



Digital Video Recorder

User Manual

User Manual

About this Manual

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website

Please use this user manual under the guidance of professionals.

Trademarks Acknowledgement

Other trademarks and logos mentioned below are the properties of their respective owners.



: The terms HDMI and HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc. in the United States and other countries.

Legal Disclaimer

REGARDING TO THE PRODUCT WITH INTERNET ACCESS, THE USE OF PRODUCT SHALL BE WHOLLY AT YOUR OWN RISKS. OUR COMPANY SHALL NOT TAKE ANY RESPONSIBILITIES FOR ABNORMAL OPERATION, PRIVACY LEAKAGE OR OTHER DAMAGES RESULTING FROM CYBER ATTACK, HACKER ATTACK, VIRUS INSPECTION, OR OTHER INTERNET SECURITY RISKS; HOWEVER, OUR COMPANY WILL PROVIDE TIMELY TECHNICAL SUPPORT IF REQUIRED.

SURVEILLANCE LAWS VARY BY JURISDICTION. PLEASE CHECK ALL RELEVANT LAWS IN YOUR JURISDICTION BEFORE USING THIS PRODUCT IN ORDER TO ENSURE THAT YOUR USE CONFORMS THE APPLICABLE LAW. OUR COMPANY SHALL NOT BE LIABLE IN THE EVENT THAT THIS PRODUCT IS USED WITH ILLEGITIMATE PURPOSES.

IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATER PREVAILS.

Regulatory Information

FCC Information

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.


FCC compliance: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.


FCC Conditions


This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

 This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.

 2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info

 2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

Industry Canada ICES-003 Compliance

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.




Applicable Models

This manual is applicable for the following products:

Series	Model
DS-7100HGHI-F1	DS-7104HGHI-F1
	DS-7108HGHI-F1
	DS-7116HGHI-F1
DS-7100HGHI-F1/N	DS-7104HGHI-F1/N
	DS-7108HGHI-F1/N
	DS-7116HGHI-F1/N
DS-7200HGHI-F1	DS-7204HGHI-F1
	DS-7208HGHI-F1
	DS-7216HGHI-F1
DS-7200HGHI-F1/N	DS-7204HGHI-F1/N
	DS-7208HGHI-F1/N
	DS-7216HGHI-F1/N
DS-7200HGHI-F2	DS-7208HGHI-F2
	DS-7216HGHI-F2
DS-7100HGHI-K1	DS-7116HGHI-K1
DS-7200HGHI-K1	DS-7216HGHI-K1
DS-7200HGHI-K2	DS-7216HGHI-K2
	DS-7224HGHI-K2
	DS-7232HGHI-K2

Symbol Conventions

The symbols that may be found in this document are defined as follows.

Symbol	Description
 NOTE	Provides additional information to emphasize or supplement important points of the main text.
 WARNING	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.
 DANGER	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.

Safety Instructions

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 100 to 240 VAC, 12 VDC or 48 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause over-heating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.
- If smoke, odor or noise rise from the video recorder, turn off the power at once and unplug the power cable, and then please contact the service center.

Preventive and Cautionary Tips

Before connecting and operating your video recorder, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the video recorder.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the video recorder in conjunction with an UPS if possible.

- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this video recorder.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

Table of Contents

Chapter 1 Start up	10
1.1 Activate Your Device.....	10
1.2 Login	11
1.2.1 Configure Unlock Pattern	11
1.2.2 Log in via Unlock Pattern.....	11
1.2.3 Log in via Password	12
Chapter 2 Live View.....	14
2.1 GUI Introduction	14
2.2 PTZ Control	15
2.2.1 Configure PTZ Parameter	15
2.2.2 PTZ Control Panel Introduction	17
2.2.3 Customize Preset.....	18
2.2.4 Customize Patrol	18
2.2.5 Customize Pattern	19
Chapter 3 Playback.....	21
3.1 GUI Introduction	21
3.2 Normal Playback	22
3.3 Smart Playback	23
3.4 Sub-Periods Playback	25
3.5 Back up Clip	25
Chapter 4 File Search	27
4.1 Search File	27
4.2 Quick Backup.....	27
Chapter 5 Configuration (Easy Mode).....	28
5.1 System Configuration	28
5.1.1 General	28
5.1.2 User	29
5.1.3 Exception	31
5.2 Network Configuration.....	32
5.2.1 General	32
5.2.2 Guarding Vision	33
5.2.3 Email.....	33
5.3 Camera Management.....	35

5.3.1 Analog Camera	35
5.3.2 Network Camera	35
5.3.3 OSD Settings	39
5.3.4 Smart Event	39
5.4 Recording Management	43
5.4.1 Storage Device	43
5.4.2 Configure Recording Schedule	44
5.4.3 Configure Recording Parameter	46
Chapter 6 Configuration (Expert Mode)	48
6.1 System Configuration	48
6.1.1 General	48
6.1.2 Live View	49
6.1.3 User	51
6.2 Network Configuration	51
6.2.1 TCP/IP	51
6.2.2 DDNS	52
6.2.3 NAT	52
6.2.4 Ports (More Settings)	53
6.2.5 Guarding Vision	54
6.2.6 Advanced Settings	54
6.3 Camera Management	55
6.3.1 Analog Camera	55
6.3.2 Network Camera	55
6.3.3 Display Settings	59
6.3.4 Privacy Mask	60
6.4 Event Configuration	61
6.4.1 Normal Event	61
6.4.2 Smart Event	67
6.4.3 Configure Arming Schedule	76
6.4.4 Configure Alarm Linkage Action	76
6.5 Recording Management	80
6.5.1 Configure Recording Schedule	80
6.5.2 Configure Recording Parameter	82
6.5.3 Storage Device	83
6.5.4 Configure Storage Mode	84
6.5.5 Advanced Settings	86

6.5.6 Cloud Storage	86
6.6 RS-232 Settings.....	87
Chapter 7 Maintenance	89
7.1 Restore Default.....	89
7.2 Search Log	89
7.3 Upgrade.....	89
7.3.1 Local Upgrade.....	89
7.3.2 Online Upgrade	90
Chapter 8 Alarm	91
8.1 Set Event Hint.....	91
8.2 View Alarm in Alarm Center.....	92
Chapter 9 Web Operation	93
9.1 Introduction	93
9.2 Login	93
9.3 Live View	94
9.4 Playback	94
9.5 Configuration.....	95
9.6 Log.....	95
Chapter 10 Appendix	96
10.1 Glossary.....	96
10.2 Troubleshooting	97

Chapter 1 Start up

1.1 Activate Your Device

Purpose

For the first-time access, you need to activate the video recorder by setting an admin password. No operation is allowed before activation. You can also activate the video recorder via web browser, SADP or client software.

Before you start

Power on your device.

Step 1 Select a language.

Step 2 Click **Next**.

Step 3 Input the same password in **Password** and **Confirm Password**.



WARNING

Strong Password recommended-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.

Step 4 Activate network camera(s) connected to the device.

- Check **Use Device Password as Default** to use the device password to activate the inactive network cameras(s).
- Enter a password to activate network camera(s).

Step 5 (Optional) Set email address for password resetting. When you forget your password, you can reset it by email.

- 1) Check **Enable**.
- 2) Enter your email address in **Email**.

Step 6 Click **Activate**.

The image shows a web-based activation form. It contains the following fields and options:

- User Name:** A text input field containing the text "admin".
- Password:** A password input field with masked characters "*****". To its right is an information icon (i in a circle).
- Strength Indicator:** Below the Password field, there is a progress bar with three segments: the first is red, and the other two are grey. To the right of the bar is the word "Weak".
- Confirm Password:** A password input field with masked characters "*****".
- Camera Activation Password:** A checkbox that is checked, followed by the text "Use Device Password as Default".
- Email to Reset Password:** A checkbox that is checked, followed by the text "Enable" and a question mark icon (?).
- Email Address:** A text input field located below the "Email to Reset Password" section.

Figure 1-1 Activation

1.2 Login

1.2.1 Configure Unlock Pattern

Purpose

After the device is activated, you can configure the device unlock pattern.

Step 1 Use the mouse to draw a pattern among the 9 dots on the screen. Release the mouse when the pattern is done.



- Connect at least 4 dots to draw the pattern.
- Each dot can be connected for once only.

Step 2 Draw the same pattern again to confirm it. When the two patterns match, the pattern is configured successfully.

1.2.2 Log in via Unlock Pattern

Step 1 Right click the mouse on live view interface.

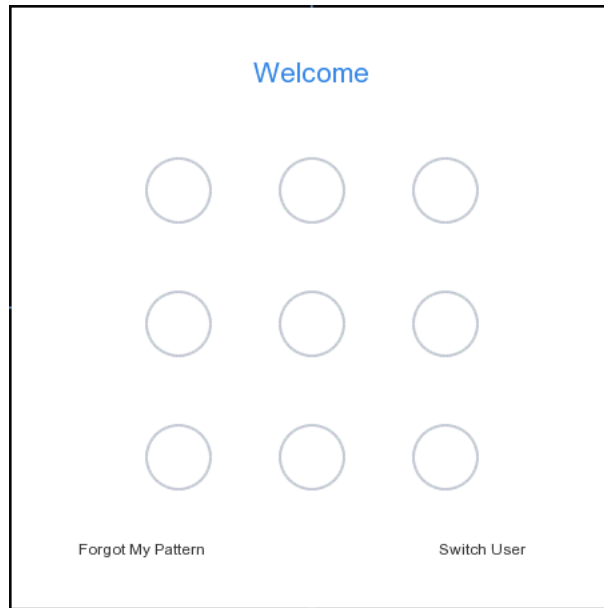


Figure 1-2 Draw the Unlock Pattern

Step 2 Draw the pre-defined pattern to unlock to enter the menu operation.



NOTE

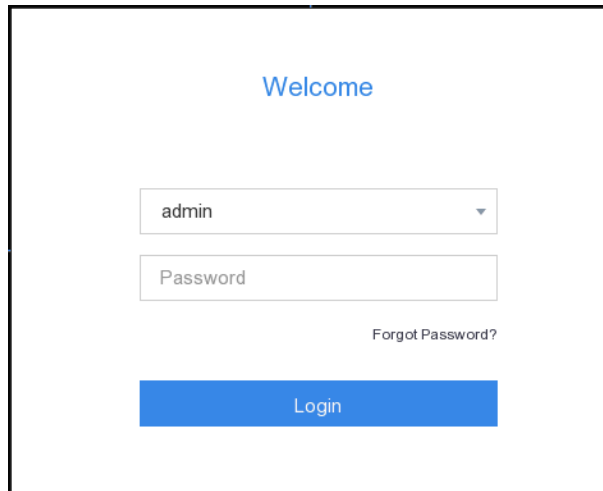
- If you have forgotten your pattern, you click **Forgot My Pattern** or **Switch User** to log in via password.
- If you have drawn the wrong pattern for more than 5 times, the system will switch to the normal login mode automatically.

1.2.3 Log in via Password

Purpose

If your video recorder has logged out, you must login before operating the menu and other functions.

Step 1 Select **User Name**.

A screenshot of a login interface. At the top, the word "Welcome" is displayed in blue. Below it, there is a dropdown menu with "admin" selected. Underneath the dropdown is a text input field labeled "Password". To the right of the password field is a link that says "Forgot Password?". At the bottom of the form is a blue button labeled "Login".

Welcome

admin ▼

Password

[Forgot Password?](#)

Login

Figure 1-3 Login Interface

Step 2 Input password.

Step 3 Click **Login**.



NOTE

- When you forget the password of the admin, you can click **Forgot Password** to reset the password.
- In the Login dialog box, if you enter the wrong password 7 times, the current user account will be locked for 60 seconds.

Chapter 2 Live View

2.1 GUI Introduction









- Click  to start/stop auto-switch. The screen will automatically switch to the next one.
- Click  to start/stop all-day recording.
- Right click a camera or click  to enter full screen mode.
- Double click a camera to view it in single-screen mode. Double click again to exit single-screen mode.
- Change a camera live view screen by dragging it from its screen to the desired screen.
- Scroll up/down to turn to previous/next screen.
- Position the cursor on a camera to show shortcut menu.





Figure 2-1 Shortcut Menu

Table 2-1 Shortcut Menu Description

Button	Description
	Start playing videos recorded in the latest five minutes.
	Start/stop manual recording.
	Turn on/off live view audio.
	Digital zoom. You can adjust zoom-in times and view the desired area.
	Click it to enter PTZ control mode.

- In the live view interface, there are icons at the upper-right corner of the screen for each camera, showing the camera recording and alarm status.

Table 2-2 Live View Icon Description


Icons	Description
	Alarming (normal event and smart event)
	Recording.

2.2 PTZ Control

2.2.1 Configure PTZ Parameter

Purpose

Follow the procedure to set the parameters for PTZ. You should configure the PTZ parameters before controlling the PTZ camera.

Step 1 Preview a camera in live view and click  on shortcut menu.

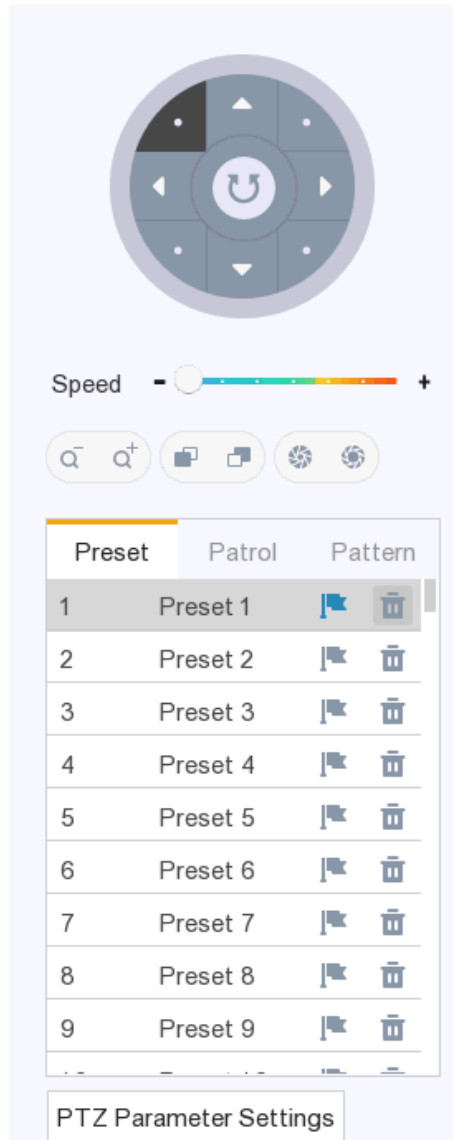


Figure 2-2 PTZ Settings

Step 2 Click **PTZ Parameter Settings**.

PTZ Parameter Settings

Baud Rate

9600

Data Bit

8

Stop Bit

1

Parity

None

Flow Ctrl

None

PTZ Protocol

Address

0

Address range: 0-255

OK

Cancel

Figure 2-3 PTZ Parameter

Step 3 Select the parameters of the PTZ camera from the drop-down list.

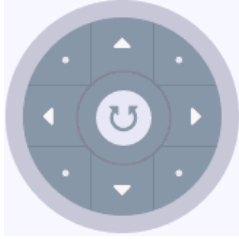


NOTE



- All the parameters should be exactly the same as the PTZ camera parameters.
- For the Coaxitron camera/dome connected, you can select the PTZ protocol to UTC (Coaxitron). Make sure the protocol selected is supported by the connected camera/dome.
- The AHD and HDCVI cameras support coaxitron control.
- When the Coaxitron protocol is selected, all the other parameters like the baud rate, data bit, stop bit, parity and flow control are not configurable.

Step 4 Click **OK**.

2.2.2 PTZ Control Panel Introduction

Table 2-3 Description of the PTZ panel icons

Icon	Description
	Direction buttons and the auto-cycle button
	The speed of the PTZ movement
	Zoom-/+

	Focus-/+
	Iris-/+

2.2.3 Customize Preset

Purpose

Follow the steps to set the preset location which you want the PTZ camera to point to when an event takes place.

Step 1 Preview a camera in live view and click  on shortcut menu.

Step 2 Select a desired preset in preset list.

Step 3 Use the directional button to wheel the camera to the location where you want to set preset; and the zoom and focus operations can be recorded in the preset as well.

Step 4 Click .

What to do next:

Double click a preset in preset list to call it.

2.2.4 Customize Patrol

Purpose

Patrols can be set to move the PTZ to different key points and have it stay there for a set duration before moving on to the next key point. The key points are corresponding to the presets. The presets can be set following the steps above in *Customizing Presets*.

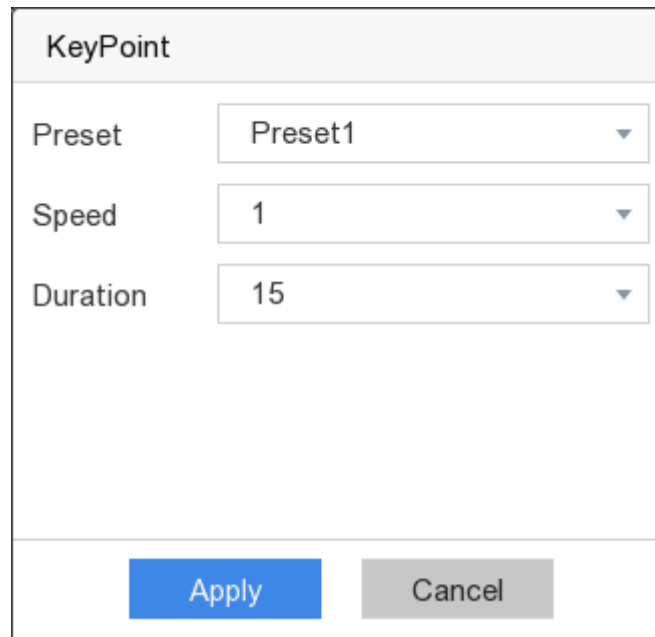
Step 1 Preview a camera in live view and click  on shortcut menu.

Step 2 Click **Patrol**.

Step 3 Select a desired patrol and click **Set**.

Step 4 Click .

Step 5 Configure key point parameters, such as the key point No., duration of staying for one key point and speed of patrol. The key point is corresponding to the preset. The **Preset** number determines the order at which the PTZ will follow while cycling through the patrol. The **Duration** refers to the time span to stay at the corresponding key point. The **Speed** defines the speed at which the PTZ will move from one key point to the next.



The image shows a dialog box titled "KeyPoint". It contains three settings, each with a label on the left and a dropdown menu on the right: "Preset" with "Preset1" selected, "Speed" with "1" selected, and "Duration" with "15" selected. At the bottom of the dialog, there are two buttons: a blue "Apply" button and a grey "Cancel" button.

Figure 2-4 Patrol Settings

Step 6 Click **Apply**.

What to do next:

Select a patrol and click **Call** to call it. Calling a patrol makes the PTZ to move according the predefined patrol path.




The image shows a small dialog box. At the top is a dropdown menu with "Patrol1" selected. Below the dropdown are two buttons: "Set" and "Call".

Figure 2-5 Call Preset

2.2.5 Customize Pattern

Purpose

Patterns can be set by recording the movement of the PTZ. You can call the pattern to make the PTZ movement according to the predefined path.

Step 1 Preview a camera in live view and click  on shortcut menu.

Step 2 Click **Pattern**.

Step 3 Choose a pattern.

Step 4 Click **Record** and click directional buttons to move the PTZ camera.

Step 5 Click **Stop Recording** to finish it. The movement of the PTZ is recorded as the pattern.

What to do next:

Select a pattern and click **Call** to call it. Calling a patrol to move the PTZ camera according to the predefined patterns.

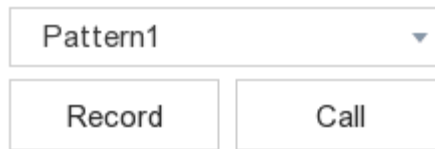


Figure 2-6 Call Pattern

Chapter 3 Playback

3.1 GUI Introduction

Go to **Playback**.

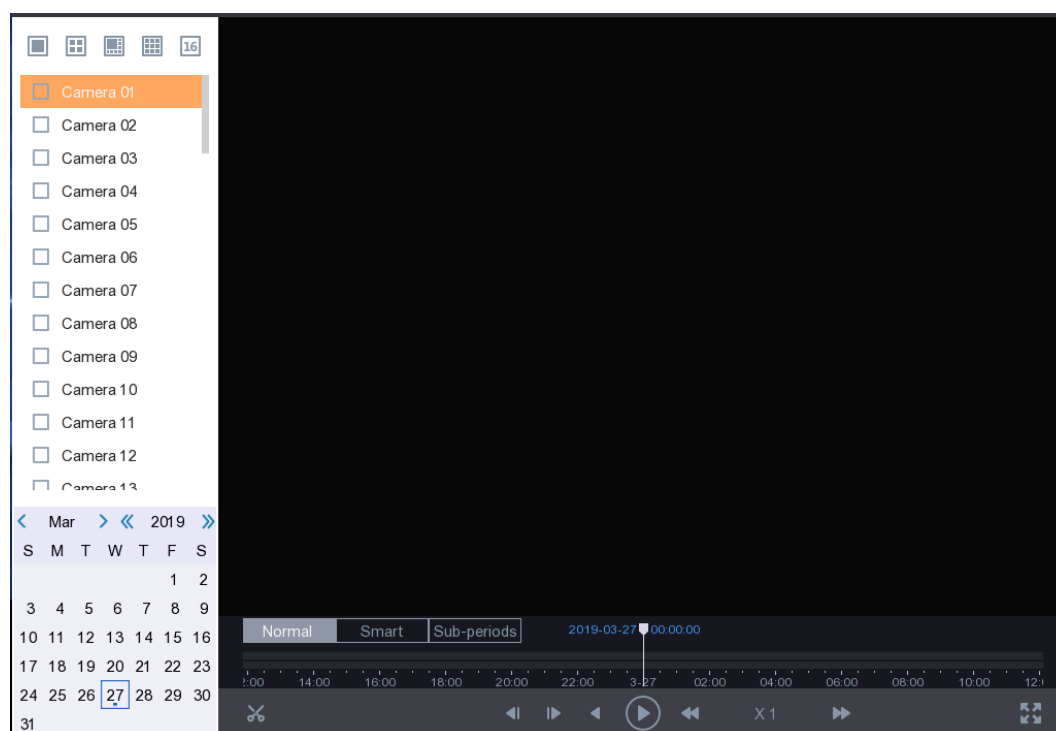













Figure 3-1 Playback

Table 3-1 Playback Interface Description

Button	Operation	Button	Operation
	Switch playback stream		Clip video
	30s reverse		30s forward
	Reverse playback		Start playback
	Speed down		Speed up
	Speed		Full screen
	Window division		

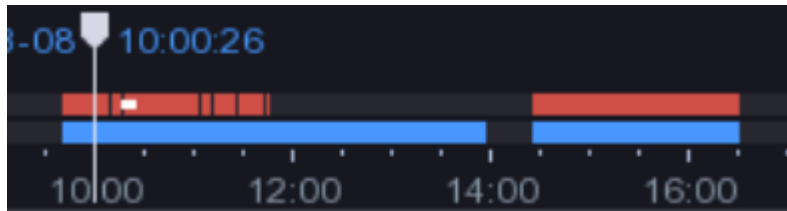


Figure 3-2 Timeline

- Position the cursor on the timeline, drag the timeline to position to a certain time.
- Period marked with blue bar contains video. Red bar indicates the video in the period is event video.
- Scroll up/down to zoom out/in timeline.

3.2 Normal Playback

Purpose

Play back normal videos.

Step 1 Go to **Playback**.

Step 2 Check a camera in the camera list.

Step 3 Double click to select a date on the calendar to start playback.

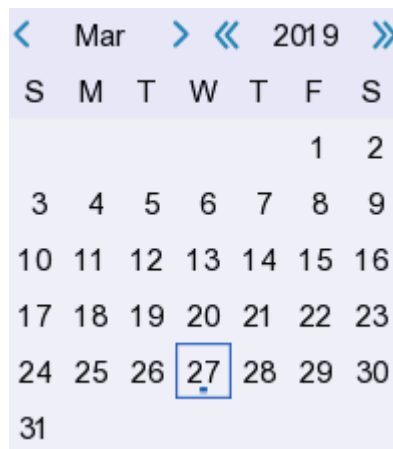


Figure 3-3 Calendar

NOTE





Calendar helps you figure out whether there are videos in the date. The blue triangle in the date indicates video is available. For example, **22** means video is available. **22** means no video.

Step 4 Optionally, position the cursor on playback window to show control bar.



Figure 3-4 Control Bar

Table 3-2 Button Description

Button	Detection	Button	Detection
	Add tag		Zoom in/out playback image
	Turn on/off audio		Lock/unlock video

3.3 Smart Playback

Purpose

The smart playback function provides an easy way to get through the less effective information. When you select the smart playback mode, the system will analyze the video containing the motion detection, line crossing detection, or intrusion detection information.

Before you start

Configure motion detection, line crossing detection, and intrusion detection rules and detection areas. For detailed steps, refer to 5.3.4 *Smart Event*.

Step 1 Go to **Playback**.

Step 2 Click **Smart**.

Step 3 Double-click to select a camera.












Figure 3-5 Smart Playback Interface

Step 4 Position the cursor on playback window to show control bar.



Figure 3-6 Control Bar

Table 3-3 Button Description


Button	Detection	Button	Detection
	Add tag		Zoom in/out playback image
	Turn on/off audio		Lock/unlock video
	Configure detection area		Draw detection area for motion detection
	Draw detection area for intrusion detection		Draw detection line for line crossing detection
	Clear detection area		

Step 5 Set  to set detection areas for smart event.


- Line Crossing Detection

Select  and draw the detection line.

- Intrusion Detection

Click  and specify 4 points to set a quadrilateral region for intrusion detection. Only one region can be set.

- Motion Detection

Click  and drag to set the detection area manually.

Step 6 Click  to configure the play strategy.

- **Do not Play Normal Videos:** If it is enabled, videos without smart information will not be played.
- **Normal Video:** Set normal video playback speed. The option is only valid when **Do not Play Normal Videos** is enabled.
- **Play Speed of Smart/Custom Video:** Set playback speed of videos with smart information. The option is only valid when **Do not Play Normal Videos** is enabled.

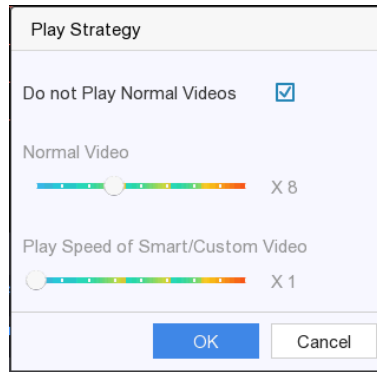



Figure 3-7 Play Strategy

Step 7 Click  to search and play the matched videos.

3.4 Sub-Periods Playback

Purpose

The videos can be played in multiple sub-periods simultaneously.

Step 1 Go to **Playback**.

Step 2 Click **Sub-periods**.

Step 3 Select a camera.

Step 4 Set **Start Time** and **End Time**.

Step 5 Select window division mode as **4-Period**, **9-Period**, or **16-Period**. Videos will be divided into 4/6/9 equal segments.

Step 6 Click .

Result: Videos will be divided into 4/6/9 equal segments in 4/6/9 screens and played simultaneously. E.g., if the time period is 00:00:00 to 4:00:00 and the window division mode is 4-Period, then the four screens will play videos simultaneously and the first screen plays video ranges from 00:00:00 to 01:00:00, the second screen plays 01:00:01 to 02:00:00, the third screen plays 02:00:01 to 03:00:00, and the fourth screen plays 03:00:01 to 04:00:00

3.5 Back up Clip

Purpose

You can clip videos during playback. Video clips can be exported to the backup device (USB flash drive).


Before you start

Connect a backup device to your video recorder.

Step 1 Start playback. For detailed steps, refer to *3.2 Normal Playback*.

Step 2 Click .

Step 3 Clip the videos. Choose from:

- Click , set **Start Time** and **End time**, click **OK**.
- Drag the clip start time and end time sliders in playback time bar.

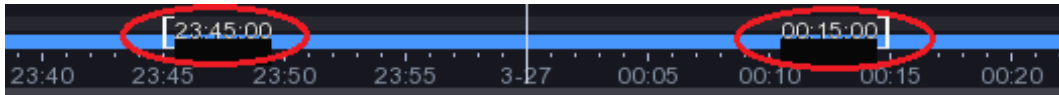


Figure 3-8 Start Time/End Time Slider

Step 4 Click .

Step 5 Click **Export** to export the clip to backup device.

Chapter 4 File Search



4.1 Search File

Step 1 Go to **Search**.

Step 2 Set search conditions.

Step 3 Click **Search**.

Related Operations:

- Click  to play the video.
- Click  to lock the file. Locked file will not be overwritten.
- Select desired files and click **Export** to export the files to the backup device.

4.2 Quick Backup

Before you start

Connect a backup device to your video recorder.

Step 1 Go to **Search**.

Step 2 Set search conditions.

Step 3 Click **Quick Export**.

Step 4 Select backup device and path.

Step 5 Click **OK** to start exporting.

Chapter 5 Configuration (Easy Mode)

Purpose

Easy mode contains basic configurations. Go to **Configuration** and click **Easy Mode**.

5.1 System Configuration

5.1.1 General

Purpose

You can configure the output resolution, system time, mouse pointer speed, etc.

Step 1 Go to **Configuration > System > General**.


System Date	02-09-2019
System Time	19:35:38 
Resolution	1024*768/60HZ ▼
Enable Wizard	<input type="checkbox"/>
Enable Password	<input checked="" type="checkbox"/>
Enable NTP	<input checked="" type="checkbox"/>
Interval (min)	60
NTP Server	time.windows.com
NTP Port	123

Figure 5-1 General Settings

Step 2 Configure the parameters as your desire.

- **Enable Wizard:** The wizard pops up after the device starts up.
- **Enable Password:** You need to enter password for authentication if the device automatically logged out.

- **Enable NTP:** Network time protocol (NTP) is a networking protocol for time synchronization. The device can connect to NTP (network time protocol) server to sync time.
- **Interval (min):** Time interval between two time synchronization with NTP server.
- **NTP Server:** IP address of the NTP server.
- **NTP Port:** Port of the NTP server.

Step 2 Click **Apply**.

5.1.2 User

Add User

Purpose

There is a default account: Administrator. The Administrator user name is **admin**. The Administrator has the permission to add, delete, and edit user. Guest user only has live view, playback, and log search permission.

Step 1 Go to **Configuration > User**.

Step 2 Click **Add**.

Add User

User Name: test

Password: *****

Note: Valid password range [8-16]. You can use a combination of numbers, lowercase, uppercase and special character for your password with at least two kinds of them contained.

Strong

Confirm: *****

User Level: Guest

Normal user only has live view, playback, and log search permission.

OK Cancel

Figure 5-2 Add User

Step 3 Enter user name.

Step 4 Enter the same password in **Password** and **Confirm**.



WARNING

STRONG PASSWORD RECOMMENDED-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.

Step 5 Click **OK**.

Related Operations:

- Click  to edit user.

Set Password Resetting Email

Purpose

When you forgot your login pattern and password, the device will send an email contains verification code to your email for password resetting.

Step 1 Go to **Configuration > User**.

Step 2 Click **Password Resetting Email**.

Step 3 Enter admin password for authorization.

Step 4 Enter an email and save.

Reset Password

Step 1 If you forgot your login pattern and password, click **Forgot Password**.

Step 2 Scan the QR code to read Privacy Policy and click **Next**.

Step 3 Follow the wizard to reset password.

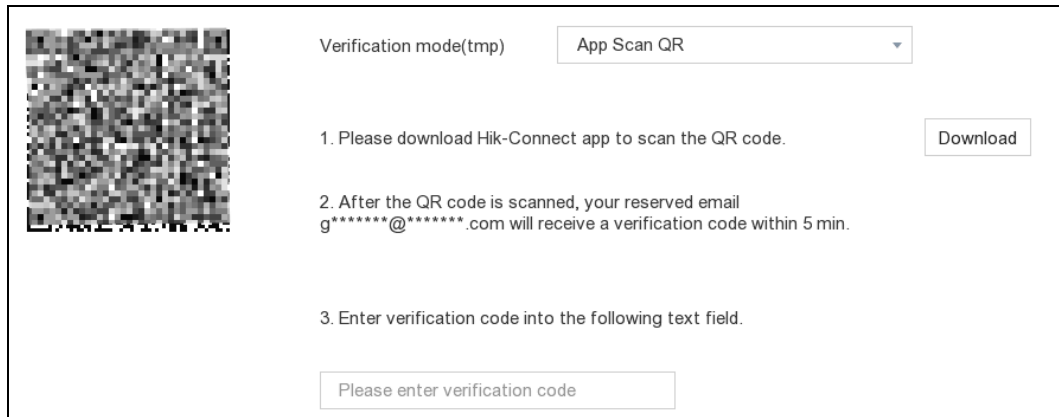


Figure 5-3 Reset Password


5.1.3 Exception

Purpose

You can receive exception events hint in alarm center and select trigger alarm outputs and linkage actions.

Step 1 Go to **Configuration > System > Exception**.

Step 2 (Optional) Configure event hint. When the set events occur, you will receive hints in alarm center.

- 1) Check **Event Hint**.
- 2) Click  in the upper-right corner of local menu to enter alarm center.
- 3) Select events to hint.

Step 3 Select **Exception Type** to set its linkage actions.

Event Hint	<input type="checkbox"/>
Exception Type	HDD Full
<input type="checkbox"/> Normal Linkage	<input type="checkbox"/> Trigger Alarm Output
<input type="checkbox"/> Audible Warning	<input type="checkbox"/> 10.96.15.1 45:8000->1
<input type="checkbox"/> Notify Surveillance Center	<input type="checkbox"/> 10.96.15.1 45:8000->2
<input type="checkbox"/> Send Email	

Figure 5-4 Exceptions

Step 4 Set **Normal Linkage** and **Trigger Alarm Output** as your desire.

Step 5 Click **Apply**.

5.2 Network Configuration

5.2.1 General

Purpose

Network settings must be properly configured before you operate the video recorder over network.

Step 1 Go to **Configuration > Network > General**.

DHCP	<input checked="" type="checkbox"/>
IPv4 Address	10.6.11 4.17
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	10.6.11 4.254
Obtain DNS Automatically	<input checked="" type="checkbox"/>
Preferred DNS Server	10.1.7.97
Alternate DNS Server	10.1.7.98

Figure 5-5 Network

Step 2 Configure network parameters.

- **DHCP:** If the DHCP server is available, you can check **Enable DHCP** to automatically obtain an IP address and other network settings from that server.
- **Obtain DNS Automatically:** If **DHCP** is checked. You can check **Obtain DNS Automatically** to automatically obtain **Preferred DNS Server** and **Alternate DNS Server**.

Step 2 Click **Apply**.

5.2.2 Guarding Vision

Purpose

Guarding Vision provides the mobile phone application and the service platform webpage (www.guardingvision.com) to access and manage your video recorder. It enables you to get a convenient remote access to the surveillance system.

Step 1 Go to **Menu > Configuration > Network > Guarding Vision**.

Step 2 Check **Enable** to activate the function and accept service terms. The service terms will pop up.

- 1) Scan the QR code to read the service terms and privacy statement.
- 2) Check **I have read and agree to Service Terms and Privacy Statement** if you agree the service terms and privacy statement.
- 3) Click **OK**.

Step 3 (Optional) Check **Stream Encryption** and enter **Verification Code**. Then you need to enter verification code in remote access and live view.

Step 4 (Optional) Check **Custom** to manually enter the server address.

Step 5 Enter a code in **Verification Code**. You can click **Refresh** to randomly generate a verification code.

Step 6 Click **Apply**.

Step 7 After configuration, you can access your video recorder via Guarding Vision.

- 1) Scan the first QR code to download the Guarding Vision app.
- 2) Open Guarding Vision and scan the second QR code to add your video recorder. Refer to *Guarding Vision Mobile Client User Manual* for details of adding the video recorder to Guarding Vision and more operation instructions.

5.2.3 Email

Purpose

Set an email account to receive event notification.

Before you start

- Ensure your video recorder is in a local area network with an SMTP mail server.
- Configure your network parameters. Refer to 5.2.1 *General* for details.

Step 1 Go to **Configuration > Network > Email**.

Server Authentication	<input type="checkbox"/>
User Name	<input type="text"/>
Password	<input type="password"/>
SMTP Server	<input type="text" value="mail.domainname.com"/>
SMTP Port	<input type="text" value="25"/>
SSL/TLS	<input type="checkbox"/>
Attached Picture	<input type="checkbox"/>
Sender	<input type="text" value="user 1"/>
Sender's Address	<input type="text" value="user1@hotmail.com"/>
Select Receivers	<input type="text" value="Receiver 1"/>
Receiver	<input type="text" value="user 2"/>
Receiver's Address	<input type="text" value="user2@hotmail.com"/>

Figure 5-6 Email

Step 2 Configure the following email settings:

- **Server Authentication:** (Optional), check it to enable the server authentication feature.
- **User Name:** The user account of sender's email for SMTP server authentication.
- **Password:** The password of sender's email for SMTP server authentication.
- **SSL/TLS:** (Optional), check it to enable SSL/TLS if it required by the SMTP server.
- **Sender:** The sender's name.
- **Sender's Address:** The sender's email address.
- **Select Receivers:** Select a receiver. Up to 3 receivers can be configured.
- **Receiver:** The receiver's name.
- **Receiver's Address:** The receiver's email address.



NOTE

- For network cameras, the event images are directly sent as the email attachment. One network camera only sends one picture.
- For analog cameras, 3 attached pictures will be sent for one analog camera when an event occurs

Step 3 Click **Apply**.

5.3 Camera Management

5.3.1 Analog Camera

Purpose

You should configure the analog and IP signal input types.

Step 1 Go to **Configuration > Camera > Analog**.

Step 2 Select signal input type as **HD/CVBS** or **IP**.

- **HD/CVBS**: Four types of analog signal inputs including Turbo HD, AHD, HDCVI, and CVBS can be connected randomly for the channel.
- **IP**: Network camera can be connected for the channel.

No.	<input type="radio"/> HD/CVBS	<input type="radio"/> IP
A1	<input checked="" type="radio"/>	<input type="radio"/>
A2	<input checked="" type="radio"/>	<input type="radio"/>
A3	<input checked="" type="radio"/>	<input type="radio"/>
A4	<input checked="" type="radio"/>	<input type="radio"/>
A5	<input checked="" type="radio"/>	<input type="radio"/>
A6	<input checked="" type="radio"/>	<input type="radio"/>
A7	<input checked="" type="radio"/>	<input type="radio"/>
A8	<input checked="" type="radio"/>	<input type="radio"/>
A9	<input checked="" type="radio"/>	<input type="radio"/>
Max. IP Camera Number 2		

Figure 5-7 Signal Input Type

Step 3 Click **Apply**. You can view the maximum network camera accessible number in **Max. IP Camera Number**.

5.3.2 Network Camera

Activate Network Camera

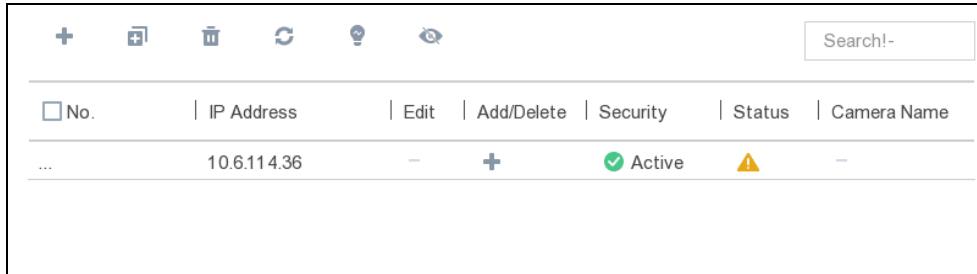
Purpose

Only activated network cameras can be added.

Before you start

Ensure your network camera should be in the same network segment with your video recorder.

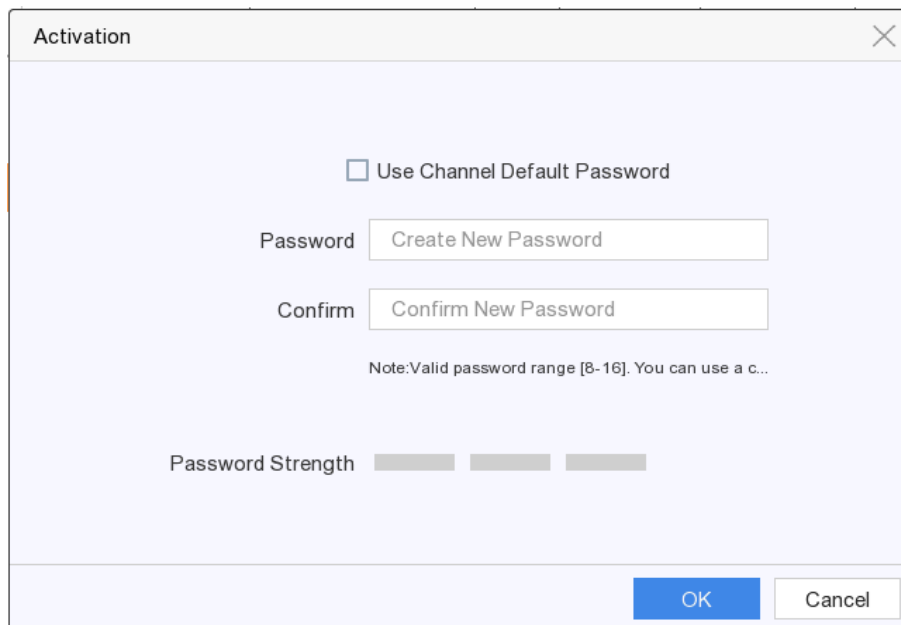
Step 1 Go to **Configuration > Camera > IP Camera**. The **Security** column shows whether the network camera is activated.



No.	IP Address	Edit	Add/Delete	Security	Status	Camera Name
...	10.6.114.36	-	+	✓ Active	⚠	-

Figure 5-8 Network Camera List

Step 2 Click **Inactive** of the desired camera.



Activation

☐ Use Channel Default Password

Password

Confirm

Note: Valid password range [8-16]. You can use a c...

Password Strength

OK Cancel

Figure 5-9 Activation

Step 3 Choose one of the following methods to set camera password.

- Use video recorder password: Check **Use Channel Default Password** to activate the camera using the set channel default password.
- Customize password: Enter the same password in **Password** and **Confirm**.



WARNING

STRONG PASSWORD RECOMMENDED-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.

Step 4 Click **OK**.

Add Automatically Searched Online Network Camera

Purpose

Add the network cameras with the same password of your video recorder to your video recorder.

Before you start

- Ensure your network camera should be in the same network segment with your video recorder.
- Ensure the network connection is valid and correct. For detailed steps of configuring network, refer to 5.2.1 *General*.
- Activate the network camera to add and ensure its password is the same with the one of your video recorder. For detailed steps, refer to *Activate Network Camera*.

Step 1 Go to **Configuration > Camera > IP Camera**. The online cameras of the same network segment with your video recorder will be displayed in the camera list.

<div> + 📷 🗑️ ↻ 💡 👁️ </div> <div>Search!-</div>						
<input type="checkbox"/> No.	IP Address	Edit	Add/Delete	Security	Status	Camera Name
...	10.6.114.36	-	+	🟢	Active	⚠️

Figure 5-10 IP Camera Management Interface

Step 2 Select a network camera and click + to add the camera.

Add Network Camera Manually

Purpose

Add the network cameras to your video recorder.

Before you start

- Ensure your network camera should be in the same network segment with your video recorder.
- Ensure the network connection is valid and correct. For detailed steps of configuring network, refer to *5.2.1 General*.
- Activate the network camera to add. For detailed steps, refer to *Activate Network Camera*.

Step 1 Go to **Configuration > Camera > IP Camera**.

Step 2 Click .

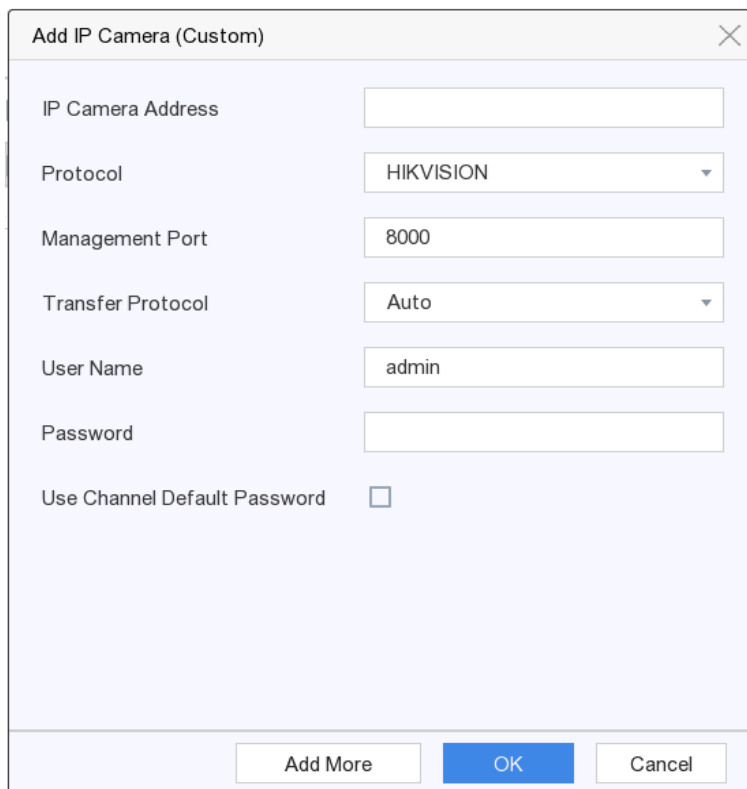


Figure 5-11 Add IP Camera

Step 3 Enter information of the network camera to add.

Use Channel Default Password: If it is checked, the video recorder will add the camera by the set channel default password.

Step 4 Click **Add**.

Edit Connected Network Camera

Purpose

You can edit the IP address, protocol and other parameters of the added network cameras.

Step 1 Click .

Channel Port: If the connected device is an encoding device with multiple channels, you can choose the channel to connect by selecting the channel port No. in the drop-down list.

Step 2 Click **OK**.

5.3.3 OSD Settings

Purpose

Configure the OSD (On-Screen Display) settings for the camera, including date format, camera name, etc.

Step 1 Go to **Configuration > Camera > OSD**.

Step 2 Select **Camera**.

Step 3 Configure parameters as your desire.

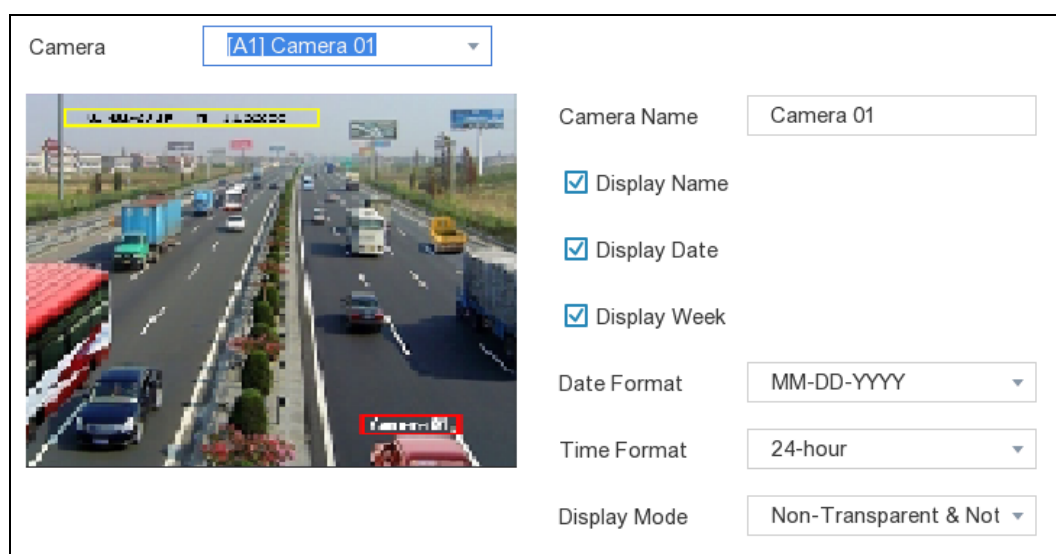


Figure 5-12 OSD

Step 4 Drag the text frames on the preview window to adjust the OSD position.

Step 5 Click **Apply**.

5.3.4 Smart Event

Motion Detection

Motion detection enables the video recorder to detect the moving objects in the monitored area and trigger alarms.

Step 1 Go to **Configuration > Camera > Smart Event > Motion Detection**.

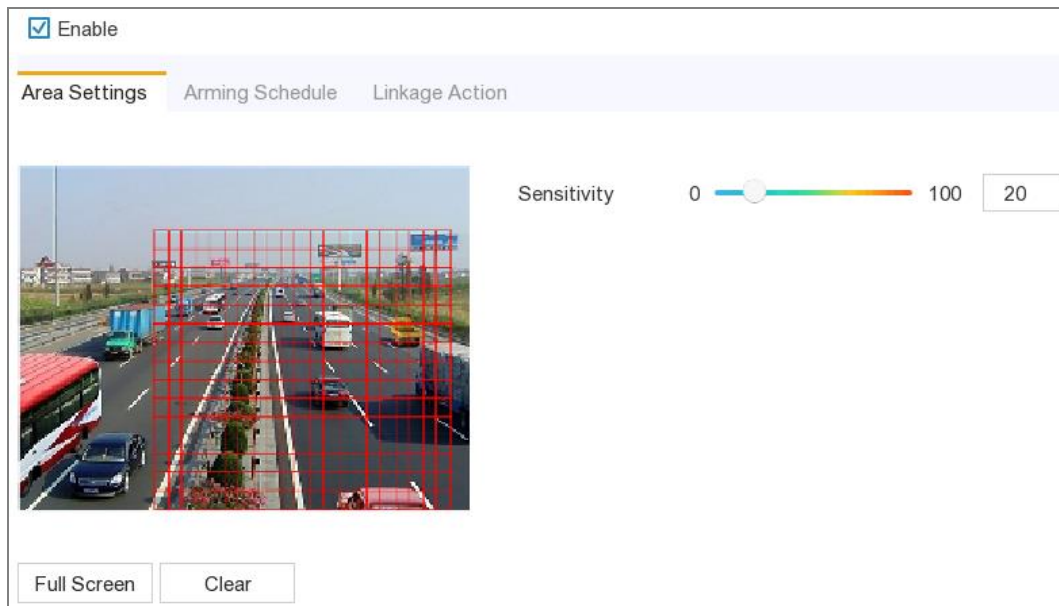


Figure 5-13 Motion Detection

Step 2 Select **Camera** to configure the motion detection.

Step 3 Check **Enable**.

Step 4 Set the motion detection area. Choose from:

- Full screen: Click **Full Screen** to set the motion detection area as full screen.
- Customized area: Drag on the preview window to draw motion detection areas.
- Clear: Click **Clear** to clear the current motion detection areas.

Step 5 Adjust **Sensitivity** as your desire.

Sensitivity: It allows you to calibrate how readily movement triggers the alarm. A higher value results in the more readily to triggers motion detection.

Step 6 Set the arming schedule. Refer to *Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Intrusion Detection

Purpose

Intrusion detection function detects people, vehicles, or objects that enter and loiter in a pre-defined virtual region.

Step 1 Go to **Configuration > Camera > Smart Event > Intrusion**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Intrusion Detection**.

Step 4 Set the detection rules and detection areas.

1) Select **Arming Area**. Up to 4 arming areas are selectable.

1) Set **Sensitivity**.

Sensitivity: The size of the object that can trigger the alarm. The higher the value is, the more easily the detection alarm will be triggered. Its range is [1-100].

2) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertices of the detection region.

Step 5 Set the arming schedule. Refer to *Configure Arming Schedule*.

Step 6 Set the linkage actions. Refer to *Configure Alarm Linkage Action*.

Step 7 Click **Apply**.

Line Crossing Detection

Purpose

Line crossing detection detects people, vehicles, and objects crossing a set virtual line. The detection direction can be set as bidirectional, from left to right or from right to left.

Step 1 Go to **Configuration > Camera > Smart Event > Line Crossing**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Line Crossing Detection**.

Step 4 Set the line crossing detection rules and detection areas.

1) Select **Arming Area**. Up to 4 arming areas are selectable.

2) Select **Direction** as **A<->B**, **A->B**, or **A<-B**.

- **A<->B**: Only the arrow on the B side shows. An object crossing a configured line in both directions can be detected and trigger alarms.

- **A->B**: Only an object crossing the configured line from the A side to the B side can be detected.

- **B->A**: Only an object crossing the configured line from the B side to the A side can be detected.

3) Set **Sensitivity**. The higher the value is, the easier the detection alarm will be triggered.

4) Click **Draw Area** and set two points in the preview window to draw a virtual line.

Step 5 Set the arming schedule. Refer to *Configure Arming Schedule*.

Step 6 Set the linkage actions. Refer to *Configure Alarm Linkage Action*.

Step 7 Click **Apply**.

Configure Arming Schedule

Step 1 Select **Arming Schedule**.

Step 2 Choose one day of a week and set the time segment. Up to eight time periods can be set within each day.



NOTE

Time periods shall not be repeated or overlapped.

Figure 5-14 Set Arming Schedule

Step 3 Click **Apply**.

Configure Alarm Linkage Action

Purpose:

Alarm linkage actions will be activated when an alarm or exception occurs.

Step 1 Click **Linkage Action** tab.

Figure 5-15 Linkage Actions

Step 2 Select the normal linkage actions, trigger alarm output, or trigger recording channel.

Step 3 Click **Apply**.

5.4 Recording Management

5.4.1 Storage Device

Initialize HDD

Purpose

A newly installed hard disk drive (HDD) must be initialized before it can be used to save videos and information.

Before you start

Install at least an HDD to your video recorder. For detailed steps, refer to *Quick Start Guide*.

Step 1 Go to **Configuration > Record > Storage**.

Step 2 Select an HDD.

Step 3 Click **Init**.

Repair Database: Repair an HDD that with error in database. Please operate it with the help of professional technical support.

Add Network Disk

You can add the allocated NAS or IP SAN disk to the video recorder, and use it as a network HDD. Up to 8 network disks can be added.

Step 1 Go to **Configuration > Record > Storage**.

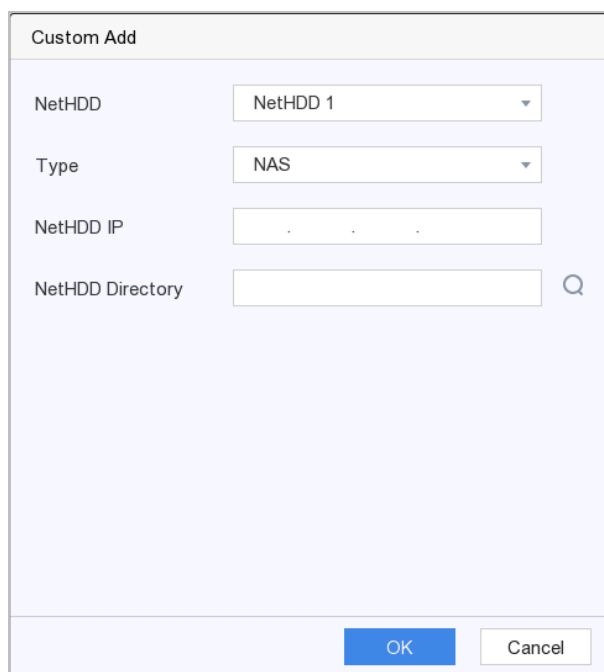
Step 2 Click **Add**.

Step 3 Select **NetHDD**.

Step 4 Set **Type** as **NAS** or **IPSAN**.

Step 5 Enter **NetHDD IP** address.

Step 6 Click **Search** to search the available disks.



Custom Add

NetHDD: NetHDD 1

Type: NAS

NetHDD IP:

NetHDD Directory:

OK Cancel

Figure 5-16 Add NetHDD

Step 7 Select NAS disk from the list, or manually enter the directory in **NetHDD Directory**.

Step 8 Click **OK**.

Result: The added NetHDD will be displayed in the storage device list.

5.4.2 Configure Recording Schedule

Purpose

Video recorder will automatically start/stop recording according to the configured schedule.

Configure Continuous Recording

Step 1 Go to **Configuration > Record > Parameter**.

Step 2 Set the continuous main stream/sub-stream recording parameters for the camera. For detailed steps, refer to *5.4.3 Configure Recording Parameter*.

Step 3 Go to **Configuration > Record > Schedule**.

Step 4 Select recording type as **Continuous**. For detailed steps, refer to *Edit Schedule*.

Configure Event Recording

Purpose

You can configure the recording triggered by the motion detection, line crossing detection, and intrusion detection.

Step 1 Go to **Configuration > Event > Smart Event**.

Step 2 Configure the event detection and select the channels to trigger the recording when an event occurs. For detailed steps, refer to 5.3.4 *Smart Event*.

Step 3 Go to **Configuration > Record > Parameter**.

Step 4 Set the continuous main stream/sub-stream recording parameters for the camera. For detailed steps, refer to 5.4.3 *Configure Recording Parameter*.

Step 5 Go to **Configuration > Record > Schedule**.

Step 6 Select recording type as **Event**. For detailed steps, refer to *Edit Schedule*.

Edit Schedule

Step 1 Go to **Configuration > Record > Schedule**.

Camera No. [A1] Camera 01

Enable ☒

Advanced

Continuous Event None Edit

	0	2	4	6	8	10	12	14	16	18	20	22	24	
Mon	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	1
Tue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	2
Wed	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	3
Thu	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	4
Fri	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	5
Sat	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	6
Sun	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	Blue	7

Figure 5-17 Recording Schedule

- **Continuous:** Continuous recording.
- **Event:** Recording triggered by all event triggered alarm.

Step 2 Select a camera in **Camera No.**

Step 3 Check **Enable**.

Step 4 Configure the recording schedule. Choose from:

- Edit Schedule
- 3) Click **Edit**.
 - 4) Select a day to configure in **Weekday**.
 - 5) To set an all-day recording schedule, check **All Day** and select schedule **Type**.

- 6) To set other schedules, uncheck **All Day** and set **Start/End time** and schedule **Type**.



NOTE

Up to 8 periods can be configured for each day. And the time periods cannot be overlapped with each other.

- 7) Click **OK** to save the settings and go back to upper level menu.

The 'Edit' dialog box is used to configure schedules for a specific weekday. It features a 'Weekday' dropdown menu currently set to 'Mon'. Below this, there is an 'All Day' checkbox which is currently unchecked. To the right of the checkbox is a 'Type' dropdown menu set to 'Continuous'. Below the 'All Day' section, there are eight rows, each representing a time period. Each row contains a 'Start/End Time' input field, a clock icon, and a 'Type' dropdown menu. The time periods are: 00:00-02:00 (Continuous), 02:00-13:00 (Event), 13:00-24:00 (Continuous), 00:00-00:00 (Continuous), 00:00-00:00 (Continuous), 00:00-00:00 (Continuous), 00:00-00:00 (Continuous), and 00:00-00:00 (Continuous). At the bottom of the dialog, there are four buttons: 'Copy', 'Apply', 'OK', and 'Cancel'.

Figure 5-18 Edit Schedule

● Draw Schedule

- 1) Click to select schedule type as **Continuous** or **Event**.

The 'Schedule Type' selection bar contains three options: 'Continuous' with a blue square, 'Event' with a purple square, and 'None' with a white square.

Figure 5-19 Schedule Type

- 2) On the table, drag the mouse on the desired period to draw a colored bar.

Step 5 Click **Apply**.

5.4.3 Configure Recording Parameter

Purpose

Main stream refers to the primary stream that affects data recorded to the hard disk drive and will directly determine your video quality and image size. Comparing with the sub-stream, the main stream provides a higher quality video with higher resolution and frame rate.

Sub-stream is a second codec that runs alongside the mainstream. It allows you to reduce the outgoing internet bandwidth without sacrificing your direct recording quality. Sub-stream is often exclusively used by smartphone applications to view live video. Users with limited internet speeds may benefit most from this setting.

Step 1 Go to **Configuration > Record > Parameter**.

Step 2 Configure recording parameters.

- **Frame Rate:** Frame rate refers to how many frames are captured each second. A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughout.
- **Resolution:** Image resolution is a measure of how much detail a digital image can hold: the greater the resolution, the greater the level of detail. Resolution can be specified as the number of pixel-columns (width) by the number of pixel-rows (height), e.g., 1024×768.
- **Bitrate:** The bit rate (in kbit/s or Mbit/s) is often referred to as speed, but actually defines the number of bits/time unit and not distance/time unit.



NOTE

A higher resolution, frame rate, and bitrate provide you a better video quality, but it also requires more internet bandwidth and uses more storage space on the hard disk drive.

Step 3 Click **Apply**.

Chapter 6 Configuration (Expert Mode)

Go to **Configuration** and click **Expert Mode**.

6.1 System Configuration

6.1.1 General

Purpose

You can configure the output resolution, system time, mouse pointer speed, etc.

Step 1 Go to **Configuration > System > General**.

Language	English	Menu Output Mode	Auto
Time Zone	(GMT+08:00) B€	VGA/HDMI Resolution	1024*768/60HZ
Date Format	DD-MM-YYYY	Mouse Pointer Speed	Slow Fast
System Date	22-03-2019	CVBS Output Brightness	
System Time	11:35:31	Output Standard	PAL
Device Name	Embedded Net	Enable DST	<input type="checkbox"/>
Device No.	255	DST Mode	<input type="radio"/> Auto <input checked="" type="radio"/> Manual
Auto Log out	5 Minutes	Start Time	Apr 1st Sun 2 : 00
Enable Wizard	<input type="checkbox"/>	End Time	Oct last Sun 2 : 00
Enable Password	<input type="checkbox"/>	DST Bias	60 Minutes

Figure 6-1 General Settings

Step 2 Configure the parameters as your desire.

- **Language:** The default language used is **English**.
- **Device Name:** Edit the video recorder name.
- **Device No.:** The number is required in the connection with remote control, network keyboard, etc. Edit the serial number of video recorder. The Device No. can be set in the range of 1~255, and the default No. is 255.
- **Auto Log Out:** Set timeout time for menu inactivity.

- **Enable Wizard:** The wizard pops up after the device starts up.
- **Enable Password:** You need to enter password for authentication if the device automatically logged out.
- **Menu Output Mode:** Choose output to display local menu.
- **VGA/HDMI Resolution:** Select the output resolution, which must be the same with the resolution of the VGA/HDMI display.
- **Output Standard:** Select the CVBS output standard as **PAL** or **NTSC**.
- **Mouse Pointer Speed:** Set the speed of mouse pointer; 4 levels are configurable.

Step 3 Click **Apply**.

6.1.2 Live View

Configure General Parameters

Purpose

You can configure the output interface, mute or turning on the audio, event output interface, etc.

Step 1 Go to **Configuration > System > Live View > General**.


Video Output Interface	VGA/HDMI
Live View Mode	4 * 4
Dwell Time	No Switch
Event Output	VGA/HDMI
Full Screen Monitoring Dwell Time	10s
Enable Audio Output	<input type="checkbox"/>
Volume	1  5

Figure 6-2 Live View-General

Step 2 Configure the Live View parameters.

- **Live View Mode:** Select the live view window division.
- **Dwell Time:** The time to dwell in a camera before switching to next camera when auto-switch in live view is enabled.
- **Event Output:** Select the output to show event video.

- **Full Screen Monitoring Dwell Time:** Set the time to show alarm event image.
- **Enable Audio Output:** Turn on/off audio output for the selected video output.
- **Volume:** Adjust the live view, playback, and two-way audio volume for the selected video output interface.


Step 3 Click **Apply**.

Configure Live View Layout


Step 1 Go to **Configuration > System > Live View > View**.



Step 2 Select **Video Output Interface** to configure.

Step 3 Click to select a window and click a camera No. in the camera list you would like to display.

 means no camera is displayed on the window.

Step 4 Optionally, click  to start live view of all the cameras in order.

Click  to stop live view of all the cameras.

Click  or  to go to the previous or next page.

Step 5 Click **Apply**.

Configure Channel-Zero Encoding

Purpose

Enable the channel-zero encoding when you need to get a remote view of many channels in real time from a web browser or CMS (Client Management System) software, in order to decrease the bandwidth requirement without affecting the image quality.

Step 1 Go to **Configuration > System > Live View > General**.

Step 2 Set **Video Output Interface** as **Channel-Zero**.

Step 3 Go to **Configuration > System > Live View > Channel-Zero**.

Step 4 Check **Enable Channel-Zero Encoding**.

Enable Channel-Zero Encoding	<input checked="" type="checkbox"/>
Frame Rate	12fps
Max. Bitrate Mode	General
Max. Bitrate(Kbps)	1024

Figure 6-3 Channel-Zero

Step 5 Configure **Frame Rate**, **Max. Bitrate Mode**, and **Max. Bitrate**. The higher frame rate and bitrate settings result in higher bandwidth requirement.

Step 6 Click **Apply**.

6.1.3 User

Refer to 5.1.2 *User* for details.

6.2 Network Configuration

6.2.1 TCP/IP

Purpose

TCP/IP must be properly configured before you operate video recorder over network.

Step 1 Go to **Configuration > Network > General > TCP/IP**.

Step 2 Configure network parameters.

- **Working mode:**

- **Multi-address Mode:** The parameters of the two NIC cards can be configured independently. You can select LAN1 or LAN2 in the NIC type field for parameter settings. You can select one NIC card as default route. And then the system is connecting with the extranet and the data will be forwarded through the default route.
- **Net-fault Tolerance Mode:** The two NIC cards use the same IP address, and you can select the Main NIC to LAN1 or LAN2. By this way, in case of one NIC card failure, the video recorder will automatically enable the other standby NIC card so as to ensure the normal running of the whole system.
- **Load Balance Mode:** By using the same IP address and two NIC cards share the load of the total bandwidth, which enables the system to provide two Gigabit network capacity.



NOTE

Working mode is only available for certain models.

- **NIC Type:** Select **NIC Type** as your desire.
- **DHCP:** If the DHCP server is available, you can check **Enable DHCP** to automatically obtain an IP address and other network settings from that server.
- **MTU:** The maximum transmission unit (MTU) is the size of the largest network layer protocol data unit that can be communicated in a single network transaction.
- **Obtain DNS Automatically:** If **DHCP** is checked. You can check **Obtain DNS Automatically** to obtain **Preferred DNS Server** and **Alternate DNS Server**.

Step 3 Click **Apply**.

6.2.2 DDNS

Purpose

Dynamic domain name server (DDNS) maps dynamic user IP addresses to a fixed domain name server.

Before you start

Register DynDNS, PeanutHull and NO-IP services with your ISP.

Step 1 Go to **Configuration > Network > General > DDNS**.

Enable	<input checked="" type="checkbox"/>
DDNS Type	DynDNS ▼
Server Address	<input type="text"/>
Device Domain Name	<input type="text"/>
User Name	<input type="text"/>
Password	<input type="text"/>
Status	DDNS is disabled.

Figure 6-4 DDNS

Step 2 Check **Enable**.

Step 3 Select a DDNS type.

Step 4 Enter parameters including service address, domain name, etc.

Step 5 Click **Apply**. You can view DDNS status in **Status**.

6.2.3 NAT

Purpose

Two ways are provided for port mapping to realize the remote access via the cross-segment network, UPnP™ and manual mapping.


Before you start

Enable the UPnP™ function of your router if UPnP™ is required. When the device network working mode is multi-address, the default device route should be on the same network segment as the LAN IP address of the router.

Step 1 Go to **Configuration > Network > General > NAT**.

Step 2 Check **Enable**.

Step 3 Select **Mapping Type** as **Manual** or **Auto**.

- **Auto:** The port mapping items are read-only, and the external ports are set by the router automatically. You can click Refresh to get the latest status of the port mapping.
- **Manual:** Select an external port type. Click  to edit **External Port**. You can use the default external port No., or change it according to actual requirements. **External Port** indicates the port No. for port mapping in the router.

The value of the RTSP port No. should be 554 or between 1024 and 65535, while the value of the other ports should be between 1 and 65535 and the value must be different from each other. If multiple devices are configured for the UPnP™ settings under the same router, the value of the port No. for each device should be unique.

Step 4 Set the virtual server of your router, including internal source port, external source port, etc. The virtual server parameters shall be corresponding with your device port.

6.2.4 Ports (More Settings)

Purpose

Set different port types to enable relevant functions as your desire.

- **Alarm Host IP/Port:** The device will send the alarm event or exception message to the alarm host when an alarm is triggered. The remote alarm host must have the client management system (CMS) software installed.
Alarm Host IP refers to the IP address of the remote PC on which the CMS software (e.g., iVMS-4200) is installed, and the Alarm Host Port (7200 by default) must be the same as the alarm monitoring port configured in the software.
- **Server Port:** For remote client software access. Ranges from 2000 to 65535. The default value is 8000.
- **HTTP Port:** For remote web browser access. The default value is 80.
- **Multicast IP:** Multicast can be configured to enable live view for cameras that exceed the maximum number allowed through network. A multicast IP address covers Class-D IP ranging from 224.0.0.0 to 239.255.255.255 and it is recommended to use the IP address ranging from 239.252.0.0 to 239.255.255.255.
- **RTSP Port:** RTSP (Real Time Streaming Protocol) is a network control protocol designed for use in entertainment and communications systems to control streaming media servers. The port is 554 by default.
- **Output Bandwidth Limit:** You can check the checkbox to enable output bandwidth limit.
- **Output Bandwidth:** After enable the output bandwidth limit, input the output bandwidth.



NOTE

- The output bandwidth limit is used for the remote live view and playback.
- The default output bandwidth is the maximum limit.

Alarm Host IP	<input type="text"/>
Alarm Host Port	<input type="text" value="0"/>
Server Port	<input type="text" value="8000"/>
HTTP Port	<input type="text" value="80"/>
Multicast IP	<input type="text"/>
RTSP Port	<input type="text" value="554"/>
Output Bandwidth Limit	<input type="checkbox"/>
Output Bandwidth (Mbps)	<input type="text" value="2"/>

Figure 6-5 Ports (More Settings)

6.2.5 Guarding Vision


Go to **Menu > Configuration > Network > Platform Access**. Refer to 5.2.2 *Guarding Vision* for details.

6.2.6 Advanced Settings

Step 1 Go to **Configuration > Network > Advanced Settings**.

Step 2 Configure the parameters as your desire.

- **RTSP**: You can specifically secure the stream data of live view by setting the RTSP authentication.
- **RTSP Authentication Type**: Two authentication types are selectable, if you select **digest**, only the request with digest authentication can access the video stream by the RTSP protocol via the IP address. For security reasons, it is recommended to select **digest** as the authentication type.
- **ISAPI**: ISAPI (Internet Server Application Programming Interface) is an open protocol based on HTTP, which can realize the communication between the system devices (e.g., network camera, NVR, etc.). The video recorder is as a server, the system can find and connect the video recorder.
- **HTTP**: The admin user account can disable the HTTP service from the GUI or the web browser. After the HTTP is disabled, all the related services, including the ISAPI, Onvif and Gennetc, will terminate as well.
- **HTTP Authentication**: If you need to enable the HTTP service, you can set the HTTP authentication to enhance the access security. Two authentication types are selectable, for security reasons, it is recommended to select **digest** as the authentication type.

- **IP Camera Occupation Detection:** The function detects the network camera status. If the network camera has been added by another video recorder, the network camera status will show as  in **Online Device** list.

Step 3 Click **Apply**.

6.3 Camera Management

6.3.1 Analog Camera

Purpose

You should configure the analog and IP signal input types.

Step 1 Go to **Configuration > Camera > Analog**.

Step 2 Select signal input type as **HD/CVBS** or **IP**.

- **HD/CVBS:** Four types of analog signal inputs including Turbo HD, AHD, HDCVI, and CVBS can be connected randomly for the channel.
- **IP:** Network camera can be connected for the channel.

Step 3 Click **Advanced Settings** to set parameters as your desire.

- **Enhanced IPC Mode:** If the option is checked, the maximum number of IP channel will increase. But it will make smart events unavailable in analog camera.
- **Enhanced VCA Mode:** If the option is checked, the maximum number of IP channel that can enable line crossing detection and intrusion detection will increase.
- **4MP Lite Mode:** If the option is checked, image of 4 MP or below resolution can be encoded in full frame rate.
- **1080P Lite Mode:** If the option is checked, signal of 1080p resolution is available for the analog channels.

Step 4 Click **Apply**. You can view the maximum network camera accessible number in **Max. IP Camera Number**.

6.3.2 Network Camera

Activate Network Camera

Purpose

Only activated network cameras can be added.

Before you start

Ensure your network camera should be in the same network segment with your video recorder.

Step 1 Go to **Configuration > Camera > Camera > IP Camera**.

Step 2 Click **Online Device**. The online cameras in the same network segment with your video recorder will be displayed in the camera list. The **Security** column shows whether the network camera is active.

Online Device							
<div> <div>Refresh</div> <div>+ Add</div> <div>💡 Activate</div> </div>							
<input type="checkbox"/>	No.	Status	Security	IP Address	Edit	Protocol	Management ...
<input type="checkbox"/>	1	—	❌ Inactive	192.168.1.64		HIKVISION	8000

Figure 6-6 Online Device

Step 3 Check an inactive network camera and click **Activate**.

Activation

☐ Use Channel Default Password

Password

Create New Password

Confirm

Confirm New Password

Note:Valid password range [8-16]. You can use a c...

Password Strength

OK

Cancel

Figure 6-7 Activation

Step 4 Choose one of the following methods to set camera password.

- Use video recorder password: Check **Use Channel Default Password** to activate the camera using the set channel default password.
- Customize password: Enter the same password in **Password** and **Confirm**.



WARNING

STRONG PASSWORD RECOMMENDED-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.

Step 5 Click **OK**.

Add Automatically Searched Online Network Camera

Purpose

Add the network cameras to your video recorder.

Before you start

- Ensure your network camera should be in the same network segment with your video recorder.
- Ensure the network connection is valid and correct.
- Activate the network camera to add and ensure its password is the same with the one of your video recorder. For detailed steps, refer to *Activate Network Camera*.

Step 1 Go to **Configuration > Camera > Camera > IP Camera**.

Step 2 Click **Online Device**. The online cameras of the same network segment with your video recorder will be displayed in the camera list.

Online Device							
Refresh		+ Add		Activate			
<input type="checkbox"/>	No.	Status	Security	IP Address	Edit	Protocol	Management ...
<input type="checkbox"/>	1	—	✓ Active	10.6.11.4.13		HIKVISION	8000

Figure 6-8 Online Device

Step 3 Select a network camera and click **Add** to add the camera.



NOTE

Make sure the camera to add has already been activated by setting the admin password, and the admin password of the camera is the same with the video recorder.

Add Network Camera Manually

Purpose

Add the network cameras to your video recorder.

Before you start

- Ensure your network camera should be in the same network segment with your video recorder.
- Ensure the network connection is valid and correct.
- Activate the network camera to add. For detailed steps, refer to *Activate Network Camera*.

Step 1 Go to **Configuration > Camera > IP Camera**.

Step 2 Click **+**.

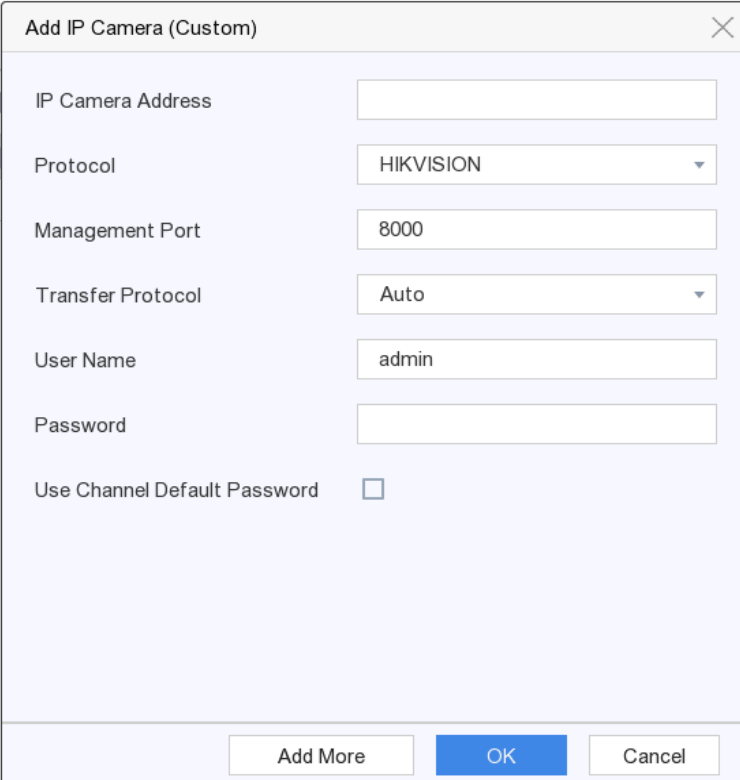


Figure 6-9 Add IP Camera

Step 3 Enter information of the network camera to add.

Use Channel Default Password: If it is checked, the video recorder will add the camera by the set channel default password.


Step 4 Click **Add**.

Edit Connected Network Camera

Purpose

You can edit the IP address, protocol and other parameters of the added network cameras.

Step 1 Go to **Configuration > Camera > IP Camera**.

Step 2 Click  of an added network camera.

Channel Port: If the connected device is an encoding device with multiple channels, you can choose the channel to connect by selecting the channel port No. in the drop-down list.

Step 3 Click **OK**.

Importing/Exporting IP Camera Configuration File

Purpose

The information of added network camera can be generated into an excel file and exported to the local device for backup, including the IP address, manage port, password of admin, etc. And the exported file can be edited on your computer, like adding or deleting the content, and copy the setting to other devices by importing the excel file to it.

Before you start

Connect a backup device like USB flash drive to your video recorder.

Step 1 Go to **Configuration > Camera > IP Camera**.

Step 2 Click .

Step 3 Click **Export** to export configuration files to the connected backup device.

Step 4 To import a configuration file, select the file from the selected backup device and click **Import**. After the importing process is completed, you must reboot the video recorder.

Advanced Settings

Step 1 Go to **Configuration > Camera > IP Camera**.

Step 2 Click .

Step 3 Configure the parameters as your desire.

- **H.265 Auto Switch Configuration:** If you enable the option, video recorder will automatically switch to H.265 stream for the network camera (which supports H.265 video format) for the initial access.
- **Upgrade:** Upgrade the added network cameras.
- **Channel Default Password Management:** Change the default password of activating and adding network camera.

6.3.3 Display Settings

Purpose

Configure the OSD (On-Screen Display), image settings, exposure settings, day/night switch settings, etc.

Step 1 Go to **Configuration > Camera > Display**.

Step 2 Select **Camera**.

Step 3 Configure parameters as your desire.

- **OSD Settings:** Configure the OSD (On-screen Display) settings for the camera, including date/time, camera name, etc.
- **Image Settings:** Customize the image parameters including the brightness, contrast, and saturation for the live view and recording effect.
- **Exposure:** Set the camera exposure time (1/10000 to 1 sec). A larger exposure value results in a brighter image.
- **Day/Night Switch:** The camera can be set to day, night, or auto switch mode according to the surrounding illumination conditions.
- **Backlight:** Set the camera's wide dynamic range (0 to 100). When the surrounding illumination and the object have large differences in brightness, you should set the WDR value.
- **Image Enhancement:** For optimized image contrast enhancement.

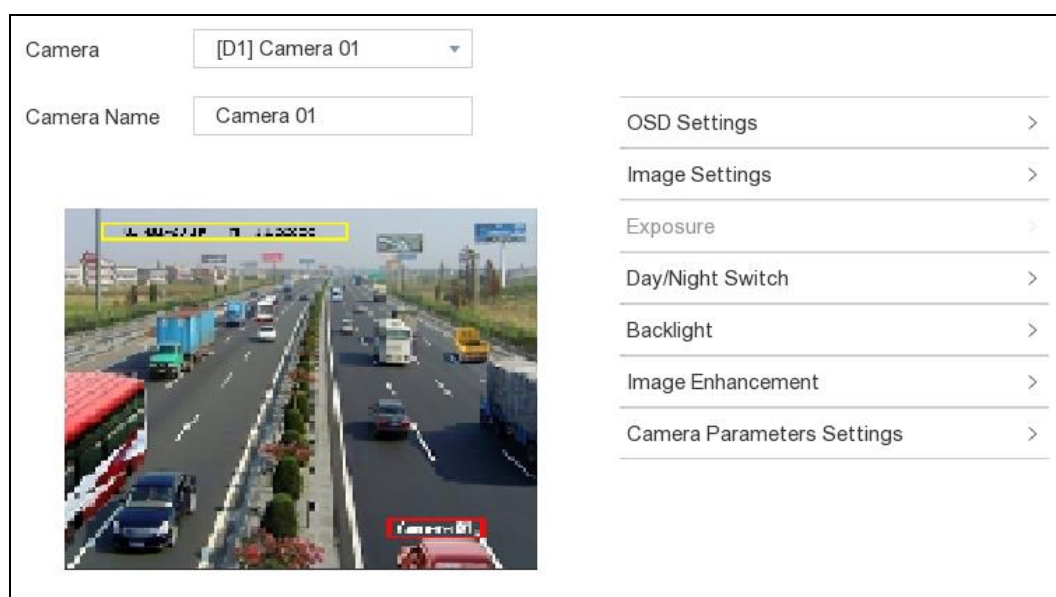


Figure 6-10 OSD

Step 4 Drag the text frames on the preview window to adjust the OSD position.

Step 5 Click **Apply**.

6.3.4 Privacy Mask

Purpose

You are allowed to configure the privacy mask areas that cannot be viewed or recorded.

Step 1 Go to **Configuration > Camera > Privacy Mask**.

Step 2 Select **Camera**.

Step 3 Check **Enable**.



Figure 6-11 Privacy Mask

Step 4 Drag to draw an area on the window. The frames of the areas will be marked with different colors.



NOTE

Up to 4 privacy mask areas can be configured. The size of each area can be adjusted.

Step 5 Click **Apply**.

6.4 Event Configuration

6.4.1 Normal Event

Motion Detection

Purpose

Motion detection enables the video recorder to detect the moving objects in the monitored area and trigger alarms.

Step 1 Go to **Configuration > Event > Normal Event > Motion Detection**.

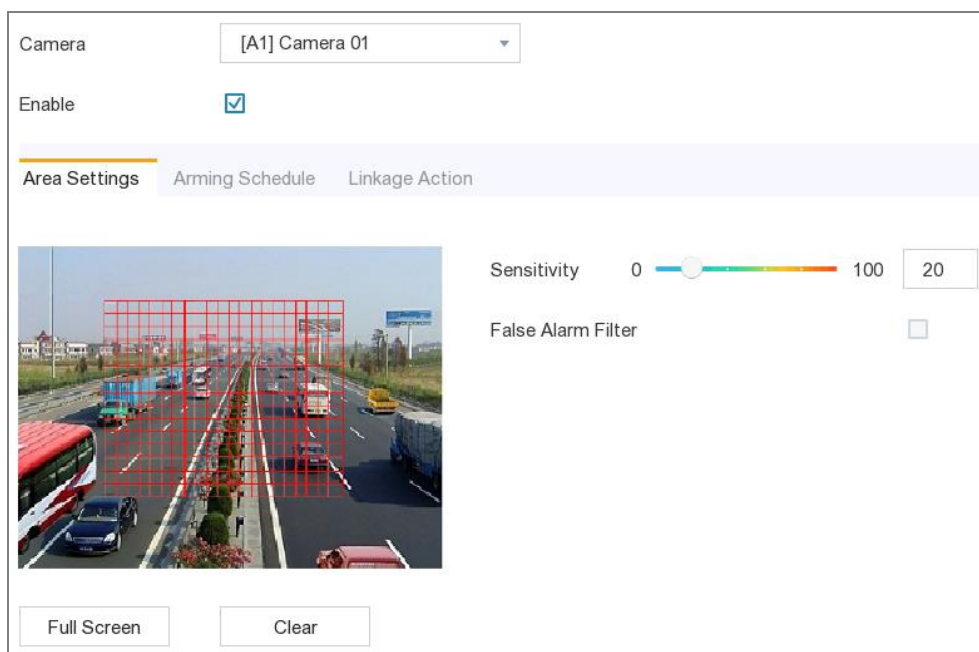


Figure 6-12 Motion Detection

Step 2 Select **Camera** to configure.

Step 3 Check **Enable**.

Step 4 Set the motion detection area. Choose from:

- Full screen: Click **Full Screen** to set the motion detection area as full screen.
- Customized area: Drag on the preview window to draw motion detection areas.
- Clear: Click **Clear** to clear the current motion detection areas.

Step 5 Adjust **Sensitivity** as your desire.

Sensitivity: It allows you to calibrate how readily movement triggers the alarm. A higher value results in the more readily to triggers motion detection.

Step 6 Optionally, check **False Alarm Filter**. Then only when both the motion detection and PIR events are triggered, the motion detection alarm will be triggered.

NOTE

The option is only available for PIR camera.

Step 7 Set the arming schedule. Refer to 6.4.3 *Configure Arming Schedule*.

Step 8 Set the linkage actions. Refer to 6.4.4 *Configure Alarm Linkage Action*.

Step 9 Click **Apply**.

Video Tampering

Purpose

Trigger alarm when the lens is covered and take alarm response actions.

Step 1 Go to **Configuration > Event > Normal Event > Video Tampering Detection**.

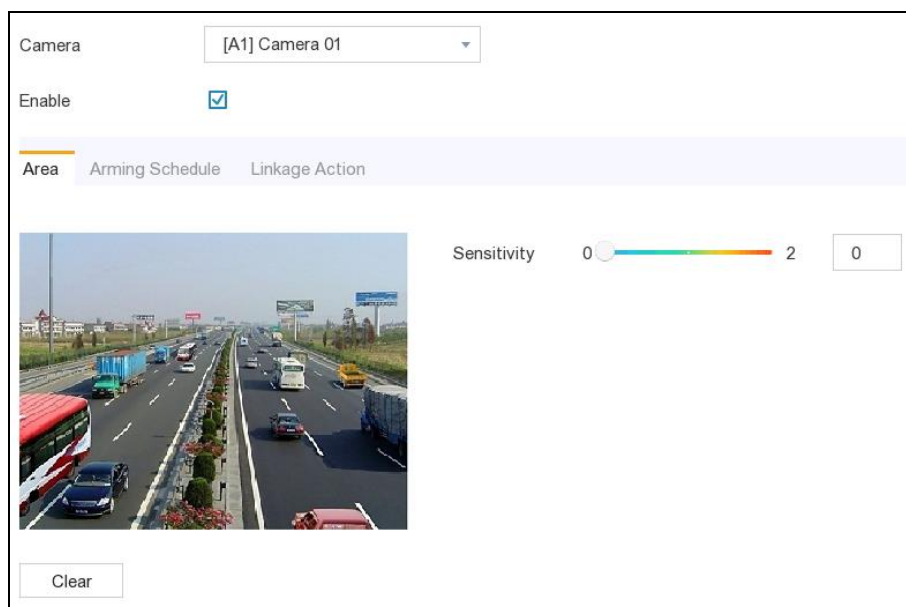


Figure 6-13 Video Tampering

Step 2 Select **Camera**.

Step 3 Check **Enable**.

Step 4 Adjust **Sensitivity** as your desire.

Sensitivity: The higher the value is, the more easily the video tampering can be triggered.

Step 5 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 6 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 7 Click **Apply**.

Video Loss

Purpose

Detect video loss of a camera and take alarm response actions.

Step 1 Go to **Configuration > Event > Normal Event > Video Loss**.

Step 2 Select **Camera**.

Step 3 Check **Enable**.

Step 4 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 5 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 6 Click **Apply**.

Alarm Input

Purpose

Set linkage actions for an external sensor alarm.

Step 1 Go to **Configuration > Event > Normal Event > Alarm Input**.

















Alarm Input No.	Alarm Name	Alarm Type	Enable	Edit
SOFT<-1		—	No	
SOFT<-2		—	No	
SOFT<-3		—	No	
SOFT<-4		—	No	
SOFT<-5		—	No	
SOFT<-6		—	No	
SOFT<-7		—	No	
SOFT<-8		—	No	
SOFT<-9		—	No	
SOFT<-10		—	No	
SOFT<-11		—	No	
SOFT<-12		—	No	
SOFT<-13		—	No	
SOFT<-14		—	No	
SOFT<-15		—	No	

Figure 6-14 Alarm Input

- Soft alarm input: Soft alarm input is triggered by SDK command.
- Local alarm input: Local alarm input is triggered by the external device that connected to the video recorder's terminal block.

Step 2 Click  of a desired alarm input.

Edit

Alarm Input No.

10.96.15.145:8000

Type

N.O

Alarm Name

Settings

☐ Nonuse
☒ Input

Arming Schedule

Linkage Action

☒ Continuous
☐ None

Edit

	0	2	4	6	8	10	12	14	16	18	20	22	24	
Mon														1
Tue														2
Wed														3
Thu														4
Fri														5
Sat														6
Sun														7

Copy to

Apply

Figure 6-15 Edit Alarm Input

Step 3 Customize **Alarm Name**.

Step 4 Select alarm **Type** as **N.O** (normally open) or **N.C** (normally closed).

Step 5 Select **Settings** as **Input** to enable the function.

Step 6 Set the arming schedule. Refer to 6.4.3 *Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to 6.4.4 *Configure Alarm Linkage Action*.


Step 8 Click **Apply**.

Alarm Output

Purpose

Trigger an alarm output when an alarm is triggered.

Step 1 Go to **Configuration > Event > Normal Event > Alarm Output**.

Step 2 Click  of a desired alarm output.

Step 3 Customize **Alarm Name**.

Step 4 Select **Dwell Time**.

Edit

Alarm Output ... 10.96.15.145:8000- Dwell Time 5s

Alarm Name Alarm Status Close

Arming Schedule

☒ Continuous ☐ None Edit

	0	2	4	6	8	10	12	14	16	18	20	22	24	
Mon														1
Tue														2
Wed														3
Thu														4
Fri														5
Sat														6
Sun														7

Copy to Trigger Apply

Figure 6-16 Alarm Output

Step 5 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 6 Click **Apply**.



Exception

Purpose

Exception events can be configured to take the event hint in the live view window and trigger alarm outputs and linkage actions.

Step 1 Go to **Configuration > Event > Normal Event > Exception**.

Step 2 (Optional) Configure event hint. When the set events occur, you will receive hints in alarm center.

- 1) Check **Event Hint**.
- 2) Select events to hint. Choose from:
 - Click  of **Event Hint Configuration** to select events.
 - Click  in the upper-right corner of local menu to enter alarm center to select events.

Step 3 Select **Exception Type** to set its linkage actions.

Event Hint ☒

Event Hint Configuration

Exception Type HDD Full

☐ Normal Linkage

☐ Trigger Alarm Output

☐ Audible Warning

☐ Notify Surveillance Center

☐ Send Email

☐ 10.96.15.145:8000->1

☐ 10.96.15.145:8000->2

Figure 6-17 Exceptions

Step 4 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 5 Click **Apply**.

6.4.2 Smart Event

Face Detection

Purpose

Face detection function detects the face appears in the surveillance scene, and some certain actions can be taken when the alarm is triggered.

Step 1 Go to **Configuration > Event > Smart Event > Face Detection**.

☒ Enable Face Detection

Sensitivity 1 5 3

Arming Schedule Linkage Action

☒ Continuous ☐ None Edit

	0	2	4	6	8	10	12	14	16	18	20	22	24	
Mon														1
Tue														2
Wed														3
Thu														4
Fri														5
Sat														6
Sun														7

Figure 6-18 Face Detection

Step 2 Select **Camera** to configure.

Step 3 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 4 Check **Enable Face Detection**.

Step 5 Adjust **Sensitivity**. **Sensitivity**: Range [1-5]. The higher the value is, the more easily the face can be detected.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Intrusion Detection

Purpose

Intrusion detection function detects people, vehicles, or objects that enter and loiter in a pre-defined virtual region.

Step 1 Go to **Configuration > Event > Smart Event > Intrusion**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Intrusion Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the detection rules and detection areas.

- 1) Select **Virtual Plane**. Up to 4 arming areas are selectable.
- 2) Set **Sensitivity** and **Threshold**.
 - **Threshold**: Range [1s-10s], the threshold for the time of the object loitering in the region. When the duration of the object in the defined detection area is longer than the set time, the alarm will be triggered.
 - **Sensitivity**: The size of the object that can trigger the alarm. The higher the value is, the more easily the detection alarm will be triggered. Its range is [1-100].
- 3) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertices of the detection region.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Line Crossing Detection

Purpose

Line crossing detection detects people, vehicles, and objects crossing a set virtual line. The detection direction can be set as bidirectional, from left to right or from right to left.

Step 1 Go to **Configuration > Event > Smart Event > Line Crossing**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Line Crossing Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the line crossing detection rules and detection areas.

- 1) Select **Arming Area**. Up to 4 arming areas are selectable.
- 2) Select **Direction** as **A<->B**, **A->B**, or **A<-B**.
 - **A<->B**: Only the arrow on the B side shows. An object crossing a configured line in both directions can be detected and trigger alarms.
 - **A->B**: Only an object crossing the configured line from the A side to the B side can be detected.
 - **B->A**: Only an object crossing the configured line from the B side to the A side can be detected.
- 3) Set **Sensitivity**. The higher the value is, the easier the detection alarm will be triggered.
- 4) Click **Draw Area** and set two points in the preview window to draw a virtual line.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Region Entrance Detection

Purpose

Region entrance detection function detects people, vehicle or other objects which enter a pre-defined virtual region from the outside place, and some certain actions can be taken when the alarm is triggered.

Step 1 Go to **Configuration > Event > Smart Event > Region Entrance**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Region Entrance Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the detection rules and detection areas.

- 1) Select **Arming Area**. Up to 4 arming areas are selectable.
- 2) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertexes of the detection region.

- 3) Adjust **Sensitivity**. **Sensitivity**: Range [0-100]. The higher the value is, the more easily the detection alarm can be triggered.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Region Exiting Detection

Purpose

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

Step 1 Go to **Configuration > Event > Smart Event > Region Exiting**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Region Exiting Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the detection rules and detection areas.

- 1) Select **Arming Area**. Up to 4 arming areas are selectable.
- 2) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertexes of the detection region.
- 3) Adjust **Sensitivity**. **Sensitivity**: Range [0-100]. The higher the value is, the more easily the detection alarm can be triggered.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Loitering Detection

Purpose

Loitering detection function detects people, vehicle or other objects which loiter in a pre-defined virtual region for some certain time, and a series of actions can be taken when the alarm is triggered.

Step 1 Go to **Configuration > Event > Smart Event > Loitering**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Loitering Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the detection rules and detection areas.

- 1) Select **Arming Area**. Up to 4 arming areas are selectable.
- 2) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertexes of the detection region.
- 3) Adjust Threshold and Sensitivity.
 - **Sensitivity**: Range [0-100]. The higher the value is, the more easily the detection alarm can be triggered.
 - **Threshold**: Range [1s-10s]. It defines the time of the object loitering in the region. If you set the value as 5, alarm is triggered after the object loitering in the region for 5s; and if you set the value as 0, alarm is triggered immediately after the object entering the region.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

People Gathering Detection

Purpose

People gathering detection alarm is triggered when people gather around in a pre-defined virtual region, and a series of actions can be taken when the alarm is triggered.

Step 1 Go to **Configuration > Event > Smart Event > People Gathering**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable People Gathering Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the detection rules and detection areas.

- 1) Select **Arming Area**. Up to 4 arming areas are selectable.
- 2) Adjust **Percentage**. **Percentage** defines the gathering density of the people in the region. Usually, when the percentage is small, the alarm can be triggered when small number of people gathered in the defined detection region.
- 3) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertices of the detection region.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Fast Moving Detection

Purpose

Fast moving detection alarm is triggered when people, vehicle or other objects move fast in a pre-defined virtual region, and a series of actions can be taken when the alarm is triggered.

Step 1 Go to **Configuration > Event > Smart Event > Fast Moving**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Fast Moving Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the detection rules and detection areas.

- 1) Select **Arming Area**. Up to 4 arming areas are selectable.
- 2) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertexes of the detection region.
- 3) Adjust **Sensitivity**. **Sensitivity** defines the moving speed of the object which can trigger the alarm. The higher the value is, the more easily a moving object can trigger the alarm.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Parking Detection

Purpose

Parking detection function detects illegal parking in places such as highway, one-way street, etc., and a series of actions can be taken when the alarm is triggered.

Step 1 Go to **Configuration > Event > Smart Event > Parking**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Parking Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the detection rules and detection areas.

- 1) Select **Arming Area**. Up to 4 arming areas are selectable.
- 2) Set **Sensitivity** and **Time Threshold**.
 - **Time Threshold** defines the time of the vehicle parking in the region. If you set the value as 10, alarm is triggered after the vehicle stay in the region for 10s.
 - **Sensitivity**: The size of the object that can trigger the alarm. The higher the value is, the more easily the detection alarm will be triggered. Its range is [1-100].
- 3) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertices of the detection region.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Unattended Baggage Detection

Purpose

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

Step 1 Go to **Configuration > Event > Smart Event > Unattended Baggage**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Unattended Baggage Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the detection rules and detection areas.

- 1) Select **Arming Area**. Up to 4 arming areas are selectable.
- 2) Set **Sensitivity** and **Time Threshold**.
 - **Time Threshold** range: [5s-3600s]. It defines 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 stay in the region for 10s.
 - **Sensitivity** defines the similarity degree of the background image. Usually, when the sensitivity is high, a very small object left in the region can trigger the alarm.
- 3) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertices of the detection region.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Object Removal Detection

Purpose

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

Step 1 Go to **Configuration > Event > Smart Event > Unattended Baggage**.

Step 2 Select **Camera** to configure.

Step 3 Check **Enable Object Removal Detection**.

Step 4 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 5 Set the detection rules and detection areas.

- 1) Select **Arming Area**. Up to 4 arming areas are selectable.
- 2) Set **Sensitivity** and **Time Threshold**.
 - **Time Threshold** range: [5s-3600s]. It defines the time of the objects removed from the region. If you set the value as 10, alarm is triggered after the object disappears from the region for 10s.
 - **Sensitivity** defines the similarity degree of the background image. Usually, when the sensitivity is high, a very small object taken from the region can trigger the alarm.
- 3) Click **Draw Area** and draw a quadrilateral in the preview window by specifying four vertices of the detection region.

Step 6 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Audio Exception

Purpose

Audio exception function detects the abnormal sounds in the surveillance scene, such as the sudden increase/decrease of the sound intensity, and some certain actions can be taken when the alarm is triggered.

Step 1 Go to **Configuration > Event > Smart Event > Audio Exception**.

Step 2 Select **Camera** to configure.

Step 3 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 4 Set the audio exception rules.

- 1) Check **Audio Loss Exception** to enable the audio loss detection function.
- 2) Check **Sudden Increase of Sound Intensity Detection** to detect the sound steep rise in the surveillance scene. You can set the detection sensitivity and threshold for sound steep rise.
 - **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 environment sound, the higher the value should be. You can adjust it according to the real environment.
- 3) Check **Sudden Decrease of Sound Intensity Detection** to detect the sound steep drop in the surveillance scene. You can set the detection sensitivity [1-100] for sound steep drop.

Step 5 Set the arming schedule. Refer to *6.4.3 Configure Arming Schedule*.

Step 6 Set the linkage actions. Refer to *6.4.4 Configure Alarm Linkage Action*.

Step 7 Click **Apply**.

Defocus

Purpose

The image blur caused by defocus of the lens can be detected, and some certain actions can be taken when the alarm is triggered.

Step 1 Go to **Configuration > Event > Smart Event > Defocus**.

The screenshot shows the Defocus Detection configuration window. At the top, there is an 'Enable' checkbox and a 'Sensitivity' slider ranging from 1 to 100, currently set at 50. Below this, the 'Arming Schedule' section is active, showing 'Continuous' as the selected option. The 'Linkage Action' section has 'None' selected. A table below shows the arming schedule for each day of the week, with all days (Mon-Sun) having a continuous blue bar indicating they are armed. An 'Edit' button is located to the right of the 'Linkage Action' section.

	0	2	4	6	8	10	12	14	16	18	20	22	24	
Mon	[Armed]													1
Tue	[Armed]													2
Wed	[Armed]													3
Thu	[Armed]													4
Fri	[Armed]													5
Sat	[Armed]													6
Sun	[Armed]													7

Figure 6-19 Defocus Detection

Step 2 Select **Camera** to configure.

Step 3 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 4 Check **Enable**.

Step 5 Adjust **Sensitivity**. **Sensitivity**: Range [1-100]. The higher the value is, the more easily the defocus image can trigger the alarm.

Step 6 Set the arming schedule. Refer to 6.4.3 *Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to 6.4.4 *Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

Sudden Scene Change

Purpose

Scene change function detects the change of surveillance environment affected by the external factors; such as the intentional rotation of the camera and some certain actions can be taken when the alarm is triggered.

Step 1 Go to **Configuration > Event > Smart Event > Audio Exception**.

Step 2 Select **Camera** to configure.

Step 3 Optionally, check **Save VCA Picture** to save the captured pictures of VCA detection.

Step 4 Check **Enable**.

Step 5 Adjust **Sensitivity**. The **Sensitivity** in the Rule Settings ranges from 1 to 100, and the higher the value is, the more easily the change of scene can trigger the alarm.



NOTE

For the analog cameras, the line crossing detection and intrusion detection conflict with sudden scene change detection. When sudden scene change detection is on, neither line crossing detection nor intrusion detection can be enabled.

Step 6 Set the arming schedule. Refer to 6.4.3 *Configure Arming Schedule*.

Step 7 Set the linkage actions. Refer to 6.4.4 *Configure Alarm Linkage Action*.

Step 8 Click **Apply**.

6.4.3 Configure Arming Schedule

Step 1 Select **Arming Schedule** tab.

Step 2 Choose one day of a week and set the time segment. Up to eight time periods can be set within each day.



NOTE

Time periods shall not be repeated or overlapped.

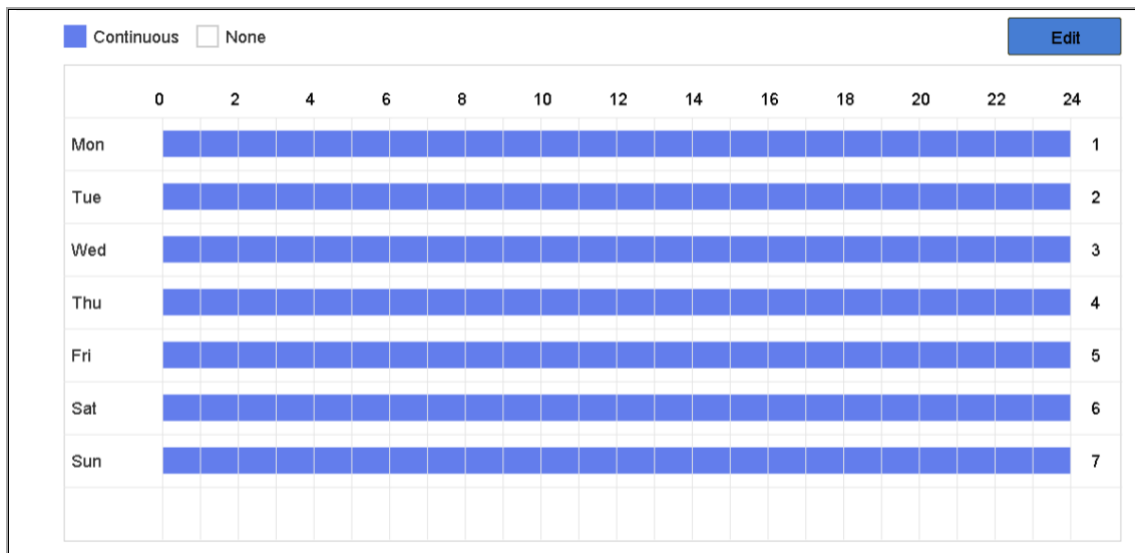


Figure 6-20 Set Arming Schedule

Step 3 Click **Apply**.

6.4.4 Configure Alarm Linkage Action

Purpose:

Alarm linkage actions will be activated when an alarm or exception occurs.

Step 1 Click **Linkage Action**.

<input checked="" type="checkbox"/> Normal Linkage	<input checked="" type="checkbox"/> Trigger Alarm Output	<input type="checkbox"/> Trigger Channel
<input checked="" type="checkbox"/> Full Screen Monitoring	<input checked="" type="checkbox"/> Local->1	<input type="checkbox"/> D1
<input checked="" type="checkbox"/> Audible Warning	<input checked="" type="checkbox"/> Local->2	<input checked="" type="checkbox"/> D2
<input checked="" type="checkbox"/> Notify Surveillance Center	<input checked="" type="checkbox"/> Local->3	
<input checked="" type="checkbox"/> Send Email	<input checked="" type="checkbox"/> Local->4	
	<input checked="" type="checkbox"/> 10.15.2.250:8000->1	

Figure 6-21 Linkage Actions

Step 2 Select the normal linkage actions, trigger alarm output, or trigger recording channel. For details, refer to *Configure Full Screen Monitoring*, *Configure Audio Warning*, *Notify Surveillance Center*, *Configure Email Linkage*, *Trigger Alarm Output*, *Configure PTZ Linkage*.

Step 3 Click **Apply**.

Configure Full Screen Monitoring

Purpose

When an alarm is triggered, the local monitor displays in full screen the video image from the alarming channel configured for full screen monitoring. And when the alarm is triggered simultaneously in several channels, you must configure the auto-switch dwell time.

Step 1 Go to **Configuration > System > Live View > General**.

Step 2 Set the event output and dwell time.

- **Event Output:** Select the output to show event video.
- **Full Screen Monitoring Dwell Time:** Set the time in seconds to show alarm event image. If alarms are triggered simultaneously in several channels, their full-screen images will be switched at an interval of 10 seconds (default dwell time).

Step 3 Go to **Linkage Action** interface of the alarm detection.

Step 4 Select **Full Screen Monitoring** alarm linkage action.

Step 5 Select the channel(s) in **Trigger Channel** settings you want to make full screen monitoring.



NOTE

Auto-switch will terminate once the alarm stops and back to the live view interface.

Configure Audio Warning

Purpose

The audio warning enables the video recorder to trigger an audible *beep* when an alarm is detected.

Step 1 Go to **Configuration > System > Live View > General**.

Step 2 **Enable Audio Output** and set **Volume**.

Step 3 Go to **Linkage Action** interface of the alarm detection.

Step 4 Select **Audio Warning** alarm linkage action.

Notify Surveillance Center

Purpose

The video recorder can send an exception or alarm signal to the remote alarm host when an event occurs. The alarm host refers to the computer installed with client software (e.g., iVMS-4200, iVMS-5200).

Step 1 Log into video recorder in web browser. For detailed steps, refer to *9.2 Login*.

Step 2 Go to **Configuration > Network > Advanced Settings> Other**.

Step 3 Set **Alarm Host IP** and **Alarm Host Port**.

Step 4 In local menu, go to **Linkage Action** interface of the alarm detection.

Step 5 Select **Notify Surveillance Center**.

Configure Email Linkage

Purpose

The video recorder can send an email with alarm information to a user or users when an alarm is detected.

Step 1 Switch to easy mode.

Step 2 Go to **Configuration > System > Network > Email**.

Step 3 Configure the Email settings. For detailed steps, refer to *5.2.3 Email*.

Step 4 Go to **Linkage Action** interface of the alarm detection.

Step 5 Select **Send Email** alarm linkage action.

Trigger Alarm Output

Purpose

The alarm output can be triggered by the normal and smart events.

Step 1 Go to **Linkage Action** interface of the alarm input or event detection.

Step 2 Click **Trigger Alarm Output**.

Step 3 Select the alarm outputs to trigger.

Step 4 Go to **Configuration > System > Event > Normal Event > Alarm Output**.

Step 5 Select an alarm output item from the list. Refer to *Alarm Output* for the alarm output settings.

Configure PTZ Linkage

Purpose

Video recorder can trigger the PTZ actions (e.g., call preset/patrol/pattern) when the alarm event, or VCA detection events occur.



NOTE

Make sure the PTZ or speed dome connected supports PTZ linkage.

Step 1 Go to **Linkage Action** interface of the alarm input or VCA detection.

Step 2 Select **PTZ Linkage**.

Step 3 Select the camera to perform the PTZ actions.

Step 4 Select the preset/patrol/pattern No. to call when the alarm events occur.

Figure 6-22 PTZ Linkage



NOTE

You can set one PTZ type only for the linkage action each time.

6.5 Recording Management

6.5.1 Configure Recording Schedule

Purpose

Video recorder will automatically start/stop recording according to the configured schedule.

Configure Continuous Recording

Step 1 Go to **Configuration > Record > Parameter**.

Step 2 Set the continuous main stream/sub-stream recording parameters for the camera. For detailed steps, refer to *6.5.2 Configure Recording Parameter*.

Step 3 Go to **Configuration > Record > Schedule**.

Step 4 Select recording type as **Continuous**. For detailed steps, refer to *Edit Schedule*.

Configure Event Recording

Purpose

You can configure the recording triggered by the normal event or smart event.

Step 1 Go to **Configuration > Event**.

Step 2 Configure the event detection and select the cameras to trigger the recording when event occurs. For detailed steps, refer to *6.4 Event Configuration*.

Step 3 Go to **Configuration > Record > Parameter**.

Step 4 Set the continuous main stream/sub-stream recording parameters for the camera. For detailed steps, refer to *6.5.2 Configure Recording Parameter*.

Step 5 Go to **Configuration > Record > Schedule**.

Step 6 Select recording type as **Event**. For detailed steps, refer to *Edit Schedule*.

Edit Schedule

Step 1 Go to **Configuration > Record > Schedule**.

Camera No. [A1] Camera 01

Enable ☒

Advanced

Continuous

Event

None

Edit

	0	2	4	6	8	10	12	14	16	18	20	22	24	
Mon														1
Tue														2
Wed														3
Thu														4
Fri														5
Sat														6
Sun														7

Figure 6-23 Recording Schedule

- **Continuous:** Continuous recording.
- **Event:** Recording triggered by all event triggered alarm.

Step 2 Select a camera in **Camera No.**

Step 3 Check **Enable**.

Step 4 Configure the recording schedule. Choose from:

- Edit Schedule
 - 1) Click **Edit**.
 - 2) Select a day to configure in **Weekday**.
 - 3) To set an all-day recording schedule, check **All Day** and select schedule **Type**.
 - 4) To set other schedules, uncheck **All Day** and set **Start/End time** and schedule **Type**.



NOTE

Up to 8 periods can be configured for each day. And the time periods cannot be overlapped with each other.

- 5) Click **OK** to save the settings and go back to upper level menu.

Edit			
Weekday		Mon	
All Day	<input checked="" type="checkbox"/>	Type	Continuous
Start/End Time	00:00-02:00	Type	Continuous
Start/End Time	02:00-13:00	Type	Event
Start/End Time	13:00-24:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
Start/End Time	00:00-00:00	Type	Continuous
<input type="button" value="Copy"/> <input type="button" value="Apply"/> <input type="button" value="OK"/> <input type="button" value="Cancel"/>			

Figure 6-24 Edit Schedule

● Draw Schedule

- 1) Click to select schedule type as **Continuous** or **Event**.

☒ Continuous
 ☒ Event
 ☐ None

Figure 6-25 Schedule Type

- 2) On the table, drag the mouse on the desired period to draw a colored bar.

Step 5 Click **Apply**.

6.5.2 Configure Recording Parameter

Purpose

Main stream refers to the primary stream that affects data recorded to the hard disk drive and will directly determine your video quality and image size. Comparing with the sub-stream, the main stream provides a higher quality video with higher resolution and frame rate.

Sub-stream is a second codec that runs alongside the mainstream. It allows you to reduce the outgoing internet bandwidth without sacrificing your direct recording quality. Sub-stream is often exclusively used by smartphone applications to view live video. Users with limited internet speeds may benefit most from this setting.

Step 1 Go to **Configuration > Record > Parameter** to configure camera main stream and sub-stream parameters.

Step 2 Configure recording parameters.

- **Frame Rate:** Frame rate refers to how many frames are captured each second. A higher frame rate is advantageous when there is movement in the video stream, as it maintains image quality throughout.
- **Resolution:** Image resolution is a measure of how much detail a digital image can hold: the greater the resolution, the greater the level of detail. Resolution can be specified as the number of pixel-columns (width) by the number of pixel-rows (height), e.g., 1024×768.
- **Bitrate:** The bit rate (in kbit/s or Mbit/s) is often referred to as speed, but actually defines the number of bits/time unit and not distance/time unit.
- **Enable H.264+:** The H.264+ mode helps to ensure the high video quality with a lowered bitrate. It can effectively reduce the need of bandwidth and HDD storage space.
- **Audio Source:** The audio input signal source. If you select **Audio Source** as **Camera Audio**, it will transmit audio via coaxial cable, and make the local audio input signal unavailable. Ensure the camera supports to transmit audio via coaxial cable before selecting **Audio Source** as **Camera Audio**.



NOTE

Audio Source is only available for certain models.

Step 3 Click **Apply**.

6.5.3 Storage Device

Initialize HDD

Purpose

A newly installed hard disk drive (HDD) must be initialized before it can be used to save videos and information.

Before you start

Install at least an HDD to your video recorder. For detailed steps, refer to *quick start guide*.

Step 1 Go to **Configuration > Record > Storage**.

Step 2 Select an HDD.

Step 3 Click **Init**.

Add Network Disk

You can add the allocated NAS or IP SAN disk to the video recorder, and use it as a network HDD. Up to 8 network disks can be added.

Step 1 Go to **Configuration > Record > Storage**.

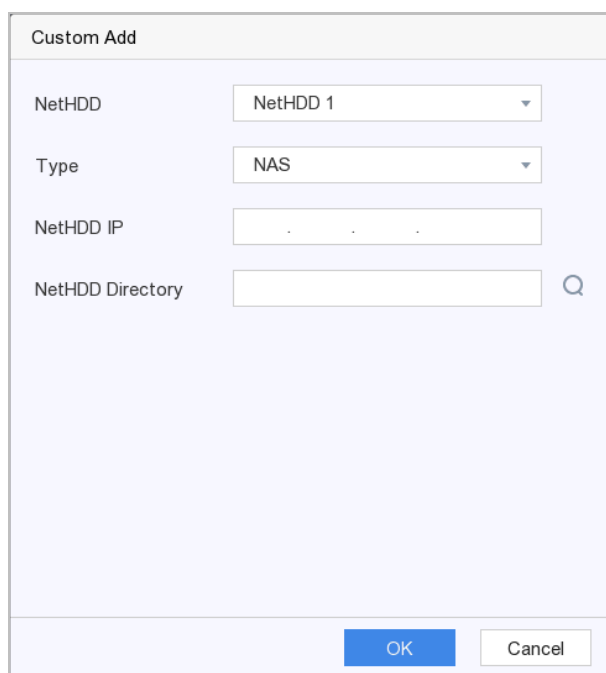
Step 2 Click **Add**.

Step 3 Select **NetHDD**.

Step 4 Set **Type** as **NAS** or **IPSAN**.

Step 5 Enter **NetHDD IP** address.

Step 6 Click **Search** to search the available disks.



Custom Add

NetHDD: NetHDD 1

Type: NAS

NetHDD IP: . . .

NetHDD Directory: [Search Icon]

OK Cancel

Figure 6-26 Add NetHDD

Step 7 Select NAS disk from the list, or manually enter the directory in **NetHDD Directory**.

Step 8 Click **OK**.

Result: The added NetHDD will be displayed in the storage device list.

6.5.4 Configure Storage Mode

Configure HDD Groups

Purpose

Multiple HDDs can be managed in groups. Video from specified channels can be recorded onto a particular HDD group through HDD settings.

Step 1 Go to **Configuration > Record > Storage Mode**.

Step 2 Select **Mode** as **Group**.

Step 3 Select the group No.

Step 4 Check to select IP cameras to record on the HDD group.

Mode ☐ Quota ☒ Group

Record on HDD Group 1

<input checked="" type="checkbox"/> Analog	<input checked="" type="checkbox"/> A1	<input checked="" type="checkbox"/> A2	<input checked="" type="checkbox"/> A3	<input checked="" type="checkbox"/> A4	<input checked="" type="checkbox"/> A5	<input checked="" type="checkbox"/> A6	<input checked="" type="checkbox"/> A7	<input checked="" type="checkbox"/> A8
	<input checked="" type="checkbox"/> A9	<input checked="" type="checkbox"/> A10	<input checked="" type="checkbox"/> A11	<input checked="" type="checkbox"/> A12	<input checked="" type="checkbox"/> A13	<input checked="" type="checkbox"/> A14	<input checked="" type="checkbox"/> A15	<input checked="" type="checkbox"/> A16
	<input checked="" type="checkbox"/> A17	<input checked="" type="checkbox"/> A18	<input checked="" type="checkbox"/> A19	<input checked="" type="checkbox"/> A20	<input checked="" type="checkbox"/> A21	<input checked="" type="checkbox"/> A22	<input checked="" type="checkbox"/> A23	<input checked="" type="checkbox"/> A24
	<input checked="" type="checkbox"/> A25	<input checked="" type="checkbox"/> A26	<input checked="" type="checkbox"/> A27	<input checked="" type="checkbox"/> A28	<input checked="" type="checkbox"/> A29	<input checked="" type="checkbox"/> A30	<input checked="" type="checkbox"/> A31	<input checked="" type="checkbox"/> A32
<input checked="" type="checkbox"/> IP Camera	<input checked="" type="checkbox"/> D1	<input checked="" type="checkbox"/> D2	<input checked="" type="checkbox"/> D3	<input checked="" type="checkbox"/> D4	<input checked="" type="checkbox"/> D5	<input checked="" type="checkbox"/> D6	<input checked="" type="checkbox"/> D7	<input checked="" type="checkbox"/> D8
	<input checked="" type="checkbox"/> D9	<input checked="" type="checkbox"/> D10	<input checked="" type="checkbox"/> D11	<input checked="" type="checkbox"/> D12	<input checked="" type="checkbox"/> D13	<input checked="" type="checkbox"/> D14	<input checked="" type="checkbox"/> D15	<input checked="" type="checkbox"/> D16
	<input checked="" type="checkbox"/> D17	<input checked="" type="checkbox"/> D18	<input checked="" type="checkbox"/> D19	<input checked="" type="checkbox"/> D20	<input checked="" type="checkbox"/> D21	<input checked="" type="checkbox"/> D22	<input checked="" type="checkbox"/> D23	<input checked="" type="checkbox"/> D24
	<input checked="" type="checkbox"/> D25	<input checked="" type="checkbox"/> D26	<input checked="" type="checkbox"/> D27	<input checked="" type="checkbox"/> D28	<input checked="" type="checkbox"/> D29	<input checked="" type="checkbox"/> D30	<input checked="" type="checkbox"/> D31	<input checked="" type="checkbox"/> D32

Figure 6-27 Group

Step 5 Click **Apply**.

Step 6 Reboot the video recorder to activate the new storage mode settings.

Step 7 After reboot, go to **Configuration > Record > Storage**.

Step 8 Click  of desired HDD to set the group.

Step 9 Select **Group** number for the current HDD.

Step 10 Click **OK**.

NOTE

Regroup the cameras for HDD if the HDD group number is changed.

Configure HDD Quota

Purpose

Each camera can be configured with an allocated quota for storing videos.

Step 1 Go to **Configuration > Record > Storage Mode**.

Step 2 Select **Mode** as **Quota**.

Step 3 Select a camera to set quota in **Camera**.

Step 4 Enter the storage capacity in the text fields of **Max. Record Capacity (GB)** and **Max. Picture Capacity (GB)**.

NOTE

When the quota capacity is set to 0, all cameras will use the total capacity of HDD for videos and pictures.

Mode ☒ Quota ☐ Group

Camera [A1] Camera 01

Used Record Capacity 7168.00MB

Used Picture Capacity 0B

HDD Capacity (GB) 931

Max. Record Capacity (GB) 0

Max. Picture Capacity (GB) 0

Free Quota Space 931 GB

Figure 6-28 Quota

Step 5 Click **Apply**.

Step 6 Reboot the video recorder to activate the new settings.

6.5.5 Advanced Settings

Step 1 Go to **Configuration > Record > Advanced Settings**.

Step 2 Configure the parameters as your desire.

- **Overwrite:**
 - Disable: When the HDD is full, video recorder will stop writing.
 - Enable: When hard drive is full, video record will continue to write new files by deleting the oldest files.
- **Enable HDD Sleeping:** HDDs which are free of working for a long time will turn into sleep status.

6.5.6 Cloud Storage

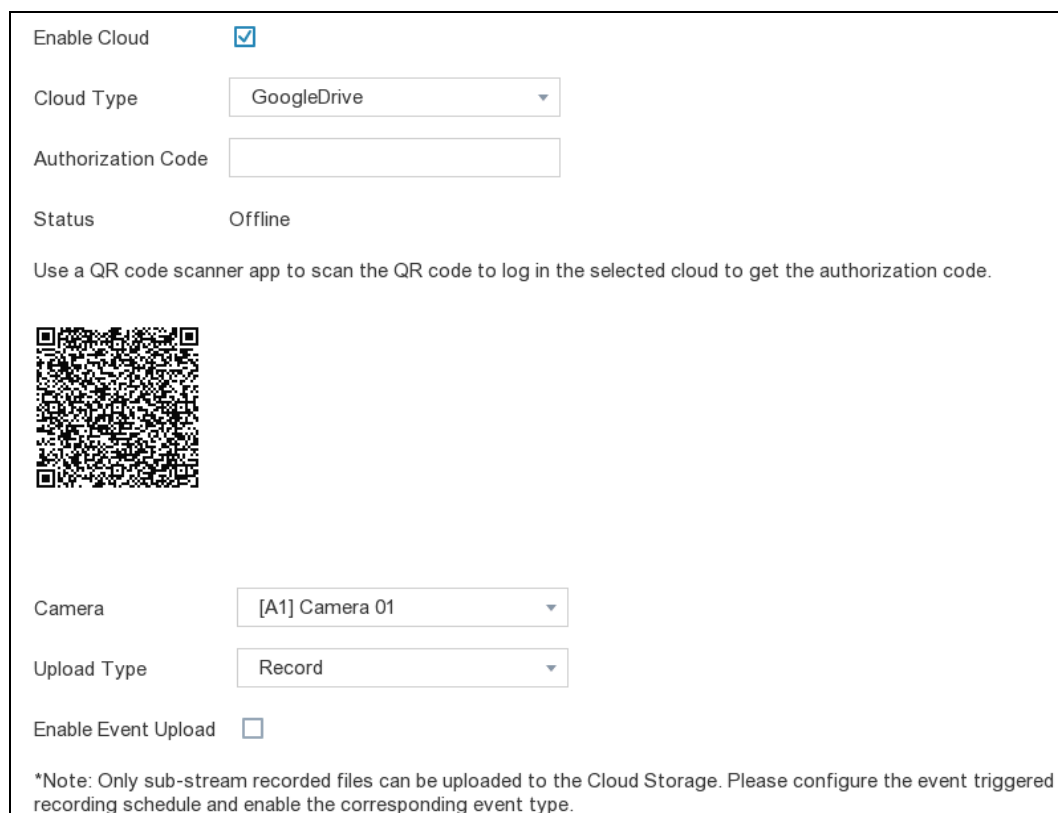
Purpose

The cloud storage facilitates you to upload and download the videos at any time and any place, which can highly enhance the efficiency.

Step 1 Go to **Configuration > Record > Cloud Storage**.

Step 2 Check **Enable Cloud**.

Step 3 Select **Cloud Type**.




Enable Cloud ☒

Cloud Type GoogleDrive

Authorization Code

Status Offline

Use a QR code scanner app to scan the QR code to log in the selected cloud to get the authorization code.



Camera [A1] Camera 01

Upload Type Record

Enable Event Upload ☐

*Note: Only sub-stream recorded files can be uploaded to the Cloud Storage. Please configure the event triggered recording schedule and enable the corresponding event type.

Figure 6-29 Cloud Storage

Step 4 Scan the QR code to log into the selected cloud to get the authentication code and enter **Authentication Code**.

Step 5 Click **Apply**.

Step 6 About 20 seconds later, cloud storage status will be **Online**.

Step 7 Configure the event recording schedule. For detailed recording schedule, refer to 5.4.2 *Configure Recording Schedule*.

Step 8 Upload the event triggered videos to the cloud storage.

- 1) Select **Camera** that you have set recording schedule.
- 2) Select **Upload Type**. Only **Record** is allowed for now.
- 3) Check **Enable Event Upload**.
- 4) Click **Apply**.



NOTE

Only sub-stream videos can be uploaded to the cloud storage.

6.6 RS-232 Settings

Step 1 Go to **Configuration > RS-232**.

Baud Rate	11 5200 ▼
Data Bit	8 ▼
Stop Bit	1 ▼
Parity	None ▼
Flow Ctrl	None ▼
Usage	Console ▼

Figure 6-30 RS-232

Step 2 Configure RS-232 parameters, including baud rate, data bit, stop bit, parity, flow control and usage.

- **Console:** Connect a computer to the video recorder through the computer serial port. Video recorder parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as those of video recorder when connecting with the computer serial port.
- **Transparent Channel:** Connect a serial device directly to the video recorder. The serial device will be controlled remotely by the computer through the network and the protocol of the serial device.

Step 3 Click **Apply**.

Chapter 7 Maintenance

7.1 Restore Default

Step 1 Go to **Maintenance**.

Step 2 Select restoring type.

- **Simple Restore:** Restore all parameters, except the network (including IP address, subnet mask, gateway, MTU, NIC working mode, default route, server port, etc.) and user account parameters, to the factory default settings.
- **Factory Defaults:** Restore all parameters to the factory default settings.
- **Restore to Inactive:** Restore the device to the inactive status, and leave all settings unchanged except restoring user accounts.

Step 3 Click **Yes**. The device will reboot automatically.

7.2 Search Log

Purpose

The operation, alarm, exception and information of video recorder can be stored in logs, which can be viewed and exported at any time.

Step 1 Go to **Maintenance > More Operations**.

Step 2 Set the search conditions.

Step 3 Click **Search**.



NOTE

Up to 2000 log files can be displayed each time.

7.3 Upgrade



WARNING


Do not shutdown the video recorder or turn off the power during upgrade.

7.3.1 Local Upgrade

Before you start

Connect a backup device where the update firmware file locates to your video recorder.

Step 1 Go to **Maintenance**.

Step 2 Click .

Step 3 Select backup **Device**.

Step 4 Select upgrade file and click **Upgrade**. After the upgrade, reboot your video recorder to activate the new firmware.

7.3.2 Online Upgrade


Purpose

We will upload latest upgrade file to Guarding Vision platform, you can upgrade video recorder with latest online upgrade file.

Before you start

Enable Guarding Vision and configure its parameters. For details, refer to 5.2.2 *Guarding Vision*.

Step 1 Go to **Maintenance**.

Step 2 Click .

Step 3 Go to **Online Upgrade**.

Step 4 Upgrade video recorder. Choose from:

- **Auto Download:** If it is enabled, when we released a new version, video recorder will automatically upgrade to the new version.
- **Test Upgrade:** Click **Test Upgrade** to check whether new version is available.

Chapter 8 Alarm


Purpose

When events occur, you can view their details in alarm center.

8.1 Set Event Hint

Purpose

Select the events to hint in alarm center.

Step 1 Click  in the upper-right corner of local menu to enter alarm center.

Step 2 Select **Exception**, **Basic Event**, or **Smart Event** to configure as your desire.

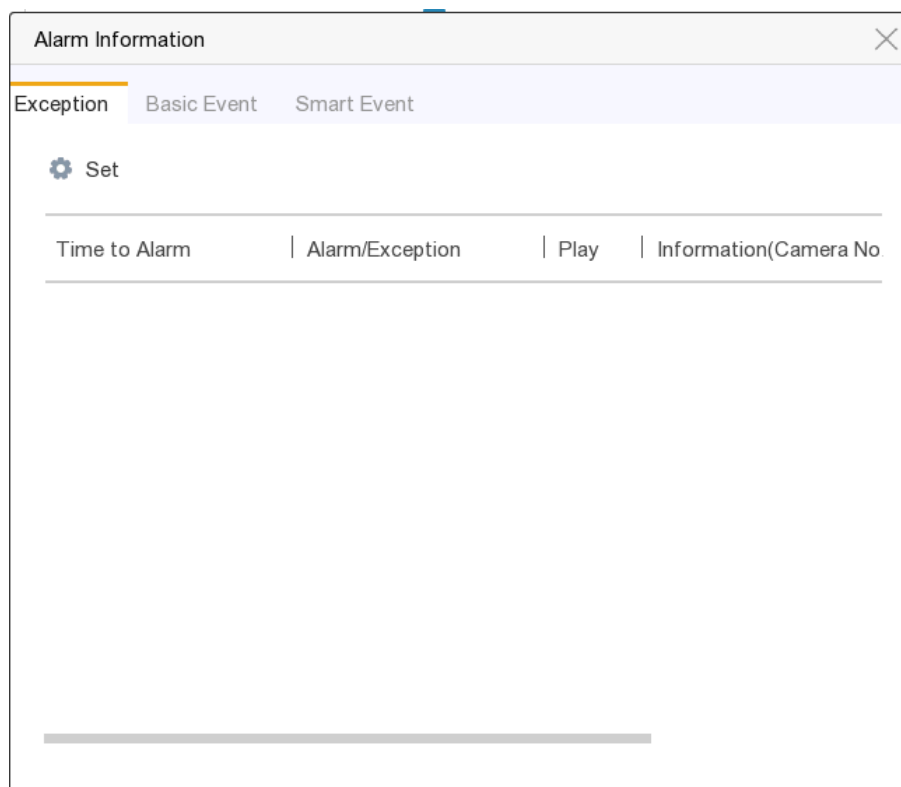





Figure 8-1 Alarm Centre

Step 3 Click  and select events to hint.

Step 4 Click **OK**.

Result: When the selected events occur, the alarm information will be displayed  (locating in upper-right corner of local menu).

8.2 View Alarm in Alarm Center

Step 1 Click  in upper-right corner of local menu.

Step 2 Select **Exception**, **Basic Event**, or **Smart Event** to view as your desire

Chapter 9 Web Operation

9.1 Introduction

Purpose

You can get access to the video recorder via web browser.

You may use one of the following listed web browsers: Internet Explorer 6.0 to 11.0, Apple Safari, Mozilla Firefox, and Google Chrome. The supported resolutions include 1024*768 and above.

9.2 Login

Purpose

You shall acknowledge that the use of the product with Internet access might be under network security risks. For avoidance of any network attacks and information leakage, please strengthen your own protection. If the product does not work properly, please contact with your dealer or the nearest service center.

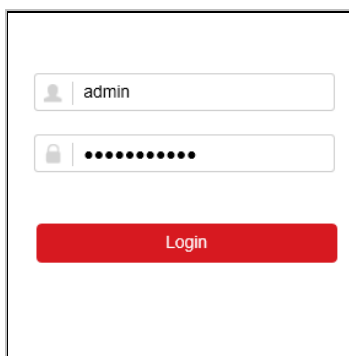
Step 1 Open web browser, input the IP address of the video recorder and then press Enter.



If you have changed HTTP port, enter <http://IP address:HTTP port> in address bar. E.g., http: 192.168.1.64:81.

Step 2 Enter user name and password in the login interface.

Step 3 Click **Login**.



The screenshot shows a web-based login form. It contains two input fields: the first is for the username, with 'admin' entered; the second is for the password, with masked characters (dots) entered. Below these fields is a prominent red button labeled 'Login'.

Figure 9-1 Login

Step 4 Follow the installation prompts to install the plug-in.



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

9.3 Live View

After login, live view interface shows.



Figure 9-2 Live View



NOTE

For saving path of captured pictures and clipped videos, refer to *9.5 Configuration*.

9.4 Playback

Click **Playback** to enter playback interface.

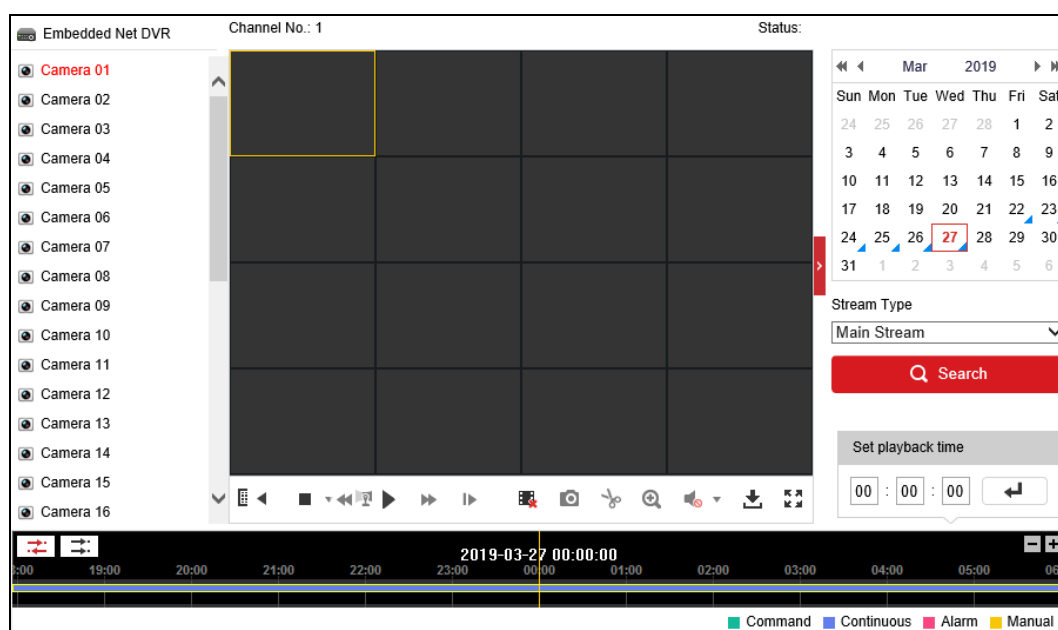


Figure 9-3 Playback



NOTE

For saving path of captured pictures and clipped videos, refer to *9.5 Configuration*.

Chapter 10 Appendix

10.1 Glossary

- **Dual-Stream:** Dual-stream is a technology used to record high resolution video locally while transmitting a lower resolution stream over the network. The two streams are generated by the DVR, with the main stream having a maximum resolution of 1080P and the sub-stream having a maximum resolution of CIF.
- **DVR:** Acronym for Digital Video Recorder. A DVR is device that is able to accept video signals from analog cameras, compress the signal and store it on its hard drives.
- **HDD:** Acronym for Hard Disk Drive. A storage medium which stores digitally encoded data on platters with magnetic surfaces.
- **DHCP:** Dynamic Host Configuration Protocol (DHCP) is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network.
- **HTTP:** Acronym for Hypertext Transfer Protocol. A protocol to transfer hypertext request and information between servers and browsers over a network
- **PPPoE:** PPPoE, Point-to-Point Protocol over Ethernet, is a network protocol for encapsulating Point-to-Point Protocol (PPP) frames inside Ethernet frames. It is used mainly with ADSL services where individual users connect to the ADSL transceiver (modem) over Ethernet and in plain Metro Ethernet networks.
- **DDNS:** Dynamic DNS is a method, protocol, or network service that provides the capability for a networked device, such as a router or computer system using the Internet Protocol Suite, to notify a domain name server to change, in real time (ad-hoc) the active DNS configuration of its configured hostnames, addresses or other information stored in DNS.
- **Hybrid DVR:** A hybrid DVR is a combination of a DVR and NVR.
- **NTP:** Acronym for Network Time Protocol. A protocol designed to synchronize the clocks of computers over a network.
- **NTSC:** Acronym for National Television System Committee. NTSC is an analog television standard used in such countries as the United States and Japan. Each frame of an NTSC signal contains 525 scan lines at 60Hz.
- **NVR:** Acronym for Network Video Recorder. An NVR can be a PC-based or embedded system used for centralized management and storage for IP cameras, IP Domes and other DVRs.
- **PAL:** Acronym for Phase Alternating Line. PAL is also another video standard used in broadcast televisions systems in large parts of the world. PAL signal contains 625 scan lines at 50Hz.

- **PTZ:** Acronym for Pan, Tilt, Zoom. PTZ cameras are motor driven systems that allow the camera to pan left and right, tilt up and down and zoom in and out.
- **USB:** Acronym for Universal Serial Bus. USB is a plug-and-play serial bus standard to interface devices to a host computer.

10.2 Troubleshooting

● No image displayed on the monitor after the device is starting up normally.

Possible Reasons:

- No VGA or HDMI connections.
- Connection cable is damaged.
- Input mode of the monitor is incorrect.

Step 1 Verify the device is connected with the monitor via HDMI or VGA cable.

If not, please connect the device with the monitor and reboot.

Step 2 Verify the connection cable is good.

If there is still no image display on the monitor after rebooting, please check if the connection cable is good, and change a cable to connect again.

Step 3 Verify Input mode of the monitor is correct.

Please check the input mode of the monitor matches with the output mode of the device (e.g. if the output mode of DVR is HDMI output, then the input mode of monitor must be the HDMI input). And if not, please modify the input mode of monitor.

Step 4 Check if the fault is solved by the step 1 to step 3.

If it is solved, finish the process.

If not, please contact the engineer from our company to do the further process.

● There is a beep sound after a new bought device starts up.

Possible Reasons:

- No HDD is installed in the device.
- The installed HDD has not been initialized.
- The installed HDD is not compatible with the device or is broken-down.

Step 1 Verify at least one HDD is installed in the device.

1) If not, please install the compatible HDD.



NOTE

Please refer to the “Quick Operation Guide” for the HDD installation steps.

2) If you do not want to install a HDD, select “Menu>Configuration > Exceptions”, and uncheck the Audible Warning checkbox of “HDD Error”.

Step 2 Verify the HDD is initialized.

- 1) Select "Menu>HDD>General".
- 2) If the status of the HDD is "Uninitialized", please check the checkbox of corresponding HDD and click **Init**.

Step 3 Verify the HDD is detected or is in good condition.

- 1) Select "Menu>HDD>General".
- 2) If the HDD is not detected or the status is "Abnormal", please replace the dedicated HDD according to the requirement.

Step 4 Check if the fault is solved by the step 1 to step 3.

- 1) If it is solved, finish the process.
- 2) If not, please contact the engineer from our company to do the further process.

● **Live view stuck when video outputs locally.**

Possible Reasons:

- The frame rate has not reached the real-time frame rate.

Step 1 Check the parameters of Main Stream (Continuous) and Main Stream (Event).

Select "Menu > Record > Parameters > Record", and set the resolution of Main Stream (Event) the same as the one of Main Stream (Continuous).

Step 2 Verify the frame rate is real-time frame rate.

Select "Menu > Record > Parameters > Record", and set the Frame Rate to Full Frame.

Step 3 Check if the fault is solved by the above steps.

If it is solved, finish the process.

If not, please contact the engineer from our company to do the further process.

● **When using the device to get the live view audio, there is no sound or there is too much noise, or the volume is too low.**

Possible Reasons:

- Cable between the pickup and camera is not connected well; impedance mismatches or incompatible.
- The stream type is not set as "Video & Audio".

Step 1 Verify the cable between the pickup and camera is connected well; impedance matches and compatible.

Step 2 Verify the setting parameters are correct.

Select "Menu > Record > Parameters > Record", and set the Stream Type as "Audio & Video".

Step 3 Check if the fault is solved by the above steps.

If it is solved, finish the process.

If not, please contact the engineer from our company to do the further process.

● **The image gets stuck when DVR is playing back by single or multi-channel cameras.**

Possible Reasons:

- The frame rate is not the real-time frame rate.
- The DVR supports up to 16-channel synchronize playback at the resolution of 4CIF, if you want a 16-channel synchronize playback at the resolution of 720p, the frame extracting may occur, which leads to a slight stuck.

Step 1 Verify the frame rate is real-time frame rate.

Select “Menu > Record > Parameters > Record”, and set the Frame Rate to “Full Frame”.

Step 2 Verify the hardware can afford the playback.

Reduce the channel number of playback.

Select “Menu > Record > Encoding > Record”, and set the resolution and bitrate to a lower level.

Step 3 Reduce the number of local playback channel.

Select “Menu > Playback”, and uncheck the checkbox of unnecessary channels.

Step 4 Check if the fault is solved by the above steps.

If it is solved, finish the process.

If not, please contact the engineer from our company to do the further process.

- **No record file found in the device local HDD, and the prompt “No record file found” pops up when you search the record files.**

Possible Reasons:

- The time setting of system is incorrect.
- The search condition is incorrect.
- The HDD is error or not detected.

Step 1 Verify the system time setting is correct.

Select “Menu > Configuration > General > General”, and verify the “System Time” is correct.

Step 2 Verify the search condition is correct.

Select “Playback”, and verify the channel and time are correct.

Step 3 Verify the HDD status is normal.

Select “Menu > HDD > General” to view the HDD status, and verify the HDD is detected and can be read and written normally.

Step 4 Check if the fault is solved by the above steps.

If it is solved, finish the process.

If not, please contact the engineer from our company to do the further process.

04301001090911

