles and other objects which exit from a pre-defined virtual region. Certain actions can be taken when the alarm is triggered.

Steps:

1. Enter the Region Exiting Detection settings interface: **Event > Region Exiting Detection**.



Region Exiting Detection

2. Check the <Enable> checkbox to enable the function.
3. Select the <Region> from the drop-down list for the detection settings.
4. Click <Area Settings> and click the <Draw Area> button to start the area drawing.
5. Click on the live video to specify the four vertexes of the detection region, and right-click to finish drawing.
6. Click <Stop Drawing> when finish drawing.
7. Drag the slider to set the sensitivity value.

<Sensitivity>: Range [1-100]. Sensitivity stands for the percentage of the body part of an acceptable target that exits the pre-defined region.

$$\text{Sensitivity} = 100 - S_1/S_T * 100$$

S_1 stands for the target body part that exits the pre-defined region. S_T stands for the complete target body.

Example: if you set the value as 60, the action can be counted as a region exiting action only when 40 percent body part exits the region.

Note: The <Sensitivity> of the detection is supported by certain models. Refer to the actual display for details.

- Repeat the above steps to configure other regions. Up to 4 regions can be set. You can click the <Clear> button to clear all pre-defined regions.
- Click <Arming Schedule> to set the arming schedule.
- Click <Linkage Method> to select the linkage methods.
- Click <Save> to save the settings.

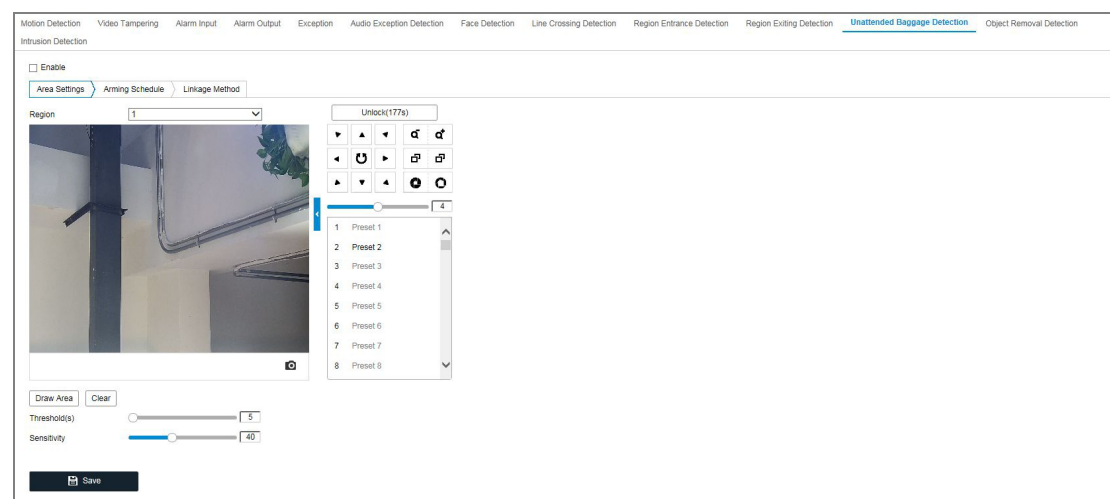
10.12 Unattended Baggage Detection

This function is not available for all of the cameras.

The unattended baggage detection function detects the objects left behind in the pre-defined region such as baggage, a purse, dangerous materials, etc. A series of actions can be taken when the alarm is triggered.

Steps:

- Enter the Unattended Baggage Detection settings interface: **Event > Unattended Baggage Detection.**



Unattended Baggage Detection

- Check the <Enable> checkbox to enable the function.
- Select the <Region> from the drop-down list for the detection settings.
- Click <Area Settings> and click <Draw Area> to start the area drawing.

5. Click on the live video to specify the four vertexes of the detection region and right click to finish drawing.

6. Set the <Max. Size> and <Min. Size> for valid targets. Targets smaller or larger than the valid target size are not able to trigger any detection.

<Max. Size>: This is the maximum size of a valid target. Targets with larger sizes will not trigger any detection.

<Min. Size>: This is the minimum size of a valid target. Targets with smaller sizes will not trigger any detection.

7. Click <Stop Drawing> when finished drawing.
8. Set the time threshold and the detection sensitivity for the unattended baggage detection.

<Threshold>: Range [5-100s]. This is the threshold for the time of the objects left over in the region. If you set the value as 10, alarm is triggered after the object is left and stays in the region for 10s.

9. Drag the slider to set the sensitivity value.

<Sensitivity>: Range [1-100]. Sensitivity stands for the percentage of the body part of an acceptable target that enters the pre-defined region.

$$\text{Sensitivity} = 100 - S_1/S_T * 100$$

S_1 stands for the target body part that enters the pre-defined region. S_T stands for the complete target body.

Example: if you set the value as 60, a target is possible to be counted as an unattended baggage only when 40 percent body part of the target enters the region.

Note: The <Sensitivity> of the detection is supported by certain models. Refer to the actual display for details.

10. Repeat the above steps to configure other regions. Up to 4 regions can be set. You can click the <Clear> button to clear all pre-defined regions.
11. Click <Arming Schedule> to set the arming schedule.

12. Click <Linkage Method> to select the linkage methods.
13. Click <Save> to save the settings.

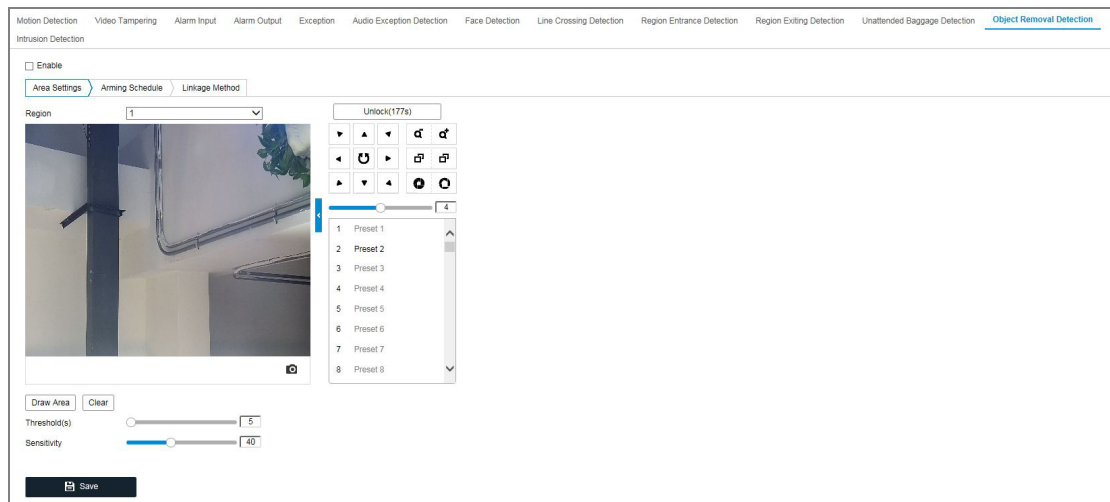
10.13 Object Removal Detection

This function is not available for all of the cameras.

The Object removal detection function detects the objects that are removed from the pre-defined region, such as the exhibits on display. A series of actions can be taken when the alarm is triggered.

Steps:

1. Enter the Object Removal Detection settings interface: **Event > Object Removal Detection**.



Object Removal Detection

2. Check <Enable> checkbox to enable the function.
3. Select the <Region> from the drop-down list for the detection settings.
4. Click <Area Settings> and click the <Draw Area> button to start the area drawing.
5. Click on the live video to specify the four vertexes of the detection region, and right-click to finish drawing.
6. Set the <Max. Size> and <Min. Size> for the valid targets. Targets smaller or larger than the valid target size are not able to trigger any detection.

<Max. Size>: This is the maximum size of a valid target. Targets with larger sizes will not trigger any detection.

<Min. Size>: This is the minimum size of a valid target. Targets with smaller sizes will not trigger any detection.

7. Click <Stop Drawing> when finished drawing.
8. Set the time threshold for the object removal detection.

<Threshold>: Range [5-100s]. This is the threshold for the time of the objects that are removed from the region. If you set the value as 10, the alarm is triggered after the object disappears from the region for 10s.

9. Drag the slider to set the sensitivity value.

<Sensitivity>: Range [1-100]. This stands for the percentage of the body part of an acceptable target that leaves the pre-defined region.

$$\text{Sensitivity} = 100 - S_1/S_T * 100$$

S_1 stands for the target body part that leaves the pre-defined region. S_T stands for the complete target body.

Example: if you set the value as 60, a target is possible to be counted as a removed object only when 40 percent body part of the target leaves the region.

Note: The <Sensitivity> of the detection is supported by certain models. Refer to the actual display for details.

10. Repeat the above steps to configure other regions. Up to 4 regions can be set. You can click the <Clear> button to clear all pre-defined regions.
11. Click <Arming Schedule> to set the arming schedule.
12. Click <Linkage Method> to select the linkage methods.
13. Click <Save> to save the settings.

11. Storage Settings

Before you start:

To configure record settings, please make sure that you have the network storage device or local storage device configured.

11.1 HDD Management

This function is to set the HDD Management settings, like the HDD Device List (which includes the capacity, free space, status, type and property of the connected HDD) and the Quota settings.

Enter the HDD Settings interface **Storage > HDD Management** in which you can view the <Capacity>, <Free Space>, <Status>, <Type> and <Property> of the disk.

▶ Live View

▶ Playback

System

Security

Network

Video/Audio

Event

Storage

HDD ManagementRecord ScheduleCaptureNet HDD

HDD ManagementFormat

<input type="checkbox"/>	HDD No.	Capacity	Free space	Status	Type	Property	Progress

Quota

Max. Picture Capacity0.00GB

Free Size for Picture0.00GB

Max. Record Capacity0.00GB

Free Size for Record0.00GB

Percentage of Picture25%

Percentage of Record75%

Save

Storage Management Interface

Quota

Max. Picture Capacity

0.00GB

Free Size for Picture

0.00GB

Max. Record Capacity

0.00GB

Free Size for Record

0.00GB

Percentage of Picture

25

%

Percentage of Record

75

%

Save

Quota Settings

Note:

Up to 8 NAS disks can be connected to the camera.

11.2 Record Schedule

There are two kinds of recording for the cameras: manual recording and scheduled recording. In this section, you can follow the instructions to configure the scheduled recording. By default, the record files of scheduled recording are stored in the local storage or in the network disk.

Steps:

1. Enter the Record Schedule Settings interface: **Storage > Record Schedule**.

Live View

Playback

System

Security

Network

Video/Audio

Event

Storage

HDD Management

Record Schedule

Capture

Net HDD

Enable

Event

Delete

Delete All

Advanced

Mon

0 2 4 6 8 10 12 14 16 18 20 22 24

Tue

0 2 4 6 8 10 12 14 16 18 20 22 24

Wed

0 2 4 6 8 10 12 14 16 18 20 22 24

Thu

0 2 4 6 8 10 12 14 16 18 20 22 24

Fri

0 2 4 6 8 10 12 14 16 18 20 22 24

Sat

0 2 4 6 8 10 12 14 16 18 20 22 24

Sun

0 2 4 6 8 10 12 14 16 18 20 22 24

Continuous

Motion

Alarm

Motion | Alarm

Motion & Alarm

Event

Save

Recording Schedule Interface

2. Check the checkbox of <Enable> to enable scheduled recording.
3. Click <Advanced> to set the camera record parameters.

Record Parameters

- Pre-record: This is the time you set to start recording before the scheduled time or the event.
For example, if an alarm triggers recording at 10:00, and the pre-record time is set as 5 seconds, the camera starts to record at 9:59:55.
- The Pre-record time can be configured as No Pre-record, 5s, 10s, 15s, 20s, 25s, 30s or not limited.
- Post-record: This is the time you set to stop recording after the scheduled time or the event.
For example, if an alarm triggered recording ends at 11:00, and the post-record time is set as 5 seconds, the camera records until 11:00:05.
- The Post-record time can be configured as 5s, 10s, 30s, 1 min, 2 min, 5 min or 10 min.
- Stream Type: Select the stream type for recording.

Note: The record parameter configurations vary depending on the camera model.

4. Select a <Record Type>. The record type can be <Continuous>, <Motion Detection>, <Alarm>, <Motion | Alarm>, <Motion & Alarm> and <Event>.
 - **<Continuous>**
If you select <Continuous>, the video will be recorded automatically according to the time of the schedule.
 - **<Record Triggered by Motion Detection>**

If you select <Motion Detection>, the video will be recorded when the motion is detected.

Besides configuring the recording schedule, you have to set the motion detection area and check the checkbox of <Trigger Channel> in the <Linkage Method> of the Motion Detection settings interface. For detailed information, please refer to the **Task 1: Set the Motion Detection Area** in the Section 10.1.

- **<Record Triggered by Alarm>**

If you select <Alarm>, the video will be recorded when the alarm is triggered via the external alarm input channels.

Besides configuring the recording schedule, you have to set the <Alarm Type> and check the checkbox of <Trigger Channel> in the <Linkage Method> of the <Alarm Input> settings interface. For detailed information, please refer to Section 10.1.

- **<Record Triggered by Motion & Alarm>**

If you select <Motion & Alarm>, the video will be recorded when the motion and the alarm are triggered at the same time.

Besides configuring the recording schedule, you have to configure the settings on the <Motion Detection> and <Alarm Input> settings interfaces. Please refer to Section 10.1 and Section 10.3 for detailed information.

- **<Record Triggered by Motion | Alarm>**

If you select <Motion | Alarm>, the video will be recorded when the external alarm is triggered or when the motion is detected.

Besides configuring the recording schedule, you have to configure the settings on the <Motion Detection> and <Alarm Input> settings interfaces. Please refer to Section 10.1 and Section 10.3 for detailed information.

- **<Record Triggered by Events>**

If you select <Event>, the video will be recorded if any of the events is triggered. Besides configuring the recording schedule, you have to configure the <Event> settings.

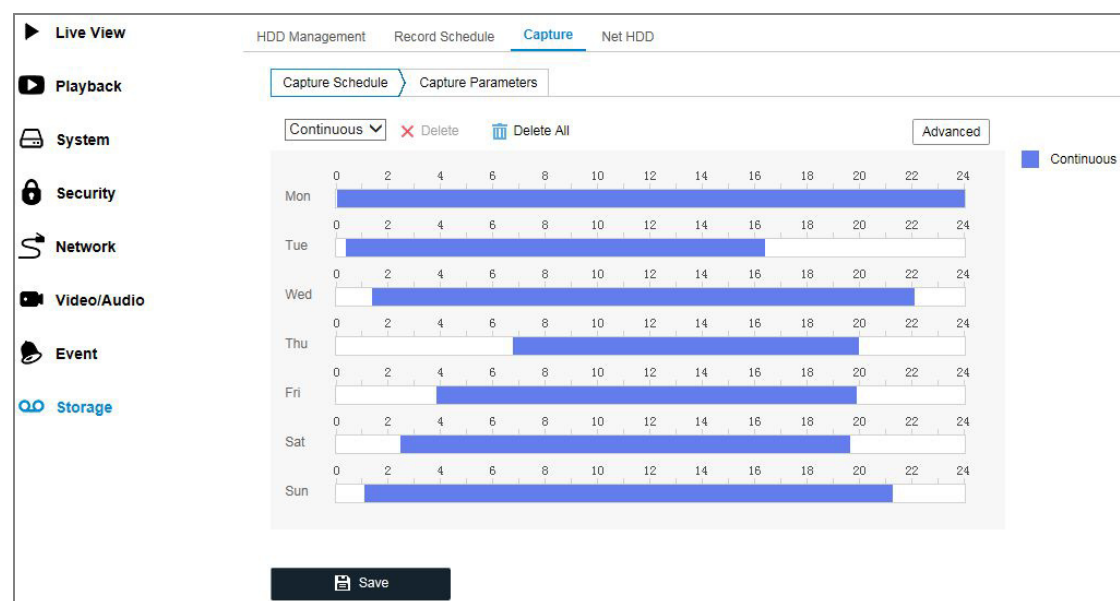
5. Select the <Record Type>, and click-and-drag the mouse on the time bar to set the record schedule.
6. Click <Save> to save the settings.

11.3 Capture

You can configure the Scheduled Snapshot and Event-Triggered Snapshot. The captured picture can be stored in the <Local Storage> or in the <Network Storage>.

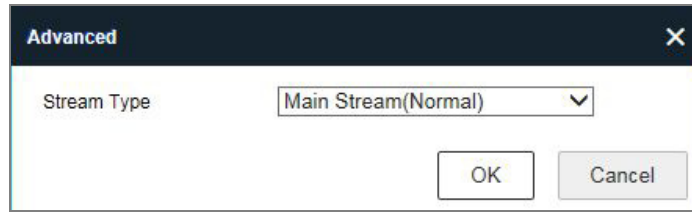
Steps:

1. Enter the Capture Settings interface: **Storage > Capture**.



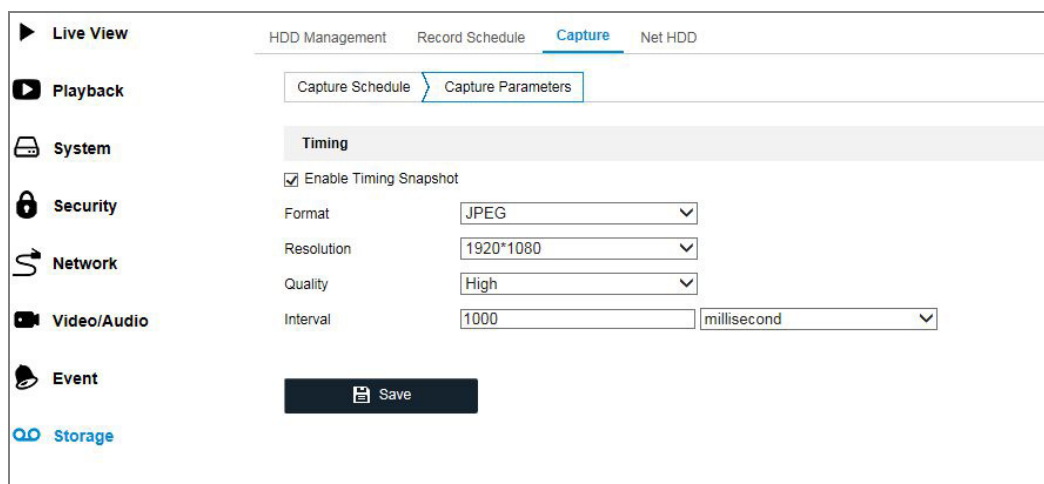
Capture Configuration

2. Go to the <Capture Schedule> tab to configure the capture schedule by clicking and dragging the mouse on the time bar. You can copy the record schedule to other days by clicking the green copy icon on the right-hand side of each time bar.
3. Click <Advanced> to select the stream type.



Advanced Setting of Capture Schedule

4. Click <Save> to save the settings.
5. Go to the <Capture Parameters> tab to configure the capture parameters.
 - (1) Check the <Enable Timing Snapshot> checkbox to enable continuous snapshot.
 - (2) Select the <Picture Format>, <Resolution>, <Quality> and <Capture Interval>.
 - (3) Check the <Enable Event-triggered Snapshot> checkbox to enable event-triggered snapshot. (This function is not available for all models.)
 - (4) Select the <Picture Format>, the <Resolution>, the <Quality>, the <Capture Interval>, and the <Capture Number>. (This function is not available for all models.)



Set Capture Parameters

6. Set the time <Interval> between two snapshots. (This function is not available for all models.)
7. Click <Save> to save the settings.

11.4 Net HDD

Before you start:

The network disk should be available within the network and properly configured to store the recorded files, log files, pictures, etc.

Steps:

1. Add Net HDD.

a. Enter the Net HDD settings interface: **Storage > Net HDD**.

The screenshot shows the 'Net HDD' configuration page. On the left is a sidebar with navigation links: Live View, Playback, System, Security, Network, Video/Audio, Event, and Storage (highlighted). The main area has tabs for HDD Management, Record Schedule, Capture, and Net HDD. Below the tabs is a table titled 'Net HDD' with columns: HDD No., Server Address, File Path, Type, and Delete. The table contains 8 rows, all with 'NAS' as the Type and a red 'X' in the Delete column. Below the table are input fields for Mounting Type (SMB/CIFS), User Name (admin), Password (masked), and a Test button. At the bottom is a Save button.

HDD No.	Server Address	File Path	Type	Delete
1			NAS	X
2			NAS	X
3			NAS	X
4			NAS	X
5			NAS	X
6			NAS	X
7			NAS	X
8			NAS	X

Mounting Type: User Name: Password:

Add Network Disk

b. Enter the < IP address> of the network disk, and enter the <File Path>.

c. Select the mounting type <NFS> and <SMB/CIFS> are selectable. And you can set the <User Name> and <Password> to guarantee the security if SMB/CIFS is selected.

Note: Please refer to the NAS User Manual for creating the file path.

WARNING:

- For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.
- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.

d. Click <Save> to add the network disk.

2. Initialize the added network disk.

- (1) Enter the HDD Settings interface **Storage > HDD Management**, in which you can view the <Capacity>, <Free Space>, <Status>, <Type> and <Property> of the disk.

The screenshot shows the 'HDD Management' interface. On the left is a sidebar with navigation options: Live View, Playback, System, Security, Network, Video/Audio, Event, and Storage (highlighted). The main area has tabs: HDD Management (selected), Record Schedule, Capture, and Net HDD. Below the tabs is a table with the following columns: HDD No., Capacity, Free space, Status, Type, Property, Progress. Below the table is a 'Quota' section with the following fields: Max. Picture Capacity (0.00GB), Free Size for Picture (0.00GB), Max. Record Capacity (0.00GB), Free Size for Record (0.00GB), Percentage of Picture (25%), and Percentage of Record (75%). At the bottom is a 'Save' button.

Storage Management Interface

- (2) If the status of the disk is <Uninitialized>, check the corresponding checkbox to select the disk and click <Format> to start initializing the disk.

When the initialization is completed, the status of the disk will become <Normal>.


HDD Management							Set	Format
<input type="checkbox"/>	HDD No.	Capacity	Free space	Status	Type	Property	Progress	
<input checked="" type="checkbox"/>	9	20.00GB	0.00GB	Formatting	NAS	R/W		

View the Disk Status

3. Define the quota for records and pictures.

- (1) Input the quota percentage for pictures and for records.
 (2) Click <Save> and refresh the browser page to activate the settings.

Quota	
Max. Picture Capacity	<input type="text" value="0.00GB"/>
Free Size for Picture	<input type="text" value="0.00GB"/>
Max. Record Capacity	<input type="text" value="0.00GB"/>
Free Size for Record	<input type="text" value="0.00GB"/>
Percentage of Picture	<input type="text" value="25"/> %
Percentage of Record	<input type="text" value="75"/> %

 Save

Quota Settings

Note:

Up to 8 NAS disks can be connected to the camera.

12. Additional Fisheye Camera Settings (only for Fisheye Cameras)

This chapter only applies to the Fisheye Cameras GD-CI-AP5617F and GD-CI-AT12617F.

12.1 Live View Page

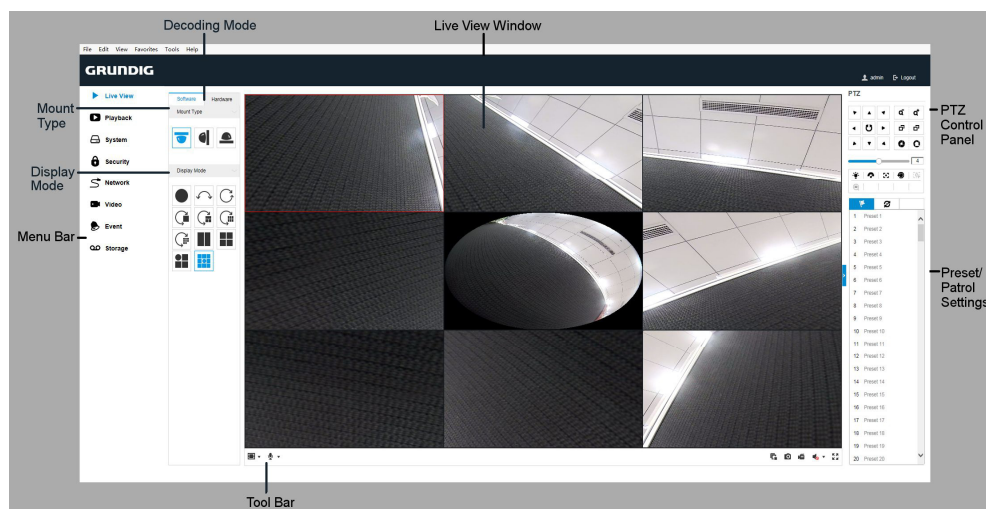
The live view page allows you to view the real-time video, capture images, realize PTZ control, set/call presets and configure video parameters.

Log in the network camera to enter the live view page, or you can click <Live View> on the menu bar of the main page to enter the live view page.

Note: You can also visit the fisheye camera to get the live view in different live view modes via the SCMS software. Please refer to the User Manual of the SCMS Software for detailed instructions.

The **Live View Page** is mainly composed of three parts: the display control area on the left, the live view screen in the middle and a PTZ panel which can be shown or hidden on the right.

Description of the live view page:

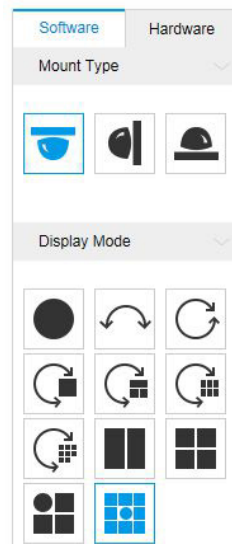


Menu Bar:

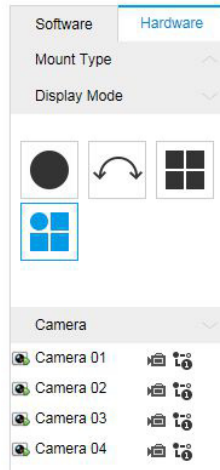
Click the corresponding tab to enter the <Live View>, <Playback>, <System>, <Security>, <Network>, <Video>, <Event> or <Storage> page.

Decoding Mode:

- **Software** decoding means the obtained live view video is decoded by using the CPU of your PC that is running the web browser. The live view performance depends on the decoding ability of your PC. On the <Software> tab, <Mount Type> and <Display Mode> are configurable.






- **Hardware** decoding means the obtained live view video is decoded by the camera itself. On the <Hardware> tab, besides the mount type and display mode, the stream type of each camera channel is also configurable.



Mount Type:

Select <Ceiling Mounting>, <Wall Mounting> and <Table Mounting> according to the actual mount type you adopted for your camera.

Description of Mount Types:

Mount Type Icon	Description
	Ceiling mounting
	Wall mounting
	Table mounting

Display Mode:
















You can select a display mode for the layout of the live view window. The description of each display mode is shown in the following table.

- **<Fisheye View>**: In the Fisheye View mode, the whole wide-angle view of the fisheye camera is displayed. This view mode is called Fisheye View because it approximates the vision of a convex eye of a fish. The lens produces curvilinear images of a large area, while distorting the perspective and angles of objects in the image.
- **<Panorama View>**: In the Panorama View mode, the round fisheye image is transformed to a rectangular image by some calibration methods.
- **<PTZ View>**: The PTZ View is the close-up view of a defined area in the Fisheye View or

Panorama View and it supports the electronic PTZ function which is also called e-PTZ.

Note: Each PTZ View is marked on the Fisheye View and Panorama View with a specifically colored region under <Software> Decoding mode, and with a specific navigation box under the <Hardware> Decoding mode.



Description of Display Modes:

Mode	Description	Mode	Description
	Fisheye view.		180 degrees panorama view.
	360 degrees panorama view.		Live view with a 360 degrees panorama view and a PTZ view.
	Live view with a 360 degrees panorama view and 3 PTZ views.		Live view with a 360 degrees panorama view and 6 PTZ views.
	Live view with a 360 degrees panorama view and 8 PTZ views.		Live view with 2 PTZ views.
	Live view with 4 PTZ views.		Live view with 1 fisheye view and 3 PTZ views.
	Live view with 1 fisheye view and 8 PTZ views.		Panorama view.
	Live view with a panorama view and 3 PTZ views.		Live view with a panorama view and 3 PTZ views.
	Live view with a fisheye view, a panorama view and 3 PTZ views.		





Note:

- Available display modes vary according to decoding modes and camera models.
- When you change the <Display Mode> on the <Hardware> tab, a reboot is required to for the display mode switch to take effect.
- When you display the <Hardware>-decoded Live View under the display mode of <360 Panorama View> or <4 PTZ>, you cannot switch the decoding mode directly from <Hardware> to <Software>. Switch to the other display mode first.

Stream Type Setting (Hardware Decoding Only):

The Stream Type switch for camera channels is only supported when the live view video is decoded by hardware. You can set the <Stream Type> as <Main Stream>  or <Sub Stream> . The default stream type for every channel is <Main Stream>.

Selectable Stream Types for Camera Channels:

Display Mode	Channel No.	Selectable Stream Type
	Camera 01	Main stream/Sub stream
	Camera 01/02/03/04	Main Stream
	Camera 01	Main stream/Sub stream
	Camera 02/03/04	Main Stream
	Camera 01/02/03/04/05	Main stream

Note: Selectable stream types may be different between camera channels under different display modes. Detailed information is shown in the table.

Live View Window:

Display the live video on the display window of live view.

Toolbar:

Start/Stop the live view, enable/disable the two-way audio, adjust the audio volume, capture pictures, record the video files, etc. Icons on the tool bar vary in the different decoding modes.

PTZ Control:

Realize the pan/tilt/zoom function of the PTZ view via the navigation box and set the PTZ moving speed.


Preset/Patrol Settings:

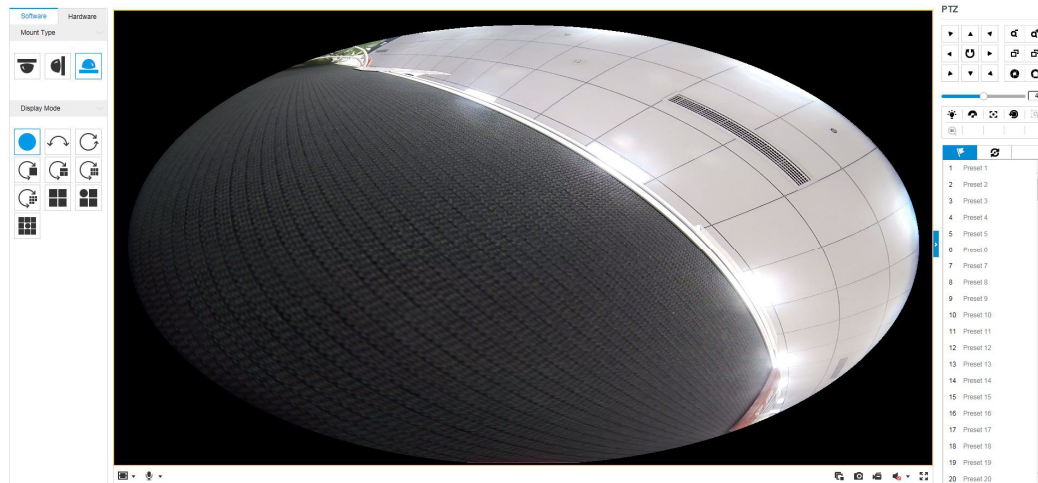
Set and recall the preset/patrol for the camera.

12.2 Starting Live View

Starting live view under the decoding modes of <Software> and <Hardware> varies slightly.

<Software> Decoding Mode:

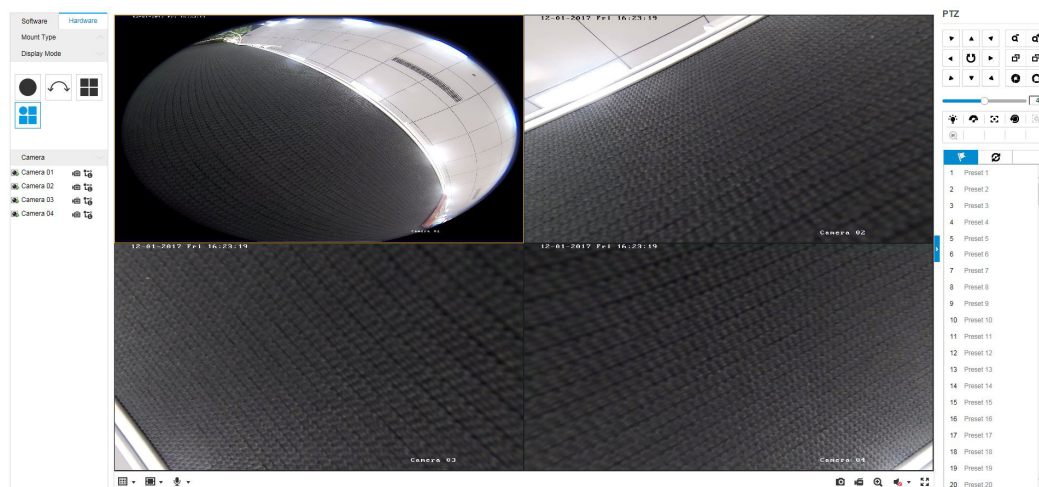
You can click the icon  on the toolbar to start/stop all live views of the camera.



Live View Interface (Software Decoding)
















<Hardware> Decoding Mode:

In the <Hardware> decoding mode, the live video will be automatically displayed when you click <Live View> on the menu bar, when you click <Hardware> in the display control area, or when you change the <Mount Type> or the <Display Mode>.



Live View Interface (Hardware Decoding)

Descriptions of the Live View Icons:

Icon	Description
	Start all live view.
	Stop all live view.
	Set aspect ratio as 1:1.
	Set aspect ratio as 4:3.
	Set aspect ratio as 16:9.
	Window size for original video stream.
	Stream Type: Select Main Stream or Sub Stream
	Self-adaptive window size.
	Manually start/stop recording.
	Audio on and adjust the volume.
	Mute.
	Start/stop two-way audio.
	Manually capture a picture.
	Full screen.
	Show/hide the PTZ panel.



Note:

The toolbar icons on the live view page vary according to the different decoding modes and camera models.

- Digital Zoom:

- 1) Click to start the function.
- 2) Click the mouse on the live view image and drag it to a lower right position. The area in the red rectangle will be zoomed in after you release the mouse.
- 3) Click the mouse on the zoomed-in image, drag it to a higher left position and release the mouse to zoom out.
- 4) Click to stop the function.

12.3 Recording and Capturing Pictures Manually

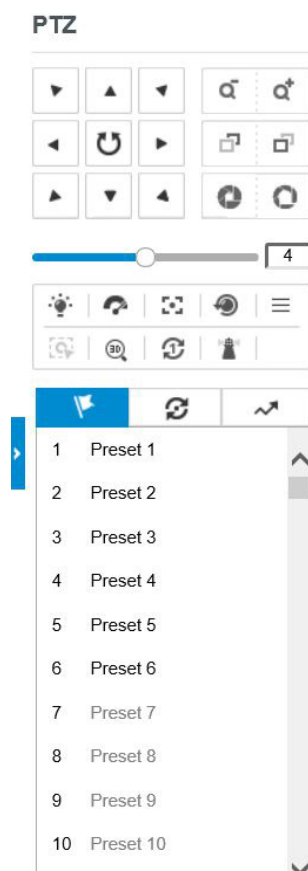
In the live view interface, click  on the toolbar to capture the live pictures or click  to record the live video. The saving paths of the captured pictures and record files can be set on the **System > Local** page. To configure remote scheduled recording, please refer to Section 11.2.

Note: The captured image will be saved as a <JPEG> or <BMP> file on your computer.

12.4 PTZ Control

A PTZ View is a close-up view of a defined area on the panoramic and fisheye view, and it supports digital PTZ control.



When PTZ View is selected for live view, you can use the PTZ control panel on the right-hand side of the window to execute the pan/tilt/zoom control of the PTZ View.



PTZ Control

Note: If the Fisheye View or the Panorama View is selected for the live view together with the PTZ View, when you click on a random PTZ view, a navigation box indicating the location of the PTZ view will be shown in the fisheye or panorama view.










12.4.1 PTZ Control Panel






On the live view page, you can click  to show the PTZ control panel, and click  to hide it.



PTZ Control Panel

Descriptions of the PTZ Control Panel:

Icon	Description
	Direction buttons
	Start/stop auto scan
	Zoom out/Zoom in
	Focus -/Focus +
	Iris -/Iris +
	Adjust speed of pan/tilt movements
	Enable/disable light
	Auxiliary Focus
	Enable/disable wiper

	Lens initialization
	Start manual tracking
	Start 3D zoom
	Click to set presets
	Click to set patrols

Steps:


1. Click to select a PTZ View on the display window. Then the navigation box appears on the Fisheye View and Panorama View.
2. Click the direction arrows on the PTZ control panel. The navigation box will move in the corresponding pan/tilt direction.
3. Adjust the zoom, the focus and the iris level of the PTZ view image.
4. Click and drag the slider on the speed bar to adjust the moving speed of the PTZ View when <Auto Scan> is enabled.
5. (Optional) you can click on other buttons to realize the corresponding functions.

12.4.2 Setting/Calling/Deleting a Preset

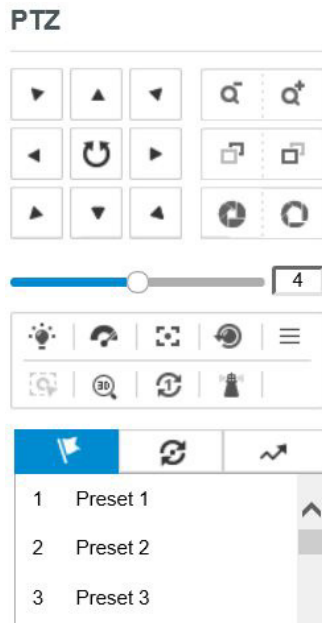
● Setting a Preset:

A preset for the fisheye camera is a predefined PTZ View which contains information of <Pan>, <Tilt>, <Focus> and other parameters.

Steps:

1. Click to select a PTZ View on the display window.
2. Click the <Direction>/<Zoom> buttons on the PTZ Control panel to adjust the PTZ View as desired.
3. Select a <Preset number> from the <Preset List>.
4. Click the icon  to save the current PTZ View as the preset.

The preset name turns from grey to black.



Setting a Preset

Note: Up to 256 presets are supported.


- **Calling a Preset:**

The PTZ View of the fisheye camera can directly and quickly move to the area of interest, which is defined as a preset.

Before you start:

Set the preset. The icons (,  and ) will appear on the preset list.


Steps:

1. Click to select a PTZ View on the display window.
2. Select the preset number from the list.
3. Click the icon  to call the selected preset.

The selected PTZ View will move to the pre-defined preset scene.

- **Deleting a Preset**

Steps:

1. Select the preset number from the list.
2. Click the icon  to delete the selected preset.

The preset name turns from black to grey.

12.4.3 Setting/Calling/Deleting a Patrol


A patrol is a scanning track specified by a group of defined presets, with the duration time at each preset separately programmable.

Before you start:

At least 2 presets are required to set a patrol.






● Setting a Patrol

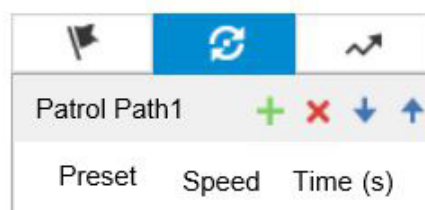
Steps:

1. Click the icon  to enter the patrol configuration interface.



Patrol Configuration (1)

2. Select a <Patrol Path> No. from the drop-down list, and click the icon  to configure the patrol path.
3. Click  to add a preset into the path, and click  to delete a preset.
4. Set the <Preset> Number, <Speed> and lingering <Time> at each preset. You can adjust the order of presets by using  and .





Patrol Configuration (2)

5. Click <OK> to save the patrol path.


Note: Up to 32 patrol paths can be set, and each path supports a maximum of 16 key points.

● Calling a Patrol

Steps:

1. Click to select a PTZ View on the display window.
2. Select the <Patrol Path> Number from the drop-down list.
3. Click the icon  to start the selected patrol and  to stop it.

● Deleting a Patrol

1. Select the <Patrol Path> Number from the drop-down list.
2. Click the icon  to delete the patrol path.

13. Additional PTZ Camera Settings (only for Speed Dome Cameras)

This chapter only applies to the Speed Dome Cameras GD-CI-AP2647P, GD-CI-AP2747P, GD-CI-AP4746P, GD-CI-AT4747P and GD-CI-AT8746P.

13.1 Start-up Action of Speed Dome Cameras

After the power is applied, the speed dome will perform a self-test action. It begins with a lens action and then a pan/tilt movement follows.

After the self-test action, the system information of the speed dome including the model, address, communication, version, and other will be displayed on screen for 40 seconds.

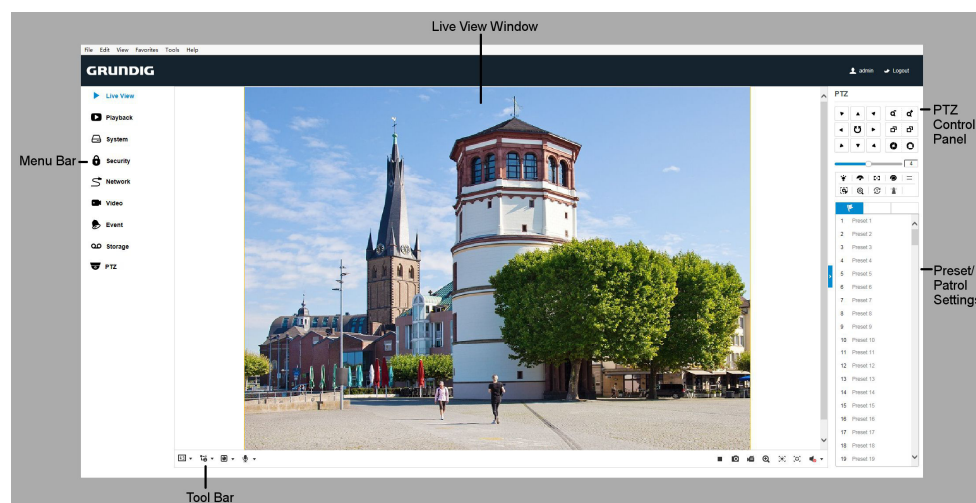
13.2 Live View Page

The live video page allows you to view live video, capture images, realize PTZ control, set/call presets and configure video parameters.

Log in the network camera to enter the live view page, or you can click **Live View** on the menu bar of the main page to enter the live view page.

Note: The functions vary depending on different camera models. Refer to the actual interface as standard.

Description of the live view page:



Live View Page

Menu Bar:

Click the corresponding tab to enter the <Live View>, <Playback>, <System>, <Security>, <Network>, <Video>, <Event>, <Storage> or <PTZ> page.

Click  to display the help file of the network camera. Click  to logout of the system.

Live View Window:

Display the live video.

Toolbar:

Operations on the live view page, e.g., live view, capture, record, audio on/off, regional exposure, regional focus, etc.

PTZ Control:

Panning, tilting, focusing and zooming actions of the network camera. The lighter, wiper, one-touch focus and lens initialization control.

Preset/patrol/pattern:

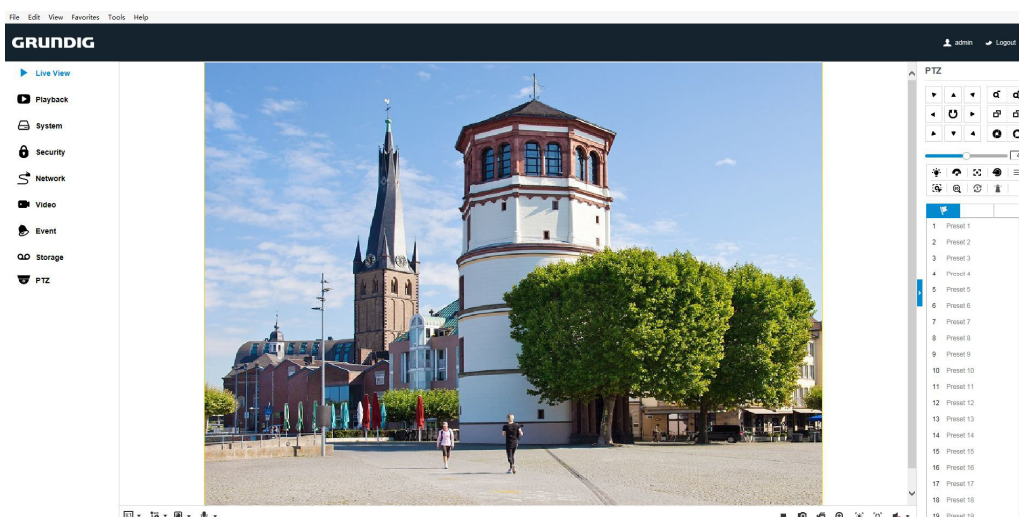
Set and call the preset/patrol/pattern for the camera.

Live View Parameters:

Configure the image size, stream type, plug-in type, and two-way audio of the live video.

13.3 Starting Live View

In the live view window as shown below, click  on the toolbar to start the live view of the network.





















Start Live View

Description of the Toolbar:

Icon	Description	Icon	Description
	Start/stop Live view.		Manually capture the pictures.
	Display in 4:3/16:9/original/self-adaptive window size.		Live view with the main/sub/third stream.
	Play via webcomponents/quick time.		Start/stop two-way audio.
	Manual start/stop recording.		Mute/audio on and adjust volume
	Start/stop digital zoom.		Enable/disable regional exposure
	Enable/disable regional focus		

- Double-click on the live video to switch the current live view into full-screen or return to normal mode from the full-screen.
- Click to select from and display live video in 4:3/16:9/original/self-adaptive window size.
- Click to select from and display live video with the main/sub/third stream. The main stream is with a relatively high resolution and needs much bandwidth. The default setting of the stream type is .
- Click to select between and play the live video via the **Webcomponents** or the **Quick Time** player. The live video is played via webcomponents by default, and other

types of players are supported for the browser, such as MJPEG, and VLC. You are required to download and install the player to play the live video.

- Click  and it displays . Click  to enable two-way audio and the icon turns into . Click the icon again to stop two-way audio.
- Click  to start live view and the icon turns into . Click the icon again to stop live view.
- Click  to capture the picture.
- Click  to start recording and the icon turns into . Click the icon again to stop recording.
- Click  to enable the digital zoom function and the icon turns into . Then drag the mouse towards the lower right to draw a rectangle on the image as the desired zoom. After viewing it you can click on any part of the picture to get back to the normal picture.
- Click the  on the toolbar to enter the Regional Exposure operation mode and the icon turns into . Then drag the mouse to draw a rectangle on the image as the desired exposure region.
- Click the  on the toolbar to enter the Regional Focus operation mode and the icon turns into . Then drag the mouse to draw a rectangle on the image as the desired focus region.
- Click  to display the  . Drag the slider to adjust the volume.

Note:

Before using the two-way audio or recording with audio functions, set the <Stream Type> to <Video & Audio> referring to **Section Video/Audio**.

Refer to the following sections for more information:

- Configuring remote recording in **Section 11.2 Record Schedule**.
- Setting the image quality of the live video in **Section 9.2 Display Settings**.
- Setting the OSD text on live video in **Section 9.3 OSD Settings**



13.4 PTZ Control

In the live view interface, you can use the PTZ control buttons to control panning, tilting and zooming.

Note:

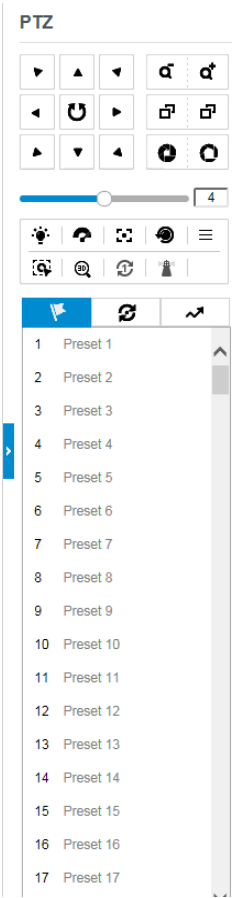
The PTZ functions vary depending on the different camera models.

13.4.1 PTZ Control Panel

On the live view page, click  to show the PTZ control panel or click  to hide it.







Click the direction buttons to control the pan/tilt movements.












Click the zoom/iris/focus buttons to realize lens control.









PTZ Control Panel

Description of the PTZ Control Panel:

Button	Name	Description
	PTZ Control Panel	Hold and press the direction button to pan/tilt the camera. Click  and the camera keeps panning, the icon turns into  . Click the icon again to stop the camera.
	Zoom out/in	Click  , the lens zooms in, click  , and the lens zooms out.

Button	Name	Description
	Focus near/far	Click  , the lens focuses far and the items far away get clear. Click  , the lens focuses near and the items nearby get clear.
	Iris close/open	When the image is too dark, click  to open the iris. When the image is too bright, click  to close the iris.
	Auxiliary Functions	The auxiliary functions include light, wiper, auxiliary focus, lens initialization, manual tracking, 3D positioning, one-touch patrol, and one-touch park.
	Speed Adjustment	Adjust speed of pan/tilt movements.
	Preset	Refer to 13.4.3 for detailed information of setting a preset.
	Patrol	Refer to 13.4.4 for detailed information of setting a patrol.
	Pattern	Refer to 13.4.6 for detailed information of setting a pattern.

Buttons on the Preset/Patrol/Patterns interface:







Buttons	Description
	Start the selected patrol/pattern.
	Stop current patrol/pattern.
	Set the selected preset/patrol.
	Delete the selected preset/patrol/pattern.
	Start recording a pattern.
	Stop recording the pattern.

13.4.2 Auxiliary Functions

The Auxiliary functions panel is shown below.




Auxiliary Functions

-  Light
Click  to enable/disable the light supplement of the camera. This function is reserved.
-  Wiper
Click  to move the wiper once.
-  Auxiliary Focus
The auxiliary focus function is reserved.
-  Manual Tracking

Before you start:


Enter the Smart Tracking settings interface and enable smart tracking first: **PTZ > Smart Tracking**

Steps:





1. Click  on the toolbar of the live view interface.
2. Click on a moving object in the live video.
The camera will track the object automatically.

-  3D Positioning

Steps:

1. Click  on the toolbar of the live view interface.
2. Operate the 3D positioning function:
 - Click a position of the live video. The corresponding position will be moved to the center of the live video.
 - Hold down the left mouse button and drag the mouse to the lower right on the live video. The corresponding position will be moved to the center of the live video and zoomed in.
 - Hold down the left mouse button and drag the mouse to the upper left on the live video.

The corresponding position will be moved to the center of the live video and zoomed out.

-  One-touch Patrol
 - Click  to call one-touch patrol. For detailed information of setting up one-touch patrol, refer to **Section 13.4.5 One-touch Patrol**.
 -  One-touch Park
- Click  to save the current view as the preset No. 32 and start park at the current position.

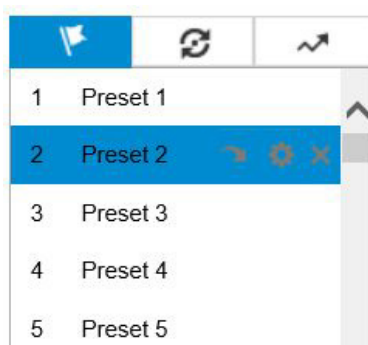
13.4.3 Setting/Calling a Preset

A preset is a predefined image position. For the defined preset, you can click the calling button to quickly view the desired image position.



- **Setting a Preset:**

Steps:

1. In the PTZ control panel, select a preset number from the preset list.

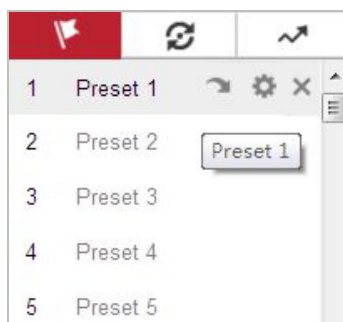


Setting a Preset

2. Use the PTZ control buttons to move the lens to the desired position.
 - Pan the camera to the right or left.
 - Tilt the camera up or down.
 - Zoom in or out.
 - Refocus the lens.
 3. Click  to finish the setting of the current preset.
 4. Edit a preset name by double clicking on the default name such as <preset 1>. (The pre-defined presets are named already and not configurable. Refer to the user manual for detailed function description.)
 5. You can click  to delete the preset.
- Note:** You can configure up to 256 presets.

● **Calling a Preset:**

In the PTZ control panel, select a defined preset from the list and click  to call the preset.



Calling a Preset

For a convenient preset selection, please refer to the following steps to navigate to the preset you wish.

Steps:

1. Select any preset from the list.
2. Click the preset number you need on the keyboard.

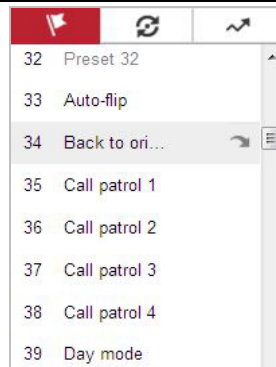
Note:

- The following presets are predefined with special commands. You can only call them but not configure them. For instance, preset 99 is the “Start auto scan”. If you call the preset 99, the camera starts the auto scan function.
- Pattern functions vary depending on different camera models.

Special Presets:

Preset	Function	Preset	Function
33	Auto flip	92	Start to set limit stops
34	Back to the initial position	93	Set limit stops manually
35	Call patrol 1	94	Remote reboot
36	Call patrol 2	95	Call OSD menu
37	Call patrol 3	96	Stop a scan
38	Call patrol 4	97	Start random scan
39	Day mode (IR cut filter in)	98	Start frame scan
40	Night mode (IR cut filter out)	99	Start auto scan
41	Call pattern 1	100	Start tilt scan

42	Call pattern 2	101	Start panorama scan
43	Call pattern 3	102	Call patrol 5
44	Call pattern 4	103	Call patrol 6
45	One-touch Patrol	104	Call patrol 7
90	Wiper	105	Call patrol 8



Special Preset

Note:

You may need to use the OSD (On Screen Display) menu when controlling the camera remotely. To display the OSD menu on the live view screen, you can call the <Preset> Number 95.

13.4.4 Setting/Calling a Patrol




A patrol is a memorized series of preset functions. It can be configured and called on the patrol settings interface. There are up to 8 patrols that can be customized. A patrol can be configured with 32 presets.

Before you start:

Make sure that the presets you want to add into a patrol have been defined.

- **Setting a Patrol:**

Steps:

1. In the PTZ control panel, click  to enter the patrol settings interface.
2. Select a patrol number from the list and click .
3. Click  to enter the adding interface of preset, as shown below.



Adding Presets

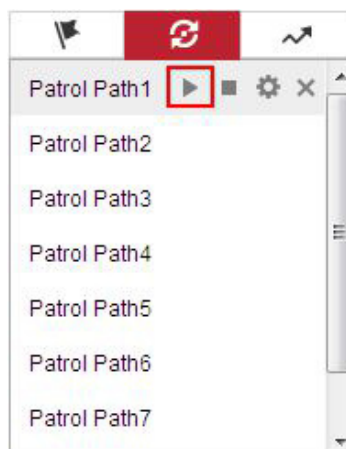
4. Configure the <Preset> number, Patrol <Time (s)> and Patrol <Speed>.

Name	Description
Patrol Time	It is the duration staying on one patrol point. The camera moves to another patrol point after the patrol time.
Patrol Speed	It is the speed of moving from one preset to another.

5. Click <OK> to save a preset into the patrol.
6. Repeat the steps from 3 to 5 to add more presets.
7. Click <OK> to save all the patrol settings.

● Calling a Patrol:

In the PTZ control panel, select a defined patrol from the list and click ► to call the patrol, as shown below.





Calling a Preset

13.4.5 One-touch Patrol

One-touch Patrol is an automatically created patrol. The system automatically adds preset No.1 to No.32 to the patrol path 8. You can call the one-touch patrol and the camera moves automatically as patrol path 8.

Steps:

1. Set <Preset> No.1 to No.32. Refer to **13.4.3 Setting/Calling a Preset** for detailed information of setting a preset.
2. Call preset No. 45, and the camera moves as patrol path 8.
3. Click  to enter the patrol settings interface and start/stop one-touch patrol, edit the <Patrol Time> and the <Speed>.
4. You can click  of the PTZ control panel to start one-touch patrol.



Patrol Path 8

13.4.6 Setting/Calling a Pattern


A pattern is a memorized series of pan, tilt, zoom, and preset functions. It can be called on the pattern settings interface. There are up to 4 patterns for customizing.

Note:

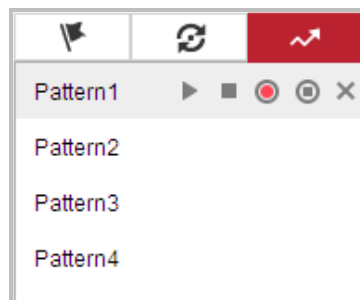
Pattern functions vary depending on different camera models.

● Setting a Pattern:



Steps:

1. In the PTZ control panel, click  to enter the pattern settings interface.







2. Select a pattern number from the list as shown below.



Patterns Settings Interface

3. Click  to enable recording the panning, tilting and zooming actions.
4. Use the PTZ control buttons to move the lens to the desired position after the information of **PROGRAM PATTERN REMAINING MEMORY (%)** is displayed on the screen.
 - Pan the camera to the right or left.
 - Tilt the camera up or down.
 - Zoom in or out.
 - Refocus the lens.
5. Click  to save all the pattern settings.

● **Buttons on the Patterns interface:**



Buttons	Description
	Start the selected patrol/pattern.
	Stop current patrol/pattern.
	Set the selected preset/patrol.
	Delete the selected preset/patrol/pattern.
	Start recording a pattern.
	Stop recording the pattern.

Note:

- These 4 patterns can be operated separately and with no priority level.
- When configuring and calling the pattern, the proportional pan is valid, the limit stops and auto flip will be invalid, and the 3D positioning operation is not supported.

14. Further PTZ Camera Settings (only for Speed Dome Cameras)

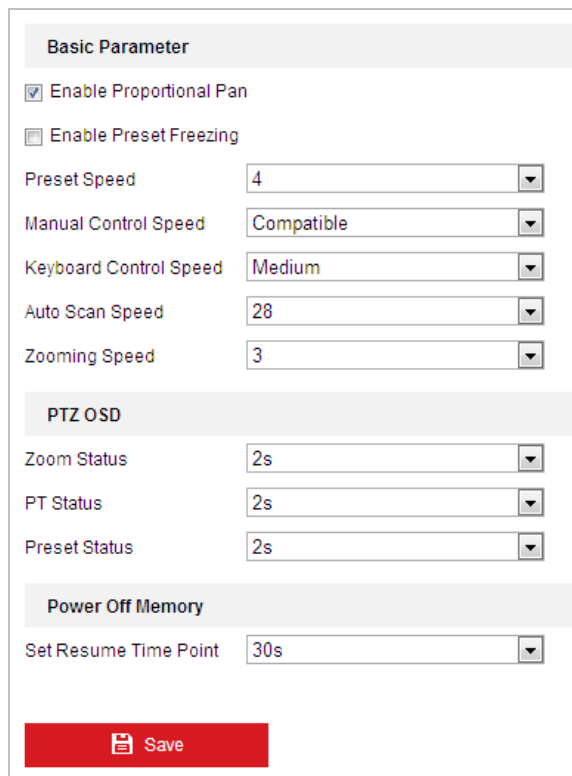
This chapter only applies to the Speed Dome Cameras GD-CI-AP2647P, GD-CI-AP2747P, GD-CI-AP4746P, GD-CI-AT4747P and GD-CI-AT8746P.

- On the event configuration page, click  to show the PTZ control panel or click  to hide it.
- Click the direction buttons to control the pan/tilt movements.
- Click the zoom/iris/focus buttons to realize lens control.
- The functions vary depending on different camera models.

14.1 Basic Settings

You can configure the basic PTZ parameters, including proportional pan, preset freezing, preset speed, etc.


1. Enter the Basic Settings interface: **PTZ > Basic Settings**



Basic Parameter	
<input checked="" type="checkbox"/> Enable Proportional Pan	
<input type="checkbox"/> Enable Preset Freezing	
Preset Speed	4
Manual Control Speed	Compatible
Keyboard Control Speed	Medium
Auto Scan Speed	28
Zooming Speed	3

PTZ OSD	
Zoom Status	2s
PT Status	2s
Preset Status	2s

Power Off Memory	
Set Resume Time Point	30s


 Save

Basic Settings

2. Configure the following settings:
 - **Basic Parameters:** Set the basic parameters of PTZ.
 - **<Proportional Pan>**: If you enable this function, the pan/tilt speeds change according to the amount of zoom. When there is a large amount of zoom, the pan/tilt speed will be

slower for keeping the image from moving too fast on the live view image.

- **<Preset Freezing>**: This function enables the live view to switch directly from one scene defined by a preset to another, without showing the middle areas between these two, to ensure the surveillance efficiency. It can also reduce the use of bandwidth in a digital network system.
Note: Preset freezing function is invalid when you calling a pattern.
 - **<Preset Speed>**: You can set the speed of a defined preset from 1 to 8.
 - **<Manual Control Speed>**: The manual control speed can be set as <Compatible>, <Pedestrian>, <Non-motor Vehicle>, <Motor Vehicle> or <Auto>.
 - <Compatible>: The control speed is the same as the Keyboard Control Speed.
 - <Pedestrian>: Choose <Pedestrian> when you monitor the pedestrians.
 - <Non-motor Vehicle>: Choose <Non-motor Vehicle> when you monitor the non-motor vehicles.
 - <Motor Vehicle>: Choose <Motor Vehicle> when you monitor the motor vehicles.
 - <Auto>: You are recommended to set it as <Auto> when the application scene of the speed dome is complicated.
 - **<Keyboard Control Speed>**: Define the speed of the PTZ control by a keyboard as <Low>, <Medium> or <High>.
 - **<Auto Scan Speed>**: The scan speed can be set from level 1 to 40.
 - **<Max. Tilt-angle>**: Set the tilt-angle of the speed dome from the dropdown list.
 - **<Zooming Speed>**: The zoom speed is adjustable from level 1 to 3.
- **PTZ OSD**: Set the on-screen display duration of the PTZ status.
 - **<Zoom Status>**: Set the OSD duration of the zooming status as <2 seconds>, <5 seconds>, <10 seconds>, <NC (Normally Closed)> or <NO (Normally Open)>.
 - **<PT Status>**: Set the azimuth angle display duration while panning and tilting as <2 seconds>, <5 seconds>, <10 seconds>, <NC (Normally Closed)> or <NO (Normally Open)>.
 - **<Preset Status>**: Set the preset name display duration while calling the preset as <2 seconds>, <5 seconds>, <10 seconds>, <NC (Normally Closed)> or <NO (Normally Open)>.
 - **Power-off Memory**: The speed dome can resume its previous PTZ status or actions after it restarted from a power-off. You can set the time point (<Set Resume Time Point>) after which the dome resumes its PTZ status. You can set it to resume the status of <30 seconds>, 60 seconds>, <300 seconds> or <600 seconds> before power-off.

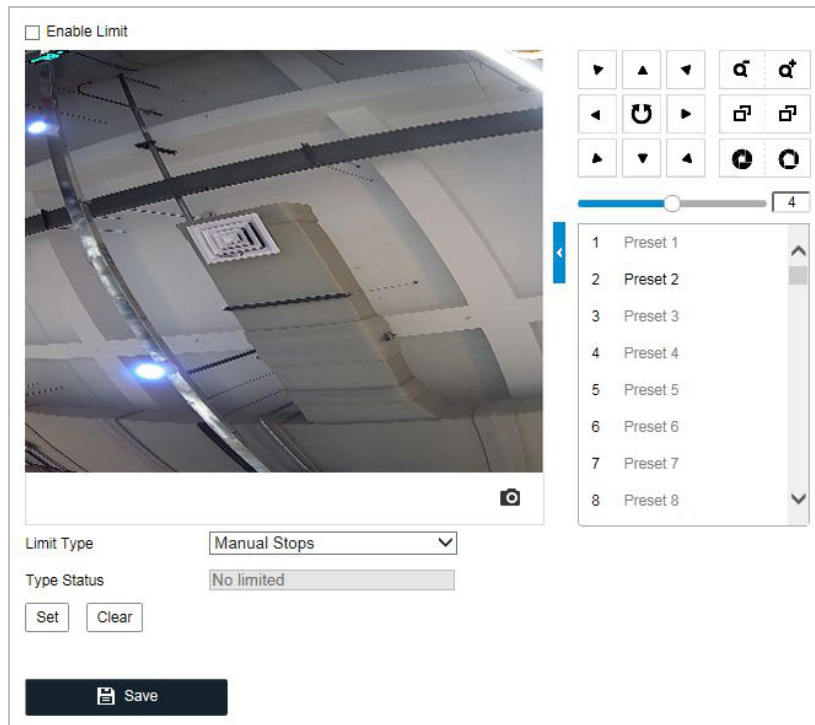
3. Click  Save to save the settings.

14.2 PTZ Limit

The speed dome can be programmed to move within the configurable PTZ limits (left/right, up/down).

Steps:

1. Enter the Limit configuration interface: **PTZ > Limit**



Configure the PTZ Limit

2. Click the <Enable Limit> checkbox and choose the <Limit Type> as <Manual Stops> or <Scan Stops>.


- **Manual Stops:**

When manual limit stops are set, you can operate the PTZ control panel manually only in the limited surveillance area.

- **Scan Stops:**

When scan limit stops are set, the random scan, frame scan, auto scan, tilt scan or panorama scan are performed only in the limited surveillance area.

Note: **Manual Stops** of **Limit Type** is prior to **Scan Stops**. When you set these two limit types at the same time, **Manual Stops** is valid and **Scan Stops** is invalid.

3. Click the PTZ control buttons to find the left/right/up/down limit stops, you can also call the defined presets and set them as the limits of the speed dome.
4. Click <Set> to save the limits or click <Clear> to clear the limits.
5. Click  **Save** to save the settings.

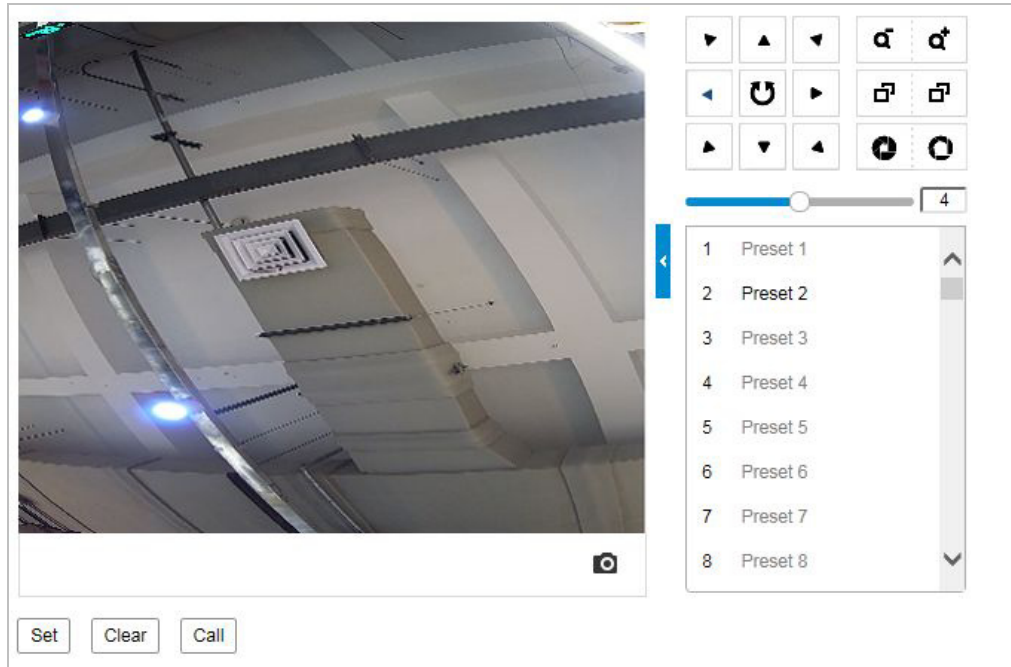
14.3 Initial Position

The initial position is the origin of PTZ coordinates. It can be the factory default initial position. You can also customize the initial position according to your own demand.

- **Customize an Initial Position:**

Steps:



- 7 Enter the Initial Position configuration interface: **PTZ > Initial Position**



PTZ Configuration

- 8 Click the PTZ control buttons to find a position as the initial position of the speed dome, you can also call a defined preset and set it as the initial position of the speed dome.
- 9 Click <Set> to save the position.

- **Call/delete an Initial Position:**

You can click  to call the initial position. You can click  to delete the initial position and restore the factory default initial position.

14.4 Park Action

This feature allows the camera to start a predefined park action (scan, preset, pattern and etc.) automatically after a period of inactivity (park time).

Note:

- **Scheduled Tasks** function is prior to **Park Action** function. When these two functions are set at the same time, only the **Scheduled Tasks** function takes effect.
- Park function varies depending on different camera models.


Steps:

1. Enter the Park Action settings interface: **PTZ > Park Action**


☒ Enable Park Action

Park Time s

Action Type

 Save

Set the Park Action

2. Check the <Enable Park Action> checkbox.
3. Set the <Park Time> as the inactivity time of the camera before it starts the park actions.
4. Choose <Action Type> from the dropdown list.
5. If you select <Patrol>, <Pattern>, or <Preset> as action type, you need to select <Action Type ID> from the dropdown list
6. Click  Save to save the settings.

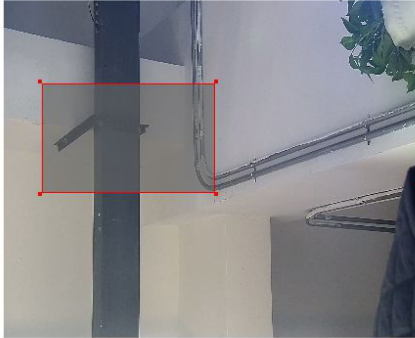
14.5 Privacy Mask


A privacy mask enables you to cover certain areas on the live video to prevent certain spots in the surveillance area from being live viewed and recorded.


Steps:

1. Enter the Privacy Mask settings interface: **PTZ > Privacy Mask**

☐ Enable Privacy Masks








 4

1 Preset 1
2 Preset 2
3 Preset 3
4 Preset 4
5 Preset 5
6 Preset 6
7 Preset 7
8 Preset 8

Stop Drawing Clear All

Privacy Mask List  

No.	Name	Type	Enable	Active Zoom Ratio

 Save

Draw the Privacy Mask

2. Click the PTZ control buttons to find the area you want to set the privacy mask for.
3. Click and drag the mouse in the live video window to draw the area.
4. You can drag the corners of the red rectangle area to draw a polygon mask.
5. Click to finish drawing or click to clear all of the areas you set without saving them.
6. Click to save the privacy mask, and it will be listed in the <Privacy Mask List> area, set the value of <Active Zoom Ratio> on demand. Then the mask will only appear when the zoom ratio is greater than the predefined value.

Privacy Mask List					<input type="button" value="Add"/>	<input type="button" value="Delete"/>
No.	Name	Type	Enable	Active Zoom Ratio		
1	Privacy Mask 1	gray	Yes	1		

Privacy Mask List

7. Check the checkbox of <Enable Privacy Mask> to enable this function.

14.6 Scheduled Tasks

You can configure the network speed dome to perform a certain action automatically in a user-defined time period.

Steps:

1. Enter the Scheduled Task settings interface: **PTZ > Scheduled Tasks**

☐ Enable Scheduled Task

OFF

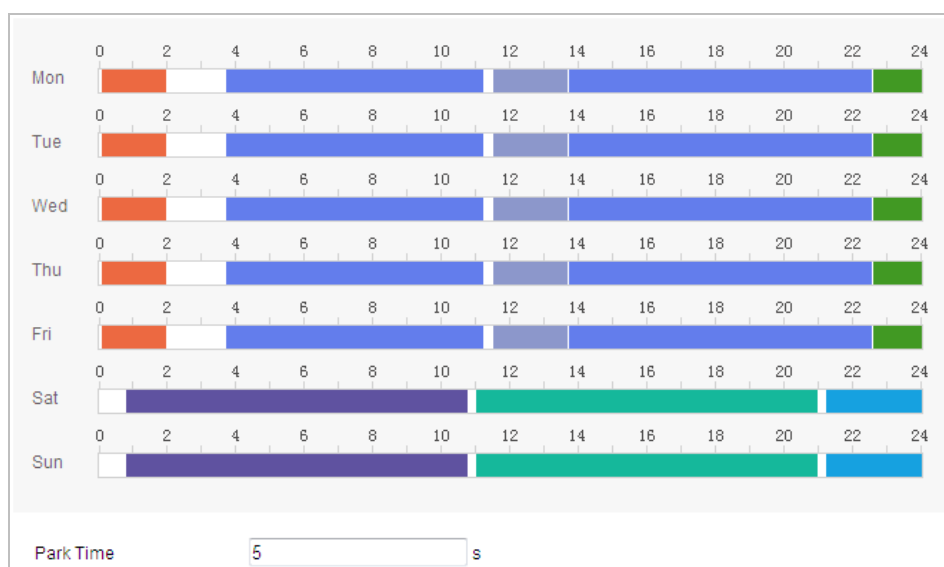
	0	2	4	6	8	10	12	14	16	18	20	22	24
Mon													
Tue													
Wed													
Thu													
Fri													
Sat													
Sun													

Park Time s

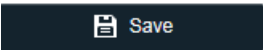
- OFF
- Auto Scan
- Frame Scan
- Random Scan
- Patrol
- Pattern
- Preset
- Panorama Scan
- Tilt Scan
- Dome Reboot
- Dome Adjust
- Aux Output

Configure Scheduled Tasks

2. Check the <Enable Scheduled Task> checkbox.
3. Set the <Park Time>. You can set the park time (a period of inactivity) before the speed dome starts the scheduled tasks.
4. Select the <Task Type> from the dropdown list.
5. Select the timeline of a certain day, and drag the mouse to set the recording schedule (the start time and end time of the recording task).
6. After you set the scheduled task, you can click and copy the task to other days (optional).



Edit the Schedule and Task Type

7. Click  to save the settings.

14.7 Clear Configuration

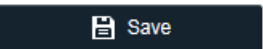
You can clear PTZ configurations in this interface, including all presets, patrols, privacy masks, PTZ limits, scheduled tasks and park actions.

Steps:

1. Enter the Clearing Configuration interface:
PTZ > Clear Config
2. Check the checkbox of the items you want to clear.

<input type="checkbox"/>	Select All
<input type="checkbox"/>	Clear All Presets
<input type="checkbox"/>	Clear All Patrols
<input type="checkbox"/>	Clear All Patterns
<input type="checkbox"/>	Clear All Privacy Masks
<input type="checkbox"/>	Clear All PTZ Limited
<input type="checkbox"/>	Clear All Scheduled Tasks
<input type="checkbox"/>	Clear All Park Action

Clear Config

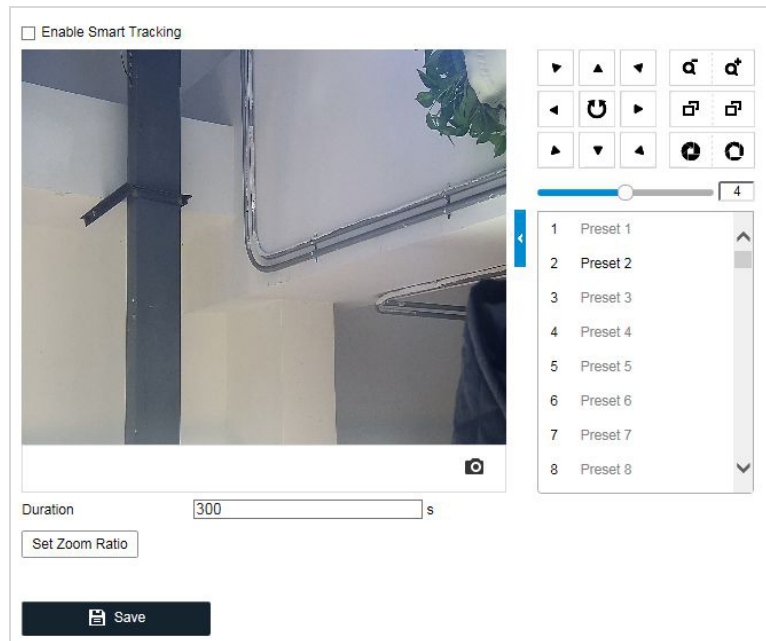
3. Click  to clear the settings.

14.8 Smart Tracking

The speed dome tracks the moving objects automatically after you configure this function.

Steps:

1. Enter the Smart Tracking settings interface: **PTZ > Smart Tracking**




Configure Smart Tracking

2. Check the <Enable Smart Tracking> check box to enable the smart tracking function.
3. Click the PTZ buttons to select an object.
4. Click Set Zoom Ratio to set the current zoom ratio as the tracking zoom ratio.
5. Set the tracking duration. The speed dome stops tracking when the duration time is up. The duration ranges from 0 to 300 seconds.


Note:

- Setting the duration to 0 means that there is no duration when that speed dome tracks.
- This function varies depending on different camera models.

6. Click  Save to clear the settings.

14.9 Prioritize PTZ

Steps:

1. Enter the Prioritize PTZ interface: **PTZ > Prioritize PTZ**
2. Select <Network> or <RS-485> from the dropdown list.
3. Set the <Delay Time> (Range 2-200s).
4. Click  Save to save the settings.

14.10 Position Settings

You can set the position information in this interface.

Steps:

1. Enter the Position Settings interface: **PTZ > Position Settings**

The screenshot displays the 'Position Settings' interface, which is divided into two main sections: 'Compass' and 'GPS'.


Compass Section:

- PT Mode:** A dropdown menu set to 'Manual'. To its right are two buttons: 'Set as North' and 'Point to North'.

GPS Section:

- Longitude-Latitude Mode:** A dropdown menu set to 'Manual'.
- Longitude:**
 - A dropdown menu set to 'East'.
 - A numeric input field with '0' and a degree symbol (°) to its right, with a range of '0~179'.
 - A numeric input field with '0' and a minute symbol (') to its right, with a range of '0~59'.
 - A numeric input field with '0.00' and a second symbol (") to its right, with a range of '0.00~59.99'.
- Latitude:**
 - A dropdown menu set to 'North'.
 - A numeric input field with '0' and a degree symbol (°) to its right, with a range of '0~89'.
 - A numeric input field with '0' and a minute symbol (') to its right, with a range of '0~59'.
 - A numeric input field with '0.00' and a second symbol (") to its right, with a range of '0.00~59.99'.

Position Settings

2. Manually find the north position for the speed dome in Live View interface, and click <Set at North> to set the north direction.
3. After the speed dome changes its direction, you can click <Point to North> and the speed dome turns back to the north direction.
4. You can manually set GPS information including longitude and latitude.
5. Click  **Save** to save the settings.

14.11 Rapid Focus

This function is for enabling the Speed Dome Camera to focus quickly on objects.

15. Additional Functions (depending on Camera Model)

15.1 Heat Map / Heat Map Statistics

Some camera models offer the <Heat Map> / <Heat Map Statistics> function.

Heat Map

Heat map is a graphical representation of data represented by colors. The heat map function of the camera is usually used to analyze the visit times and dwell time of customers in a configured area.

Steps:

1. Enter the Heat Map configuration interface: **<Heat Map Configuration>**.



Heat Map Configuration

2. Check the **<Enable Heat Map>** checkbox to enable the function.
3. Go to **<Area Settings>** to draw the detection area. Draw the area by left-clicking on the end-points in the live view window, and right-click to finish the area drawing. Up to 8 areas can be configured.
Note: You can click on **<Select All>** to select the whole live view window as the configured area. Or click **<Delete>** to delete the current drawn area.
4. Configure the parameters for the drawn area.

<Detection Sensitivity> [0~100]: This function refers to the sensitivity of the camera identifying a target. An over-high sensitivity may cause the misinformation. It is recommended you set the sensitivity as the default value, which is 50.

<Background Update Rate> [0~100]: This refers to the speed in which the new scene replaces the previous scene. E.g.: In front of a cabinet, the people beside the cabinet will be double-counted if the goods were moved from the cabinet, and the camera treats the cabinet (on which the good were removed) as a new scene. The default value of 50 is recommended.

<Scene Change Level> [0~100]: This refers to the level of the response of the camera to the dynamic environment, e.g., a swaying curtain. The camera may treat the swaying curtain as a target. Setting this level properly will avoid the misinformation. The default level is 50.

<Minimum Target Size> [0~100]: This refers to the size that is needed for the camera to identify it as a target. You can set the target size according to the actual environment. The default size is 50.

<Target Tracking>: Select <ON> or <OFF> to enable or disable the tracking of the target.

5. Go to the **<Arming Schedule>** tab, and click-and-drag the mouse on the time bar to set the arming schedule.



Arming Schedule

6. Go to the **<Linkage Method>** tab, and select the linkage method by checking the checkbox of <Notify the surveillance center>.

Linkage Method

7. Click **<Save>** to save the settings.

Note: For Fisheye Cameras, the <Heat Map Configuration> function is not supported when you choose the <Decoding Mode> as <Hardware Decoding> and the <Display Mode> as <180 Panoramic View> or <4PTZ>. Thus, you will not see the heat map configuration interface or the corresponding tab in the menu bar when you choose the mentioned modes.

Heat Map Statistics

The heat map statistics will be calculated and can be found under the <Heat Map Statistics> tab.

After you enable the heat map function, you can view and download the heat map data under <Heat Map Statistics>. To get more intuitional results, you can display the data in different charts.

Heat Map Statistics

Steps:

1. Select the <Report Type>. <Daily Report>, <Weekly Report>, <Monthly Report>, and <Annual Report> are selectable.

Note: <Daily Report> calculates the data on the date you selected. <Weekly Report> calculates for the week your selected date belongs to. <Monthly Report> calculates for the month your selected date belongs to. And the <Annual Report> calculates for the year your selected date belongs to.

2. Select the <Statistics Time>, and click <Counting> to list the heat map data.

3. Select <Space Heat Map> or <Time Heat Map> to display the results.

- Space Heat Map:

The different colors that mark areas in the surveillance scene stand for different frequency of visits. The color closer to the red end of the color scheme shows a relatively high frequency of visits.

The duration displayed next to <High> or <Low> stands for the cumulative time that the area keeps certain level of visit frequency.

- Time Heat Map:

The heat value of the pre-defined area is calculated by hour, day, or month. You can click the <Export> button to export the data in an excel file.

Note: If you select the <Time Heat Map> to list the statistics, there is an <Export> button to export the data into an excel file.

Note: It is recommended that you do not adjust the electronic lens after the installation is completed, which may cause inaccuracy of the data to some degree.

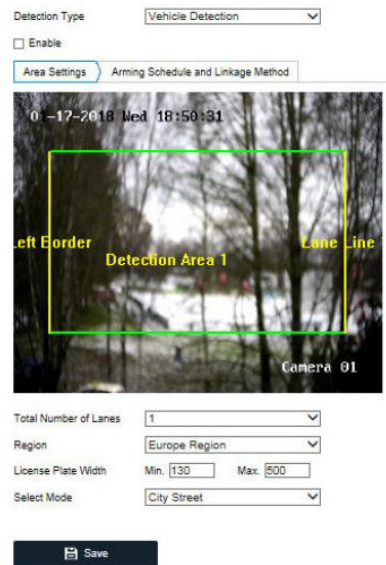
15.2 Road Traffic

Some camera models offer the <Road Traffic> function.

Vehicle Detection and Mixed-traffic Detection are available for the road traffic monitoring. In Vehicle Detection, the passed vehicle can be detected and the picture of its license plate can be captured, besides, the vehicle color, vehicle logo and other information can be recognized automatically. In Mixed-traffic Detection, the pedestrian, motor vehicle and non-motor vehicle can be detected, and the picture of the object (for pedestrian/non-motor vehicle/motor vehicle without license plate) or license plate (for motor vehicle with license plate) can be captured. You can send alarm signal to notify the surveillance center and upload the captured picture to FTP server.

Note: The Road traffic function varies depending on the camera model.

- **Detection Configuration:**



Detection Configuration

Steps:

1. Select the <Detection Type> from the list. <Vehicle Detection> and <Mixed-traffic Detection> are selectable. (Some camera models only offer <Vehicle Detection>.)
Note: Reboot the device to activate the new settings when switching the <Detection Type> of the <Road Traffic> function.
2. Check the checkbox of <Enable> to enable the selected detection function.
3. Select the lane number in the corresponding dropdown list of <Total Number of Lanes>. Up to 4 lanes are selectable.
4. Click and drag the lane line to set its position, or click and drag the line end to adjust the length and angle of the line.
5. Adjust the zoom ratio of the camera so that the size of the vehicle in the image is close to that of the red frame. Only the position of the red frame is adjustable.
Note: Only 1 license plate can be captured at one time for each lane.
6. Select a <Region> abbreviation in the dropdown list when the attribution of the license plate cannot be recognized.
7. Set the <Arming Schedule> under <Arming Schedule and Linkage Method>.
 - 1) Click on <Arming Schedule and Linkage Method> to enter the <Arming Schedule> interface.
 - 2) Click on the time bar and drag the mouse to select the time period. Click <Delete> or <Delete All> to delete the configured schedule.
 - 3) Move the mouse to the end of each day. Then a copy dialogue box pops up, and you can copy the current settings to other days.

4) Click <Save> to save the settings.

Note: The time of each period cannot overlap. Up to 8 periods can be configured for each day.

8. Set the <Linkage Method> under <Arming Schedule and Linkage Method>. <Notify Surveillance Center> and <Upload to FTP/Memory Card/NAS> are selectable.

Click on <Arming Schedule and Linkage Method> to enter the <Linkage Method> interface.

- **<Notify Surveillance Center>:** Send an exception or alarm signal to the GRUNDIG SCMS management software when an event occurs.
- **<Upload to FTP/Memory Card/NAS>:** Capture the image when an alarm is triggered and upload the picture to an FTP server. Or save the picture on the local SD card or connected NAS.

9. Click the <Save> button to activate the settings.

16. GRUNDIG FINDER Software Introduction

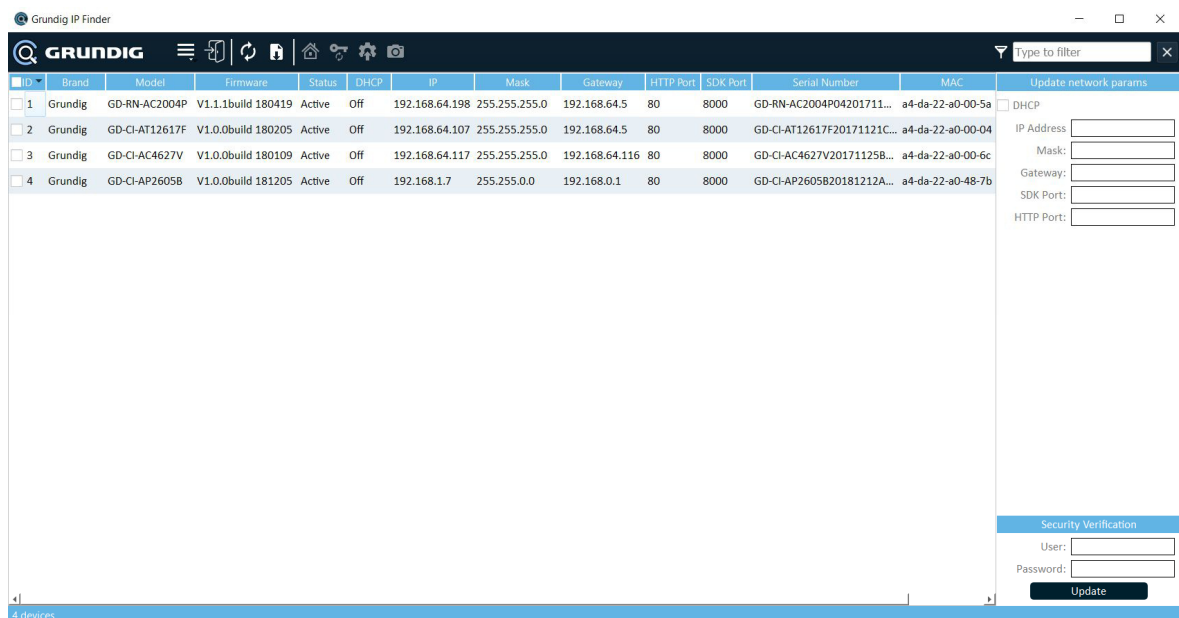
16.1 Description of the GRUNDIG FINDER

The GRUNDIG FINDER is a user-friendly and installation-free online device searching tool. It searches the active online devices within your subnet and displays the information of the devices. You can also modify the basic network information of the devices using this software.

16.2 Searching Active Devices Online

- Search online devices automatically:

After launching the GRUNDIG FINDER software, it automatically searches the online devices every 60 seconds from the subnet where your computer is located. It displays the total number and information of the searched devices in the Online Devices interface. Device information including the device type, IP address and port number, etc. will be displayed.




Searching Online Devices

Note:

A device can be searched and displayed in the list in 60 seconds after it went online, it will be removed from the list after it went offline.

- Search online devices manually:

You can also click  to refresh the online device list manually. The newly searched devices will be added to the list.

16.3 Modifying Network Parameters

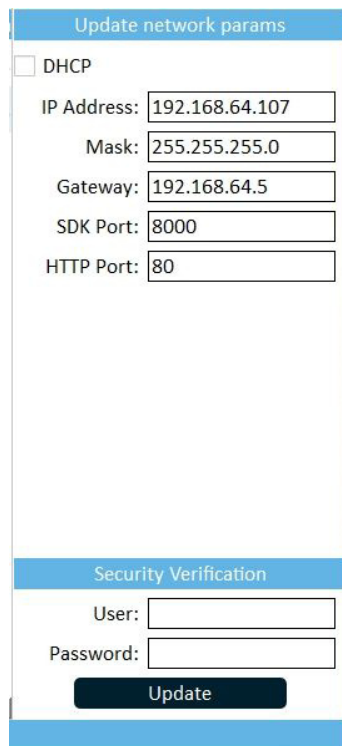
Steps:

1. Select the device to be modified in the device list and the network parameters of the device will be displayed in the <Update network parameters> panel on the right side.
2. Edit the modifiable network parameters, e.g. <IP address> and <Port Number>.
3. Enter the password of the admin account of the device in the <Security Verification> field and click

 to save the changes.

Warning:

- For your privacy and to better protect your system against security risks, we strongly recommend the use of strong passwords for all functions and network devices. The password should be something of your own choosing (using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers and special characters) in order to increase the security of your product.
- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.



The screenshot shows a mobile application interface for updating network parameters. The top section, titled 'Update network params', contains a checkbox for 'DHCP' which is currently unchecked. Below this are input fields for 'IP Address' (192.168.64.107), 'Mask' (255.255.255.0), 'Gateway' (192.168.64.5), 'SDK Port' (8000), and 'HTTP Port' (80). The bottom section, titled 'Security Verification', contains input fields for 'User' and 'Password', followed by an 'Update' button.

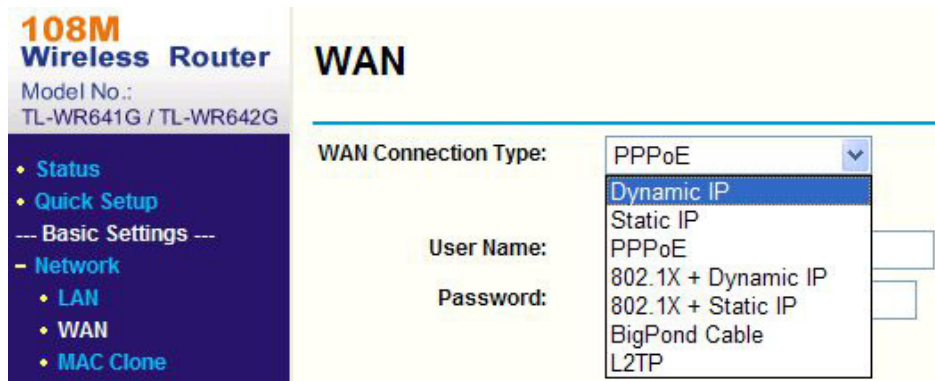
Modify the Network Parameters

17. Port Mapping

The following settings are for the TP-LINK router (TL-WR641G). The settings vary depending on different models of routers.

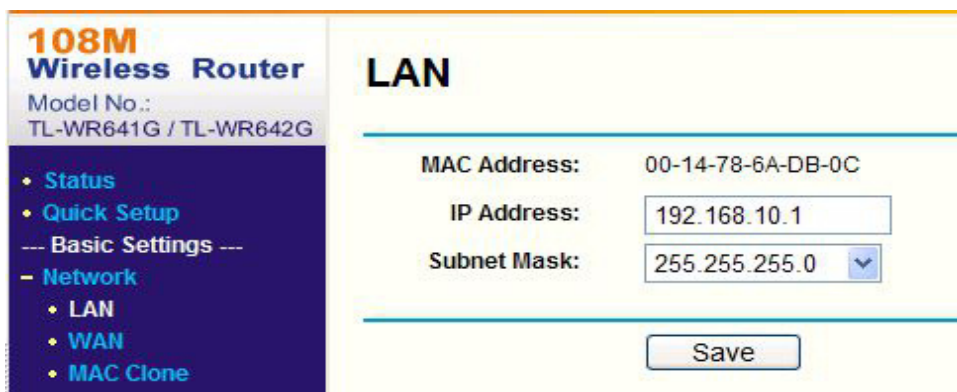
Steps:

1. Select the **WAN Connection Type**, as shown below:



Select the WAN Connection Type

2. Set the **LAN** parameters of the router as in the following Picture, including IP address and subnet mask settings.



Set the LAN parameters

3. Set the port mapping in the virtual servers of **Forwarding**. By default, the camera uses port 80, 8000 and 554. You can change these ports value with the web browser or Grundig SCMS.

Example:

When the cameras are connected to the same router, you can configure the ports of a camera as 80, 8000, and 554 with IP address 192.168.1.23, and the ports of another camera as 81, 8001, 555, 8201 with IP 192.168.1.24. Please refer to the steps below:

Steps:

1. As in the settings mentioned above, map the port 80, 8000, 554 and 8200 for the network camera at 192.168.1.23
2. Map the port 81, 8001, 555 and 8201 for the network camera at 192.168.1.24.
3. Enable <ALL> or <TCP> protocols.
4. Check the <Enable> checkbox and click <Save> to save the settings.

108M Wireless Router
Model No.: TL-WR641G / TL-WR642G

- Status
- Quick Setup
- Basic Settings ---
- Network
- Wireless
- Advanced Settings ---
- DHCP
- Forwarding
 - Virtual Servers
 - Port Triggering
 - DMZ
 - UPnP
- Security
- Static Routing
- Dynamic DNS
- Maintenance ---
- System Tools

Virtual Servers

ID	Service Port	IP Address	Protocol	Enable
1	80	192.168.10.23	ALL	<input checked="" type="checkbox"/>
2	8000	192.168.10.23	ALL	<input checked="" type="checkbox"/>
3	554	192.168.10.23	ALL	<input checked="" type="checkbox"/>
4	8200	192.168.10.23	ALL	<input checked="" type="checkbox"/>
5	81	192.168.10.24	ALL	<input checked="" type="checkbox"/>
6	8001	192.168.10.24	ALL	<input checked="" type="checkbox"/>
7	555	192.168.10.24	ALL	<input checked="" type="checkbox"/>
8	8201	192.168.10.24	ALL	<input checked="" type="checkbox"/>

Common Service Port: DNS(53) Copy to ID 1

Previous Next Clear All Save

Port Mapping

Note: The port of the network camera cannot conflict with other ports. For example, some web management's port of the router is 80. Change the camera port if it is the same as the management port.

UG-GD-CI-xxxxxxx-2019-10-29-V4-EN ©ABETECHS GMBH, DÜSSELDORF, GERMANY

grundig-security.com

GRUNDIG