

# 8-Channel Hybrid DVR

C8XVR

**User Manual** 

#### **User Manual**

#### **About this Manual**

This Manual is applicable to HD Digital Video Recorder (DVR).

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.

#### **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 RESPONSIBILITES 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.

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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.

## **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.
Indicates a potentially hazardous situation, whif not avoided, could result in equipment damage, data loss, performance degradation, unexpected results.	
Indicates a hazard with a high level of risk, while 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 or 12 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 device, 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 device, 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 device.
- 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 device 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 device.
- 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.

### **Product Key Features**

#### General

- Connectable to HDTVI and analog cameras;
- Supports UTC (Coaxitron) protocol for connecting camera over coax;
- Connectable to AHD cameras;
- Connectable to HDCVI cameras;
- Connectable to IP cameras;
- Each channel supports dual-stream. And sub-stream supports up to WD1 resolution;
- The main stream of 720P DVR support up to 720p resolution;
- For 720P DVR, 1080p lite mode is applicable to all the channels;
- Independent configuration for each channel, including resolution, frame rate, bit rate, image quality, etc.;
- Encoding for both video stream and video & audio stream; audio and video synchronization during composite stream encoding;
- Support enabling H.264+ to ensure high video quality with lowered bitrate;
- One-key enable or disable H.264+;
- Support configuring night to day sensitivity, day to night sensitivity, and IR light brightness for the connected analog cameras supporting these parameters;
- Watermark technology.

#### **Local Monitoring**

- HDMI/VGA output
- 8 screen live view is supported, and the display sequence of screens is adjustable;
- Live view screen can be switched in group and manual switch and automatic cycle live view are also provided, the interval of automatic cycle can be adjusted;
- Quick setting menu is provided for live view;
- The selected live view channel can be shielded;
- Motion detection, video-tampering detection, video exception alarm, video loss alarm and VCA alarm functions;
- Privacy mask;
- Several PTZ protocols (including Omnicast VMS of Genetec) supported; PTZ preset, patrol and pattern;
- Zooming in/out by clicking the mouse and PTZ tracing by dragging mouse.

#### **HDD Management**

One 3.5" disk slot supports disk capacity of up to 6TB

- Remaining recording time of the HDD can be viewed;
- Support cloud storage;
- S.M.A.R.T. and bad sector detection;
- HDD sleeping function;
- HDD property: redundancy, read-only, read/write (R/W);
- HDD group management;
- HDD quota management; different capacity can be assigned to different channels.

#### **Recording and Playback**

- Holiday recording schedule configuration;
- Cycle and non-cycle recording modes;
- Normal and event video encoding parameters;
- Multiple recording types: manual, continuous, alarm, motion, motion | alarm, motion & alarm and Event;
- 8 recording time periods with separated recording types;
- Support Channel-Zero encoding;
- Main stream and sub-stream configurable for simultaneous recording;
- Pre-record and post-record for motion detection triggered recording, and pre-record time for schedule and manual recording;
- Searching record files and captured pictures by events (alarm input/motion detection);
- Customization of tags, searching and playing back by tags;
- Locking and unlocking of record files;
- Local redundant recording and capture;
- When HDTVI, AHD, or HDCVI input is connected, the information including the resolution and frame rate will be overlaid on the bottom right corner of the live view for 5 seconds. When CVBS input is connected, the information such as NTSC or PAL will be overlaid on the bottom right corner of the live view for 5 seconds.
- Searching and playing back record files by camera number, recording type, start time, end time, etc.;
- Smart playback to go through less effective information;
- Main stream and sub-stream selectable for local/remote playback;
- Zooming in for any area when playback;
- Multi-channel reverse playback;
- Supports pause, fast forward, slow forward, skip forward, and skip backward when playback, locating by dragging the mouse on the progress bar;
- 8-ch synchronous playback;

#### Backup

- Export data by a USB, and SATA device;
- Export video clips when playback;
- Video and Log, Video and Player, and Player selectable to export for backup;
- Management and maintenance of backup devices.

#### **Alarm and Exception**

- Configurable arming time of alarm input/output;
- Alarm for video loss, motion detection, video tampering, abnormal signal, video input/recording resolution mismatch, illegal login, network disconnected, IP confliction, record exception, HDD error, and HDD full, etc.;
- Alarm triggers full screen monitoring, audio alarm, notifying surveillance center, sending email and alarm output;
- VCA detection alarm is supported;
- Support coaxial alarm;
- Automatic restore when system is abnormal.

#### **Other Local Functions**

- Manual and automatic video quality diagnostics;
- Operable by mouse and remote control;
- Three-level user management; admin user can create many operating account and define their operating permission, which includes the permission to access any channel;
- Completeness of operation, alarm, exceptions and log writing and searching;
- Manually triggering and clearing alarms;
- Importing and exporting of configuration file of devices;
- Getting cameras type information automatically;
- Unlock pattern for device login for the admin;
- Clear-text password available;
- GUID file can be exported for password resetting.

#### **Network Functions**

- 1 self-adaptive 10M/100M/1000M network interface or 1 self-adaptive 10M/100Mbps network interface provided;
- IPv6 is supported;
- TCP/IP protocol, PPPoE, DHCP, DNS, DDNS, NTP, SADP, SMTP, NFS, iSCSI, UPnP™ and HTTPS are supported;
- Supports access by Guarding Vision;
- TCP, UDP and RTP for unicast;
- Auto/Manual port mapping by UPnPTM;

- Remote search, playback, download, locking and unlocking the record files, and downloading files broken transfer resume;
- Remote parameters setup; remote import/export of device parameters;
- Remote viewing of the device status, system logs and alarm status;
- Remote keyboard operation;
- Remote HDD formatting and program upgrading;
- Remote system restart and shutdown;
- Support upgrading via remote FTP server;
- RS-485 transparent channel transmission;
- Alarm and exception information can be sent to the remote host;
- Remotely start/stop recording;
- Remotely start/stop alarm output;
- Remote PTZ control;
- Two-way audio and voice broadcasting;
- Output bandwidth limit configurable;
- Embedded WEB server;
- If DHCP is enabled, you can enable DNS DHCP or disable it and edit the Preferred DNS Server and Alternate DNS Server.

#### **Development Scalability**

- SDK for Windows and Linux system;
- Source code of application software for demo;
- Development support and training for application system.

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## **Chapter 1 Introduction**

### 1.1 Front Panel

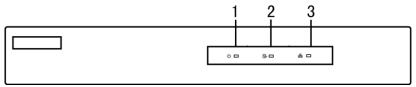


Figure 1-1 Front Panel of DVR

Table 1-1 Description on of Front Panel

No.	Icon	Description
1		Turns red when DVR is powered up.
2	Turns red when data is being read from or written HDD.	
3		Flickers blue when network connection is functioning properly.

## 1.2 USB Mouse Operation

A regular 3-button (Left/Right/Scroll-wheel) USB mouse can also be used with this DVR. To use a USB mouse:

Step 1 Plug USB mouse into one of the USB interfaces on the front panel of the DVR.

Step 2 The mouse should automatically be detected. If in a rare case that the mouse is not detected, the possible reason may be that the two devices are not compatible, please refer to the recommended the device list from your provider.

The operation of the mouse:

Table 1-2 Description of the Mouse Control

		12 Description of the Wiouse Control
Name	Action	Description
	Single-Click Left-Click	Live view: Select channel and show the quick set menu.
Left-Click		Menu: Select and enter.
	Double-Click	Live view: Switch between single-screen and

		multi-screen.
		PTZ control: Wheeling.
	Drag	Privacy mask and motion detection: Select target area.
		Digital zoom-in: Drag and select target area.
		Live view: Drag channel/time bar.
		Live view: Show menu.
Right-Click Single-Click		Menu: Exit current menu to upper level menu.
		Live view: Previous screen.
Scroll-Wheel	Scrolling up	Menu: Previous item.
	Scrolling	Live view: Next screen.
	down	Menu: Next item.

## 1.3 Input Method Description



Figure 1-2 Soft Keyboard

Description of the buttons on the soft keyboard:

Table 1-3 Description of the Soft Keyboard Icons

Icon	Description	Icon	Description
09	Number	AZ	English letter
•	Lowercase/Uppercase	×	Backspace
123 <sub>/-,</sub> ABC	Switch the keyboard		Space

1	Positioning the cursor	1	Enter
#+=	Symbols		Reserved

## 1.4 Rear Panel

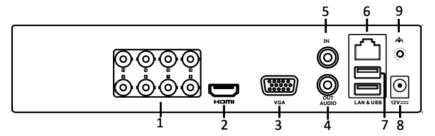


Figure 1-3 Rear Panel of DVR

Table 1-4 Description of Rear Panel

No.	Item	Description Description
1	VIDEO IN	BNC interface for HDTVI and analog video input.
2	ндмі	HDMI video output connector.
3	VGA	DB15 connector for VGA output. Display local video output and menu.
4	AUDIO OUT	RCA connector
5	AUDIO IN	RCA connector
6	Network Interface	Connector for network
7	USB Port	Universal Serial Bus (USB) port for additional devices.
8	Power Supply	12 VDC power supply.
9	GND	Ground

## **Chapter 2 Getting Started**

### 2.1 Starting Up and Shutting Down the DVR

#### **Purpose**

Proper startup and shutdown procedures are crucial to expanding the life of the DVR.

#### Before you start

Check that the voltage of the extra power supply is the same with the DVR's requirement, and the ground connection is working properly.

#### Starting up the DVR

- Step 1 Check the power supply is plugged into an electrical outlet. It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) be used in conjunction with the device.
- Step 2 Turn on the power switch on the rear panel, and the Power indicator LED should turn on indicating that the unit begins to start up.
- Step 3 After startup, the Power indicator LED remains on.

#### Shutting down the DVR

There are two proper ways to shut down the DVR. To shut down the DVR:

#### OPTION 1: Standard shutdown

Step 1 Enter the Shutdown menu.

Menu > Shutdown



Figure 2-1 Shutdown Menu

- Step 2 Select the **Shutdown** button.
- Step 3 Click the Yes button.
- Step 4 Turn off the power switch on the rear panel when the note appears.



Figure 2-2 Shutdown Tips

#### Rebooting the DVR

While in the Shutdown menu (Figure 2-1), you can also reboot the DVR.

Step 1 Enter the **Shutdown** menu by clicking Menu > Shutdown.

Step 2 Click the Logout button to log out or the Reboot button to reboot the DVR.

### 2.2 Activating the Device

#### **Purpose**

For the first-time access, you need to activate the device by setting an admin password. No operation is allowed before activation. You can also activate the device via Web Browser, SADP or Client Software.

Step 1 Input the same password in the text field of **Create New Password** and **Confirm New Password**.

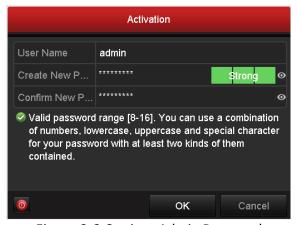


Figure 2-3 Settings Admin Password



**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 2 Click **OK** to save the password and activate the device.



- Clear-text password is supported. Click the icon and you can see the clear text of the password. Click the icon again and the content of the password restores invisible.
- For the old version device, if you update it to the new version, the following dialog box will
  pop up once the device starts up. You can click YES and follow the wizard to set a strong
  password.



Figure 2-4 Warning

Step 3 After the device is activated, the Attention box pops up as below.



Figure 2-5 Attention

Step 4 (Optional) Click **Yes** to export GUID. The Reset Password interface pops up. Click **Export** to export GUID to the USB flash disk for password resetting.

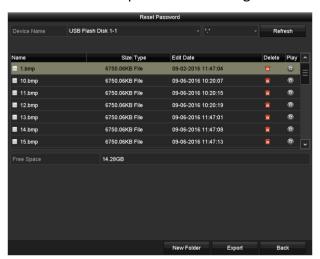


Figure 2-6 Export GUID

Step 5 After exporting GUID, the Attention box pops up as below. Click **Yes** to duplicate the password or **No** to cancel it.



Figure 2-7 Duplicate the Password

## 2.3 Using the Unlock Pattern for Login

#### **Purpose**

For the *admin*, you can configure the unlock pattern for device login.

### 2.3.1 Configuring the Unlock Pattern

After the device is activated, you can enter the following interface to configure the device unlock pattern.

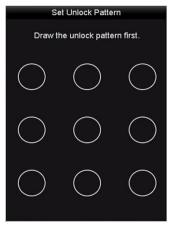


Figure 2-8 Set Unlock Pattern

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



Figure 2-9 Draw the Pattern



- 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.

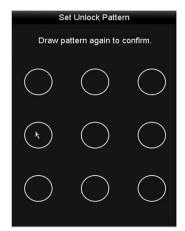


Figure 2-10 Confirm the Pattern



If the two patterns are different, you must set the pattern again.

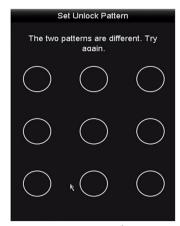


Figure 2-11 Reset the Pattern

## 2.3.2 Logging in via Unlock Pattern



- Only the *admin* user has the permission to unlock the device.
- Please configure the pattern first before unlocking. Please refer to *Chapter 2.3.1 Configuring the Unlock Pattern*.

Step 1 Right click the mouse on the screen and select the menu to enter the interface.



Figure 2-12 Draw the Unlock Pattern

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

## NOTE

- You can right click the mouse to log in via the normal mode.
- If you have forgotten your pattern, you can select the Forget My Pattern or Switch User option to enter the normal login dialog box.
- When the pattern you draw is different from the pattern you have configured, you should try again.
- If you have drawn the wrong pattern for 7 times, the account will be locked for 1 minute.

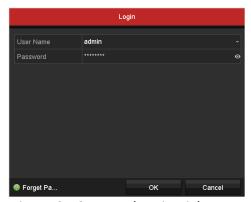


Figure 2-13 Normal Login Dialog Box



Figure 2-14 Lock the Account

## 2.4 Basic Configuration in Startup Wizard

### 2.4.1 Configuring the Signal Input Wizard

#### **Purpose**

After the startup and login, the device system enters the Wizard for configuring the signal input.

You can also click Menu > Camera > Signal Input Status to configure the signal input.

Step 1 Check the checkbox to select different signal input types: HD/CVBS and IP.

Step 2 Click **Apply** to save the settings.

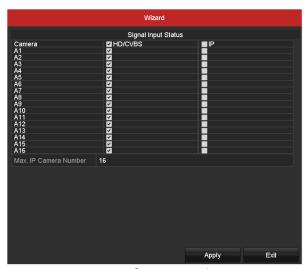


Figure 2-15 Configure Signal Input Type



For detailed information of signal input, you can refer to *Chapter 2.8 Configuring the Signal Input Channel* for reference.

### 2.4.2 Using the Wizard for Basic Configuration

#### **Purpose**

By default, the **Setup Wizard** starts once the device has loaded. You can follow it to complete the basic configuration.

#### Selecting the language:

Step 1 Select the language from the drop-down list.

Step 2 Click Apply button.



Figure 2-16 Language Configuration

#### **Operating the Setup Wizard:**

Step 1 The **Start Wizard** can walk you through some important settings of the device. If you don't want to use the **Start Wizard** at that moment, click **Exit**. You can also choose to use the **Start Wizard** next time by leaving the "Start wizard when device starts?" checkbox checked.



Figure 2-17 Start Wizard Interface

Step 2 Click Next button to enter the Change the Password interface.

- 1) Input the Admin Password.
- 2) (Optional) Check the checkbox of **New Admin Password**, input the **New Password** and confirm it.
- 3) (Optional) Check the checkbox of **Enable Pattern Unlock** and draw the unlock pattern. Or click icon of **Draw Unlock Pattern** to change the pattern. Refer to *Chapter 2.3 Using the Unlock Pattern for Login* for reference.
- 4) (Optional) Click icon of Export GUID to export GUID to the connected USB flash disk for resetting password. Refer to *Chapter 17.5.3 Editing a User* for reference.



Figure 2-18 Change the Password



Clear-text password is supported. Click the icon and you can see the clear text of the password. Click the icon again and the content of the password restores invisible.

Step 3 Click **Next** button and the Attention box pops up as shown below. Click **Yes** to duplicate the password of the device to IP cameras that are connected with default protocol. Or click **No** to enter the **Date and Time Settings** interface.



Figure 2-19 Duplicate the Password

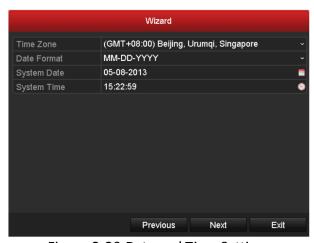


Figure 2-20 Date and Time Settings

Step 4 After the time settings, click **Next** button to enter the **General Network Setup Wizard** interface as shown below.

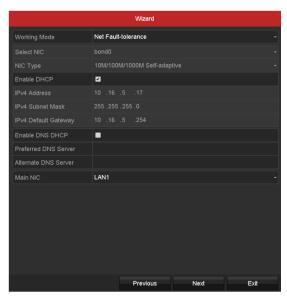


Figure 2-21 General Network Configuration



- 1 self-adaptive 10M/100M/1000M network interface or 1 self-adaptive 10M/100Mbps network interface provided.
- If DHCP is enabled, you can check the checkbox of **Enable DNS DHCP** or uncheck it and edit the **Preferred DNS Server** and **Alternate DNS Server**.

Step 5 Click **Next** button after you configured the basic network parameters.

Then you will enter the **Guarding Vision** interface. Configure the Guarding Vision according to your need. Refer to *Chapter 12.2.2 Configuring Guarding Vision* for detailed operations.

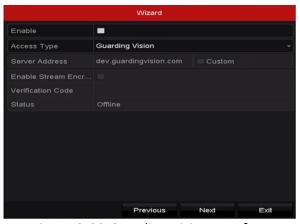


Figure 2-22 Guarding Vision Interface

Step 6 Click **Next** button to enter the **Advanced Network Parameters** interface. You can enable DDNS and set other ports according to your need.



Figure 2-23 Set Advanced Network Parameters

Step 7 Click **Next** button after configuring the advanced network parameters, which will take you to the **HDD Management** interface as shown in Figure 2-24.



Figure 2-24 HDD Management

- Step 8 To initialize the HDD, click the **Init** button. Initialization will remove all the data saved in the HDD.
- Step 9 Click **Next** button to enter the **IP Camera Management** interface.
- Step 10 Add the IP camera.
  - 1) Click **Search** to search the online IP Camera. The **Security** status shows whether it is active or inactive. Before adding the camera, make sure the IP camera to be added is in active status. If the camera is in inactive status, you can click the inactive icon of the camera to

set the password to activate it. You can also select multiple cameras from the list and click the **One-touch Activate** to activate the cameras in batch.

2) Click the Add to add the camera.

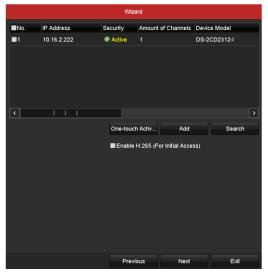


Figure 2-25 IP Camera Management

Step 11 After finishing IP Camera settings, click Next to enter the Record Settings interface.

Step 12 Click the icon , and you can enable the continuous recording or motion detection recording for all channels of the device.



Figure 2-26 Record Settings

Step 13 Click **OK** to complete the wizard settings.

### 2.5 Login and Logout

### 2.5.1 User Login

#### **Purpose**

You have to log in to the device before operating the menu and other functions

#### Step 1 Select the User Name in the drop-down list.

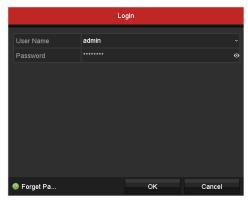


Figure 2-27 Login Interface

Step 2 Input the Password.

Step 3 Click **OK** to log in.



- Clear-text password is supported. Click the icon and you can see the clear text of the password. Click the icon again and the content of the password restores invisible.
- In the Login interface, for the admin, if you have entered the wrong password for 7 times, the account will be locked for 60 seconds. For the operator, if you have entered the wrong password for 5 times, the account will be locked for 60 seconds.

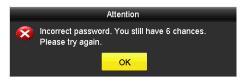


Figure 2-28 User Account Protection for the Admin

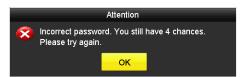


Figure 2-29 User Account Protection for the Operator

### 2.5.2 User Logout

#### **Purpose**

After logging out, the monitor turns to the live view mode and if you want to perform some operations, you need to enter the user name and password to log in again.

Step 1 Enter the **Shutdown** menu.

Menu > Shutdown



Figure 2-30 Logout

Step 2 Click Logout.



After you have logged out of the system, menu operation on the screen is invalid. It is required to input a user name and password to unlock the system.

## 2.6 Resetting Your Password

#### **Purpose**

When you forget the password of the *admin*, you can reset the password by importing the GUID file. The GUID file must be exported and saved in the local USB flash disk after you have activated the device (refer to Chapter 2.2 Activating the Device).

Step 2 On the user login interface, click **Forget Password** to pop up the Import GUID interface.

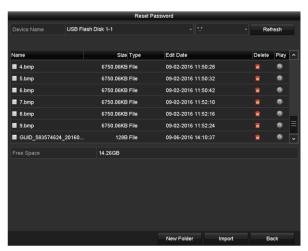


Figure 2-31 Import GUID

Step 3 Select the GUID file from the USB flash disk and click **Import** button to pop up the Reset Password interface.

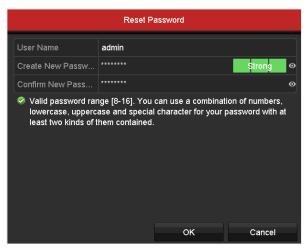


Figure 2-32 Reset Password

Step 4 Input the new password and confirm the password.

Step 5 Click **OK** to save the new password. Then the Attention box pops up as shown below.



Figure 2-33 GUID File Imported

Step 6 Click **OK** and the Attention box as below pops up to remind you to duplicate the password of the device to IP cameras that are connected with default protocol. Click **Yes** to duplicate the password or **No** to cancel it.



Figure 2-34 Duplicate the Password



- If you want to retrieve the password when you forget it, you must export the GUID file first.
- Once the password is reset, the GUID file will be invalid. You can export a new GUID file. Refer to *Chapter 17.5.3 Editing a User* for reference.

### 2.7 Adding and Connecting the IP Cameras

### 2.6.1 Activating the IP Camera

#### **Purpose**

Before adding the camera, make sure the IP camera to be added is in active status.

Step 1 Select the **Add IP Camera** option from the right-click menu in live view mode or click Menu> Camera> IP Camera to enter the **IP Camera Management** interface.

For the IP camera detected online in the same network segment, the **Security** status shows whether it is active or inactive.

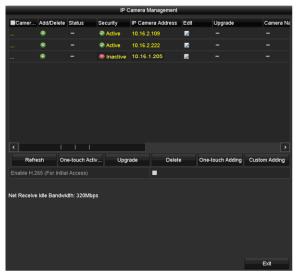


Figure 2-35 IP Camera Management Interface

Step 2 Click the inactive icon of the camera to enter the following interface to activate it. You can also select multiple cameras from the list and click the **One-touch Activate** to activate the cameras in batch.

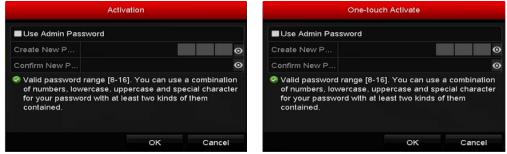


Figure 2-36 Activate the Camera

Step 3 Set the password of the camera to activate it.

**Use Admin Password:** When you check the checkbox, the camera (s) will be configured with the same admin password of the operating DVR.

**Create New Password:** If the admin password is not used, you must create the new password for the camera and confirm it.



Figure 2-37 Set New Password



**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** to finish the acitavting of the IP camera. And the security status of camera will be changed to **Active**.

### 2.6.2 Adding the Online IP Camera

#### **Purpose**

Before you can get a live view or record of the video, you should add the network cameras to the connection list of the device.

#### Before you start

Ensure the network connection is valid and correct. For detailed checking and configuring of the network, please see *Chapter 12 Network Settings*.

#### OPTION 1:

Step 1 Select the **Add IP Camera** option from the right-click menu in live view mode or click Menu> Camera> IP Camera to enter the **IP Camera Management** interface.

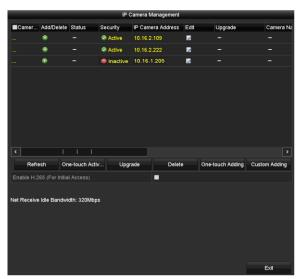


Figure 2-38 IP Camera Management Interface

- Step 2 The online cameras with same network segment will be detected and displayed in the camera list.
- Step 3 Select the IP camera from the list and click the button to add the camera (with the same admin password of the DVR's). Or you can click the **One-touch Adding** button to add all cameras (with the same admin password) from the list.

## NOTE

Make sure the camera to add has already been actiavted by setting the admin password, and the admin password of the camera is the same with the DVR's.

Step 4 (For the encoders with multiple channels only) check the checkbox of Channel Port in the pop-up window, as shown in the following figure, and click **OK** to add multiple channels.



Figure 2-39 Select Multiple Channels

#### • OPTION 2:

Step 1 On the IP Camera Management interface, click the Custom Adding button to pop up the Add IP Camera (Custom) interface.

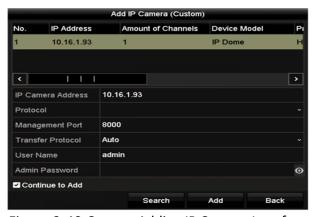


Figure 2-40 Custom Adding IP Camera Interface

Step 2 You can edit the IP address, protocol, management port, and other information of the IP camera to be added.



If the IP camera to add has not been actiavated, you can activate it from the IP camera list on the IP Camera Management interface.

Step 3 Click Add to add the camera.

For the successfully added IP cameras, the **Security** status shows the security level of the password of camera: strong password, weak password and risky password.

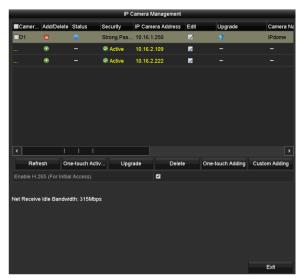


Figure 2-41 Successfully Added IP Cameras

Please refer to *Chapter 18.1 Specifications* for the number of connectable IP cameras for different models.

Table 2-1 Explanation of the icons

Icon	Explanation	Icon	Explanation
<b>&gt;</b>	Edit basic parameters of the camera	•	Add the detected IP camera.
<b>^</b>	The camera is disconnected; You can click the icon to get the exception information of camera.	寙	Delete the IP camera
	Play the live video of the connected camera.	<b>*</b>	Advanced settings of the camera.
<b>=</b>	Upgrade the connected IP camera.	Security	Shows the security status of the camera to be active/inactive or the password strength (strong/medium/weak/risky)

# 2.6.3 Editing the Connected IP Camera

### **Purpose**

After the adding of the IP cameras, the basic information of the camera is listed on the interface, and you can configure the basic settings of the IP cameras.

Step 1 Click the icon to edit the parameters. You can edit the IP address, protocol and other parameters.



Figure 2-42 Edit IP 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 2 Click **OK** to save the settings and exit from the editing interface.
- Step 3 Drag the horizontal scroll bar to the right side and click the icon to edit the advanced parameters.

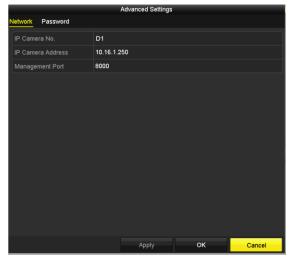


Figure 2-43 Network Configuration of the Camera

Step 4 You can edit the network information and the password of the camera.



Figure 2-44 Password Configuration of the Camera

Step 5 Click **OK** to save the settings and exit the interface.

# 2.8 Configuring the Signal Input Channel

### **Purpose**

You should configure the analog and IP signal input types.

### Step 1 Enter the Signal Input Status interface.

Menu > Camera > Signal Input Status

Step 2 Check the checkbox to select different signal input types: HD/CVBS and IP. If you select HD/CVBS, four types of analog signal inputs including HDTVI, AHD, HDCVI, and CVBS can be connected randomly for the selected channel. If you select IP, IP camera can be connected for the selected channel.

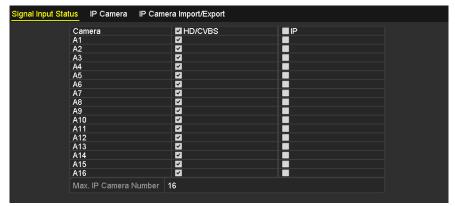


Figure 2-45 Configure Signal Input Type

### Step 3 Click Apply to save the settings.

- Four kinds of analog signal inputs including HDTVI, AHD, HDCVI and CVBS can be connected. The analog signal inputs can be recognized automatically and can be mixed randomly.
- When HDTVI, AHD, or HDCVI input is connected, the information including the resolution and frame rate (e.g., 720P25) will be overlaid on the bottom right corner of the live view for 5 seconds. When CVBS input is connected, the information such as NTSC or PAL will be overlaid on the bottom right corner of the live view for 5 seconds. When there is no video signal for the channel, the connectable video signal type message will not be displayed on the screen. When the unsupported signal input is connected, no video message is displayed on the screen. You can refer to the specifications for the supported resolution of the analog signal input types.
- You can view the max. IP camera accessible number in the Max. IP Camera Number text field.

# Chapter 3 Live View

### 3.1 Introduction of Live View

Live view shows you the video image getting from each camera in real time. The DVR will automatically enter Live View mode when powered on. It is also at the very top of the menu hierarchy, thus hitting the ESC many times (depending on which menu you're on) will bring you to the Live View mode.

#### **Live View Icons**

In the live view mode, there are icons at the right top of the screen for each channel, showing the status of the record and alarm in the channel, so that you can know whether the channel is recorded, or whether there are alarms occur as soon as possible.

Table 3-1 Description of Live View Icons

Icons	Description
<b>&gt;</b>	Alarm (video loss, tampering, motion detection, VCA or sensor alarm)
	Record (manual record, schedule record, motion detection or alarm triggered record)
	Alarm & Record
	Event/Exception (motion detection, sensor alarm or exception information. For details, see <i>Chapter 8.6 Handling Exceptions.</i> )

## 3.2 Operations in Live View Mode

In live view mode, there are many functions provided. The functions are listed below.

- Single Screen: show only one screen on the monitor.
- Multi-screen: show multiple screens on the monitor simultaneously.

- Start Auto-switch: the screen is auto switched to the next one. And you must set the dwell time for each screen on the configuration menu before enabling the auto-switch. Menu>Configuration>Live View>Dwell Time.
- Start Recording: normal record and motion detection record are supported.
- Output Mode: select the output mode to Standard, Bright, Gentle or Vivid.
- Playback: play back the recorded videos for current day.
- Aux/Main Monitor: the DVR checks the connection of the output interfaces to define the
  main and auxiliary output interfaces. When the aux output is enabled, the main output cannot
  do any operation, and you can do some basic operation on the live view mode for the Aux
  output.

The VGA/HDMI output is the main output. The priority relationship is shown as Table 3-2.

Table 3-2 Priorities of Outputs

S.N	HDMI	VGA	Main output
1	√ or ×	√ or×	VGA/HDMI



**v** means the interface is in use, × means the interface is out of use or the connection is invalid. And the HDMI and VGA can be used at the same time.

## 3.2.1 Using the Mouse in Live View

You can refer to Table 3-3 for the description of mouse operation in live view mode.

Table 3-3 Mouse Operation in Live View

Name	Description
Menu	Enter the main menu of the system by right clicking the mouse.
Single Screen	Switch to the single full screen by choosing channel number from the drop-down list.
Multi-Screen	Adjust the screen layout by selecting from the drop-down list.
Previous Screen	Switch to the previous screen.
Next Screen	Switch to the next screen.

Start/Stop Auto-Switch	Enable/disable the auto-switch of the screens.  NOTE  The dwell time of the live view configuration must be set before using Start Auto-Switch.
Start Recording	Start recording of all channels, Continuous Record and Motion Detection Record are selectable from the drop-down list.
Add IP Camera	A shortcut to enter the IP camera management interface.
Playback	Enter the playback interface and start playing back the video of the selected channel immediately.
PTZ Control	A shortcut to enter the PTZ control interface of the selected camera.
Output Mode	Output Mode is configurable with Standard, Bright, Gentle and Vivid options.
Aux Monitor	Switch to the auxiliary output mode and the operation for the main output is disabled.  NOTE  If you enter Aux monitor mode and the Aux monitor is not connected, the mouse operation is disabled. You need to switch back to the Main output with the F1 button on front panel or VOIP/MON button on IR remote control and then press the Enter button.

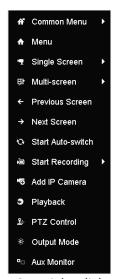


Figure 3-1 Right-click Menu

### 3.2.2 Quick Setting Toolbar in Live View Mode

On the screen of each channel, there is a quick setting toolbar which shows when you click the screen.



Figure 3-2 Quick Setting Toolbar

You can refer to Table 3-5 for the description of Quick Setting Toolbar icons.

Table 3-4 Description of Quick Setting Toolbar Icons

Icons	Description	Icons	Description	Icons	Description
<b>O</b> / <b>O</b>	Enable/Disable Manual Record	<u> </u>	Instant Playback	<b>&gt;</b>	Mute/Audio on
	PTZ Control	Đ.	Digital Zoom		Image Settings
<b>2</b>	Close Live View	<b>2</b>	Face Detection	<u>@</u>	Information

Instant Playback only shows the record in last five minutes. If no record is found, it means there is no record during the last five minutes.

Digital Zoom can zoom in the selected area to the full screen. Click and draw to select the area to zoom in, as shown in Figure 3-3.



Figure 3-3 Digital Zoom

Image Settings icon can be selected to enter the Image Settings menu. You can drag the mouse or click to adjust the image parameters, including brightness, contrast, and saturation. Refer to the *Chapter 13.3 Configuring Video Parameters* for details.

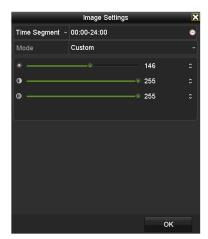


Figure 3-4 Image Settings

Face Detection can be enabled if you click the icon. The dialog pops up as shown in Figure 3-6. Click **Yes** and the full-screen live view of the channel is enabled. You can click to exit from the full-screen mode.



Figure 3-5 Enable Face Detection



You can configure face detection only when it is supported by the connected camera.

Move the mouse onto the Information icon to show the real-time stream information, including the frame rate, bit rate, resolution and stream type.



Figure 3-6 Information

# 3.3 Channel-Zero Encoding

#### **Purpose**

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

Step 1 Enter the Live View Settings interface.

Menu> Configuration> Live View

Step 2 Select the Channel-Zero Encoding tab.



Figure 3-7 Live View- Channel-Zero Encoding

- Step 3 Check the checkbox after Enable Channel-Zero Encoding.
- Step 4 Configure the Frame Rate, Max. Bitrate Mode and Max. Bitrate.
- Step 5 Click the **Apply** button to activate the settings.
- Step 6 After you set the Channel-Zero encoding, you can get a view in the remote client or web browser of 16 channels in one screen.

## 3.4 Adjusting Live View Settings

### **Purpose**

Live View settings can be customized according to different needs. You can configure the output interface, dwell time for screen to be shown, mute or turning on the audio, the screen number for each channel, etc.

Step 1 Enter the **Live View** Settings interface.

### Menu> Configuration> Live View



Figure 3-8 Live View-General (1)



Figure 3-9 Live View-General (2)

The settings available in this menu include:

- **Video Output Interface:** Selects the output to configure the settings.
  - **HDMI/VGA** serves as the video output interface.
- Live View Mode: Selects the display mode to be used for Live View.
- **Dwell Time:** The time in seconds to *dwell* between switching of channels when enabling auto-switch in Live View.
- **Enable Audio Output:** Enables/disables audio output for the selected camera in the live view mode.
- Volume: Adjust the volume of the audio output.
- **Event Output:** Designates the output to show event video. If available, you can select a different video output interface from the Video Output Interface when an event occurs.
- Full Screen Monitoring Dwell Time: The time in seconds to show alarm event screen.

Step 2 Set the camera order.

1) Click View tab and select the Video Output Interface from the drop-down list.



Figure 3-10 Live View-Camera Order

- 2) Click a window to select it, and then double-click a camera name in the camera list you would like to display. Setting an 'X' means the window will not display any camera.
- 3) You can also click to start live view of all channels in order and click to stop live view of all channels. Click to go to the previous or next page.
- 4) Click the Apply button.

# 3.5 Manual Video Quality Diagnostics

#### **Purpose**

The video quality of the analog channels can be diagnosed manually and you can view the diagnostic results from a list.

Step 1 Enter the Manual Video Quality Diagnostics interface.

Menu> Manual > Manual Video Quality Diagnostics



Figure 3-11 Video Quality Diagnostics

- Step 2 Check the checkboxes to select the channels for diagnostics.
- Step 3 Click the button **Diagnose**, and the results will be displayed on a list. You can view the video status and diagnostics time of the selected channels.

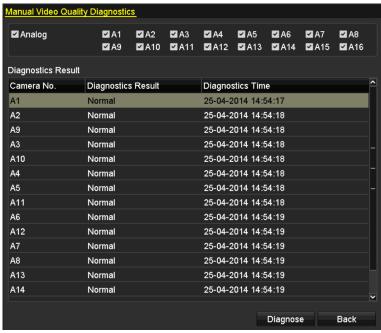


Figure 3-12 Diagnostics Result



- Connect the camera to the device for the video quality diagnostics.
- Three exception types can be diagnosed: Blurred Image, Abnormal Brightness and Color Cast.

# **Chapter 4 PTZ Controls**

# 4.1 Configuring PTZ Settings

### **Purpose**

Follow the procedure to set the parameters for PTZ. The configuring of the PTZ parameters should be done before you control the PTZ camera.

Step 1 Enter the PTZ Settings interface.

Menu >Camera> PTZ



Figure 4-1 PTZ Settings

Step 2 Select the camera for PTZ setting in the Camera drop-down list.

Step 3 Click the PTZ Parameters button to set the PTZ parameters.

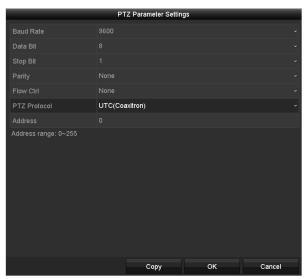


Figure 4-2 PTZ- General

Step 4 Select the parameters of the PTZ camera from the drop-down list.



- 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 here is supported by the connected camera/dome.
- 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 5 (Optional) Click **Copy** button to copy the settings to the other channels. Select the channels you want to copy to and click **OK** to return to the **PTZ Parameters Settings** interface.

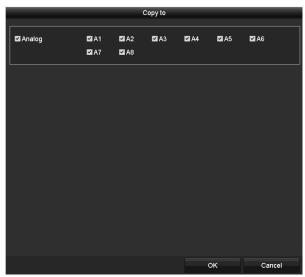


Figure 4-3 Copy to Other Channels

Step 6 Click **OK** to save the settings.

Step 7 (Optional) Check the checkbox of **Enable Omnicast Control** to enable the PTZ control of the selected camera via Omnicast VMS of Genetec.

## 4.2 Setting PTZ Presets, Patrols and Patterns

### Before you start

Please make sure that the presets, patrols and patterns should be supported by PTZ protocols.

### 4.2.1 Customizing Presets

### **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 Enter the **PTZ Settings** interface.

Menu>Camera>PTZ



Figure 4-4 PTZ Settings

- Step 2 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 3 Enter the preset No. (1~255) in the preset text field, and click the **Set** button to link the location to the preset.

Repeat the steps from 2 to 3 to save more presets.

You can click the **Clear** button to clear the location information of the preset, or click the **Clear All** button to clear the location information of all the presets.

### 4.2.2 Calling Presets

#### **Purpose**

This feature enables the camera to point to a specified position such as a window when an event takes place.

Step 1 Click the button PTZ in the lower-right corner of the PTZ setting interface;

Or press the PTZ button on the front panel or click the PTZ Control icon in the quick setting bar, or select the PTZ option in the right-click menu to show the PTZ control panel.

Step 2 Choose Camera in the drop-down list.

Step 3 Click the **General** tab to show the general settings of the PTZ control.



Figure 4-5 PTZ Panel-General

Step 4 Click to enter the preset No. in the corresponding text field.

Step 5 Click the Call Preset button to call it.



When the Coaxitron camera/dome connected and the PTZ protocol is selected to UTC (Coaxitron), you can call the preset 95 to enter the menu of the connected Coaxitron camera/dome. Use the directional buttons on the PTZ control panel to operate the menu.

## 4.2.3 Customizing Patrols

### **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 Enter the PTZ Settings interface.

Menu>Camera>PTZ



Figure 4-6 PTZ Settings

- Step 2 Select patrol No. in the drop-down list of patrol.
- Step 3 Click the **Set** button to add key points for the patrol.



Figure 4-7 Key point Configuration

- Step 4 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 **Key Point No.** 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.
- Step 5 Click the **Add** button to add the next key point to the patrol, or you can click the **OK** button to save the key point to the patrol.

You can delete all the key points by clicking the **Clear** button for the selected patrol, or click the **Clear All** button to delete all the key pints for all patrols.

## 4.2.4 Calling Patrols

### Purpose

Calling a patrol makes the PTZ to move according the predefined patrol path.

Step 1 Click the button PTZ in the lower-right corner of the PTZ Settings interface;

Or press the PTZ button on the front panel or click the PTZ Control icon in the quick setting bar, or select the PTZ option in the right-click menu to show the PTZ control panel.

Step 2 Click the **General** tab to show the general settings of the PTZ control.



Figure 4-8 PTZ Panel - General

Step 3 Select a patrol in the drop-down list and click the Call Patrol button to call it.

Step 4 You can click the **Stop Patrol** button to stop calling it.

### 4.2.5 Customizing Patterns

### **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 Enter the **PTZ Settings** interface.

Menu > Camera > PTZ



Figure 4-9 PTZ Settings

- Step 2 Choose pattern number in the drop-down list.
- Step 3 Click the **Start** button and click corresponding buttons in the control panel to move the PTZ camera, and click the **Stop** button to stop it.

The movement of the PTZ is recorded as the pattern.

## 4.2.6 Calling Patterns

### **Purpose**

Follow the procedure to move the PTZ camera according to the predefined patterns.

Step 1 Click the button PTZ in the lower-right corner of the PTZ Settings interface;

Or press the PTZ button on the front panel or click the PTZ Control icon in the quick setting bar, or select the PTZ option in the right-click menu to show the PTZ control panel.

Step 2 Click the **General** tab to show the general settings of the PTZ control.



Figure 4-10 PTZ Panel - General

Step 3 Click the Call Pattern button to call it.

Step 4 Click the **Stop Pattern** button to stop calling it.

# 4.2.7 Customizing Linear Scan Limit

### **Purpose**

The Linear Scan can be enabled to trigger the scan in the horizantal direction in the predefined range.



This function is supported by some certain models.

Step 1 Enter the PTZ Settings interface.

Menu > Camera > PTZ



Figure 4-11 PTZ Settings

Step 2 Use the directional button to wheel the camera to the location where you want to set the limit, and click the **Left Limit** or **Right Limit** button to link the location to the corresponding limit.



The speed dome starts linear scan from the left limit to the right limit, and you must set the left limit on the left side of the right limit, as well the angle from the left limit to the right limit should be no more than 180°.

# 4.2.8 Calling Linear Scan

### **Purpose**

Follow the procedure to call the linear scan in the predefined scan range.

Step 1 Click the button PTZ in the lower-right corner of the PTZ Settings interface;

Or press the PTZ button on the front panel or click the PTZ Control icon in the quick setting bar to enter the PTZ setting menu in live view mode.

Step 2 Click the **One-touch** tab to show the one-touch function of the PTZ control.



Figure 4-12 PTZ Panel - One-touch

Step 3 Click **Linear Scan** button to start the linear scan and click the **Linear Scan** button again to stop it.

You can click the **Restore** button to clear the defined left limit and right limit data and the dome needs to reboot to make settings take effect.

### 4.2.9 One-touch Park

#### **Purpose**

For some certain model of the speed dome, it can be configured to start a predefined park action (scan, preset, patrol and etc.) automatically after a period of inactivity (park time).

Step 1 Click the button PTZ in the lower-right corner of the PTZ Settings interface;

Or press the PTZ button on the front panel or click the PTZ Control icon in the quick setting bar to enter the PTZ setting menu in live view mode.

Step 2 Click the **One-touch** tab to show the one-touch function of the PTZ control.



Figure 4-13 PTZ Panel - One-touch

Step 3 There are 3 one-touch park types selectable. Click the corresponding button to activate the park action.

**Park (Quick Patrol):** The dome starts patrol from the predefined preset 1 to preset 32 in order after the park time. The undefined preset will be skipped.

**Park (Patrol 1):** The dome starts moving according to the predefined patrol 1 path after the park time.

Park (Preset 1): The dome moves to the predefined preset 1 location after the park time.



The park time can only be set through the speed dome configuration interface. The default value is 5s.

Step 4 Click the button again to inactivate it.

### 4.3 PTZ Control Panel

To enter the PTZ control panel, there are two ways supported.

#### **OPTION 1:**

In the **PTZ Settings** interface, click the **PTZ** button on the lower-right corner which is next to the **Back** button.

#### **OPTION 2:**

In the Live View mode, you can press the PTZ Control button on the front panel or on the remote control, or choose the PTZ Control icon in the quick setting bar, or select the PTZ Control option in the right-click menu.

Click the **Configuration** button on the control panel, and you can enter the **PTZ Settings** interface.



In PTZ control mode, the PTZ panel will be displayed when a mouse is connected with the device. If no mouse is connected, the PTZ icon appears in the lower-left corner of the window, indicating that this camera is in PTZ control mode.







Figure 4-14 PTZ Control Panel

You can refer to Table 4-1 for the description of the PTZ panel icons.

Table 4-1 Description of the PTZ panel icons

Icon	Description	Icon	Description	Icon	Description
, , , , , , , , , , , , , , , , , , ,	Direction button and the auto-cycle button	+	Zoom+, Focus+, Iris+	L	Zoom-, Focus-, Iris-
	The speed of the PTZ movement	<b>∵</b>	Light on/off	¶/r	Wiper on/off
3D	3D-Zoom	I	Image Centralization		Menu
PTZ Control	Switch to the PTZ control interface	One-touch	Switch to the one-touch control interface	General	Switch to the general settings interface
×	Exit		Minimize windows		

# **Chapter 5 Recording Settings**

# 5.1 Configuring Encoding Parameters

### Before you start

Step 1 Make sure that the HDD has already been installed. If not, please install a HDD and initialize it. (Menu>HDD>General)



Figure 5-1 HDD- General

- Step 2 Click **Advanced** tab to check the storage mode of the HDD. (Menu>HDD>Advanced>Storage Mode)
  - 1) If the HDD mode is *Quota*, please set the maximum record capacity. For detailed information, see *Chapter 12.4 Configuring Quota Mode*.
  - 2) If the HDD mode is *Group*, you should set the HDD group. For detailed information, see *Chapter 5.9 Configuring HDD Group*.

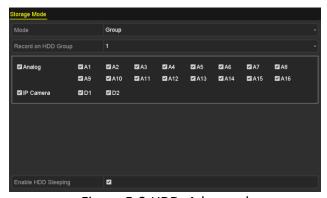


Figure 5-2 HDD- Advanced

### Steps

Step 1 Enter the **Record Parameters** interface to configure the encoding parameters.

Menu>Record>Parameters

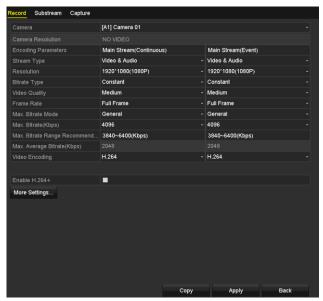


Figure 5-3 Record Parameters

Step 2 Set the parameters for recording.

- 1) Select the **Record** tab to configure.
- 2) Select a camera from the camera drop-down list.
- 3) View the Camera Resolution.



When HDTVI, AHD, or HDCVI input is connected, you can view the information including the input signal type, resolution and frame rate (e.g., 720P25). When CVBS input is connected, you can view the information such as NTSC or PAL.

4) Configure the following parameters for the Main Stream (Continuous) and the Main Stream (Event): Stream Type: Set the stream type to be Video or Video & Audio.

**Resolution**: Set recording resolution.

- Four kinds of analog signal inputs including HDTVI (including 1080p and 720p signal), AHD, HDCVI and CVBS can be connected. The analog signal inputs can be recognized automatically and can be mixed randomly.
- If the configured encoding resolution conflicts with the resolution of the front-end camera, the encoding parameters will adjust automatically to meet the front-end camera. E.g., if the resolution of the front-end camera is 720p, then the encoding resolution of the main stream will adjust to 720p automatically.
- The resolution of 960 × 1080 (1080P Lite) is available when the 1080P Lite is enabled in the Record>Advanced Settings interface (refer to *Chapter 5.12 Configuring 1080P Lite*).
- Please refer to the Appendix-Specifications for the supported resolutions of different models.

**Bitrate Type:** Set the bitrate type to be Variable or Constant.

**Video Quality**: Set the video quality of recording, with 6 levels configurable.



The Stream Type, Resolution, Bitrate Type and Video Quality are not configurable for the Main Stream (Event) of the IP Camera.

Frame Rate: Set the frame rate of recording.

Max. Bitrate Mode: Set the mode to General or Custom.

Max Bitrate (Kbps): Select or customize the maximum bit rate for recording.

**Max. Bitrate Range Recommended:** A recommended max. bit rate range is provided for reference.

**Max. Average Bitrate (Kbps):** Set the max. average bit rate which refers to the average amount of data transferred per unit of time.

**Video Encoding:** only H.264 can be seleted for the video encoding.

Step 3 Check the checkbox of **Enable H.264+** to enable this function. Enabling it helps to ensure the high video quality with a lowered bitrate.

- After enabling the H.264+, the Bitrate Type, Video Quality, Max. Bitrate Mode, Max.
   Bitrate(Kbps) and Max. Bitrate Range Recommend are not configurable.
- The H.264+ is not supported simultaneously with SVC.
- For the connnected IP camera, the H.264+ should be supported by the camera and added to the DVR with the supported protocol.
- You should reboot the device to activate the new settings after enabling the H.264+.

Step 4 Click More Settings to configure more parameters.



Figure 5-4 More Settings of Record Parameters

**Pre-record:** The time you set to record before the scheduled time or event. For example, when an alarm triggered the recording at 10:00, if you set the pre-record time as 5 seconds, the camera records it at 9:59:55.

**Post-record:** The time you set to record after the event or the scheduled time. For example, when an alarm triggered the recording ends at 11:00, if you set the post-record time as 5 seconds, it records till 11:00:05.

**Expired Time:** The time for keeping the record files in the HDDs, once exceeded, the files will be deleted. The files will be saved permanently if the value is set as 0. The actual keeping time for the files should be determined by the capacity of the HDDs.

**Redundant Record:** Enabling redundant record means you save the record in the redundant HDD. See *Chapter 5.8 Configuring Redundant Recording*.

**Record Audio:** Enable this feature to record the sound and disable it to record the video without sound.

**Video Stream:** Main stream, Sub-stream and Dual-stream are selectable for recording. When you select sub-stream, you can record for a longer time with the same storage space.



- The **Redundant Record** option is only available when the HDD mode is *Group*.
- Redundant HDD is required for the redundant record function. For detailed information, see Chapter 14.3.2 Setting HDD Property.
- For network cameras, the parameters of Main Stream (Event) are not editable.

Step 5 Click **Apply** to save the settings.

Step 6 Optionally, you can click **Copy** to copy the settings to other analog channels if needed.



• The analog signal inputs can be recognized automatically and mixed randomly. So you can copy the same settings of the selected analog camera to any other analog channel.

Step 7 Set encoding parameters for sub-stream.

1) Select the **Sub-Stream** tab.

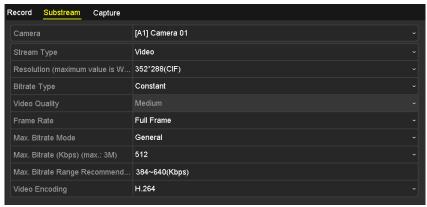


Figure 5-5 Sub-Stream Encoding

- 2) Select a camera in the camera drop-down list.
- 3) Configure the parameters.

- 4) Click Apply to save the settings.
- 5) (Optional) If the parameters can also be used to other cameras, click **Copy** to copy the settings to other channels.

# 5.2 Configuring Recording Schedule

### **Purpose**

Set the record schedule, and then the camera will automatically start/stop recording according to the configured schedule.

Step 1 Enter the **Record Schedule** interface.

Menu > Record > Schedule



Figure 5-6 Record Schedule

Different recording types are marked in different color icons.

Continuous: scheduled recording.

**Event**: recording triggered by all event triggered alarm.

**Motion**: recording triggered by motion detection.

Alarm: recording triggered by alarm.

**M/A**: recording triggered by either motion detection or alarm.

**M&A**: recording triggered by motion detection and alarm.

Step 2 Choose the camera you want to configure in the Camera drop-down list.

Step 3 Check the checkbox of **Enable Schedule**.

Step 4 Configure the record schedule.

#### Edit the schedule

- 1) Click Edit.
- 2) In the message box, you can choose the day to which you want to set schedule.
- 3) To schedule an all-day recording, check the checkbox after the **All Day** item.

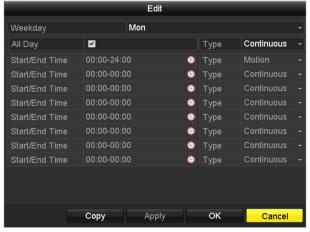


Figure 5-7 Edit Schedule- All Day

4) To arrange other schedule, leave the All Day checkbox blank and set the Start/End time.

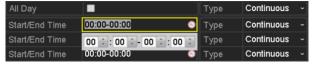


Figure 5-8 Edit Schedule- Set Time Period



- Up to 8 periods can be configured for each day. And the time periods cannot be overlapped with each other.
  - 5) Repeat the above steps 1)-4) to schedule recording for other days in the week. If the schedule can also be set to other days, click **Copy**.



Figure 5-9 Copy Schedule to Other Days



The **Holiday** option is available when you enable holiday schedule in **Holiday settings**. See Chapter 5.7 Configuring Holiday Record.

6) Click **OK** to save setting and back to upper level menu.

#### Draw the schedule

1) Click on the color icon to select a record type in the event list on the right-side of the interface.

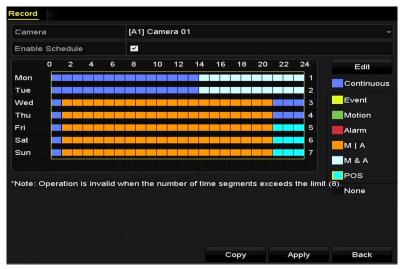


Figure 5-10 Draw the Recording Schedule

- 2) Click and drag the mouse on the schedule.
- 3) Click on the other area except for the schedule table to finish and exit from the drawing.

You can repeat step 4 to set schedule for other channels. If the settings can also be used to other channels, click **Copy**, and then choose the channel to which you want to copy to.

Step 5 Click **Apply** in the **Record Schedule** interface to save the settings.

# 5.3 Configuring Motion Detection Recording

### **Purpose**

Follow the steps to set the motion detection parameters. In the live view mode, once a motion detection event takes place, the DVR can analyze it and do many actions to handle it. Enabling motion detection function can trigger certain channels to start recording, or trigger full screen monitoring, audio warning, notifying the surveillance center, sending email and so on.

#### Step 1 Enter the Motion Detection interface.

Menu>Camera>Motion



Figure 5-11 Motion Detection

### Step 2 Configure Motion Detection:

- 1) Choose camera you want to configure.
- 2) Check the checkbox after **Enable Motion Detection**.
- 3) Drag and draw the area for motion detection by mouse. If you want to set the motion detection for all the area shot by the camera, click **Full Screen**. To clear the motion detection area, click **Clear**.

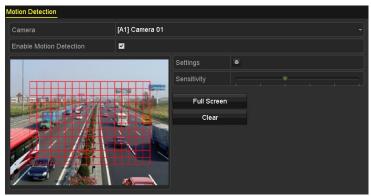


Figure 5-12 Motion Detection- Mask

4) Click , and the message box for channel information pops up.



Figure 5-13 Motion Detection Settings

- 5) Select the channels which you want the motion detection event to trigger recording.
- 6) Click **Apply** to save the settings.
- 7) Click **OK** to back to the upper level menu.
- 8) Exit the Motion Detection menu.

Step 3 Configure the schedule.

Please refer to the step 4 of *Chapter 5.2 Configuring Recording Schedule,* while you may choose Motion as the record type.

# 5.4 Configuring Alarm Triggered Recording

### Purpose

Follow the procedure to configure alarm triggered recording.

Step 1 Enter the Alarm Setting interface.

Menu > Configuration > Alarm



Figure 5-14 Alarm Settings

### Step 2 Click the Alarm Input tab.

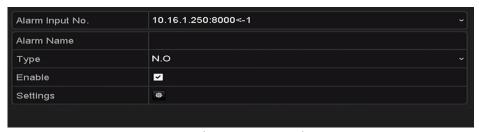


Figure 5-15 Alarm Settings- Alarm Input

- 1) Select Alarm Input number and configure alarm parameters.
- 2) Choose N.O (normally open) or N.C (normally closed) for alarm type.
- 3) Check the checkbox of Setting.
- 4) Click the button.

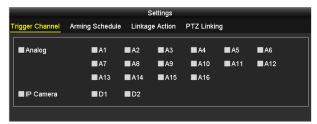


Figure 5-16 Alarm Handling

- 5) Choose the alarm triggered recording channel.
- 6) Check the checkbox **▼** to select channel.
- 7) Click **Apply** to save settings.
- 8) Click **OK** to back to the upper level menu.

Repeat the steps from 1) to 8) to configure other alarm input parameters.

If the setting can also be applied to other alarm inputs, click **Copy** and choose the alarm input number.

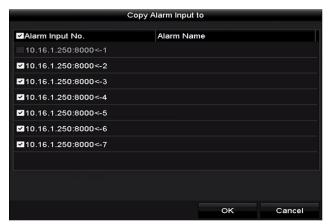


Figure 5-17 Copy Alarm Input

Step 3 Configure the schedule.

Please refer to the step 4 of *Chapter 5.2 Configuring Recording Schedule*, while you may choose Alarm as the record type.

## 5.5 Configuring Event Recording

#### **Purpose**

The event triggered recording can be configured through the menu. Then events include the motion detection, alarm and VCA events (face detection/face capture, line crossing detection, intrusion detection, region entrance detection, region exiting detection, loitering detection, people gathering detection, fast moving detection, parking detection, unattended baggage detection, object removal detection, audio loss exception detection, sudden change of sound intensity detection, and defocus detection).

- DVR supports 1-ch VCA (line crossing detection and intrusion detection). Channels with audio support audio exception detection.
- For the analog channels, the line crossing detection and intrusion detection conflict with other VCA detection such as sudden scene change detection, face detection and vehicle detection and heat map or people counting functions. You can only enable one function.

Step 1 Enter the VCA settings interface and select a camera for the VCA settings.

Menu > Camera > VCA



Figure 5-18 VCA Settings

- Step 2 Configure the detection rules for VCA events. For details, see the step 6 in *Chapter 10.3 Line Crossing Detection*.
- Step 3 Click the icon to configure the alarm linkage actions for the VCA events.

Select **Trigger Channel** tab and select one or more channels which will start to record when VCA alarm is triggered.

Step 4 Click **Apply** to save the settings.



Figure 5-19 Set Trigger Camera of VCA Alarm



The PTZ Linking function is only available for the VCA settings of IP cameras.

Step 5 Enter **Record Schedule Settings** interface (Menu> Record> Schedule>Record Schedule), and then set Event as the record type. For details, see step 2 in *Chapter 5.2 Configuring Recording Schedule*.

## 5.6 Configuring Manual Recording

#### **Purpose**

Follow the steps to set parameters for the manual recording. Using manual recording, you need to manually cancel the record. The manual recording is prior to the scheduled recording.

#### Step 1 Enter the Manual Record interface.

Menu > Manual



Figure 5-20 Manual Record

#### Step 2 Enable manual record.

Click the status icon before camera number to change it to ...

Or click the status icon of **Analog** to enable manual record of all channels.

#### Step 3 Disable manual record.

Click the status icon to change it to .....

Or click the status icon of **Analog** to disable manual record of all channels.



After rebooting all the manual records enabled are canceled.

# 5.7 Configuring Holiday Recording

#### **Purpose**

Follow the steps to configure the record schedule on holiday for that year. You may want to have different plan for recording on holiday.

Step 1 Enter the Record setting interface.

Menu > Record

Step 2 Choose Holiday on the left bar.

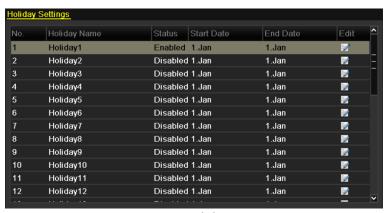


Figure 5-21 Holiday Settings

#### Step 3 Enable Edit Holiday schedule.

1) Click to enter the Edit interface.

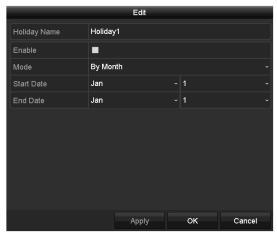


Figure 5-22 Edit Holiday Settings

- 2) Check the checkbox of Enable.
- 3) Select Mode from the drop-down list.

There are three different modes for the date format to configure holiday schedule. By Month, By Week, and By Date are selectable.

- 4) Set the start and end date.
- 5) Click **Apply** to save settings.
- 6) Click OK to exit the Edit interface.

#### Step 4 Configure the record schedule.

Please refer to the *Chapter 5.2 Configuring Recording Schedule*, while you may choose Holiday in the Schedule drop-down list, or you can draw the schedule on the timeline of Holiday.

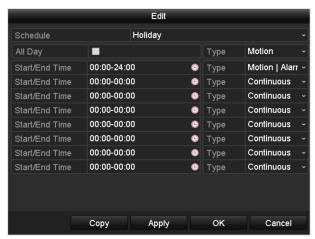


Figure 5-23 Edit Schedule- Holiday



- Up to 8 periods can be configured for each day. And the time periods cannot be overlapped each other.
- In the time table of the channel, both holiday schedule and normal day schedule are displayed.
- Repeat the above step 4 to set Holiday schedule for other channels. If the holiday schedule
  can also be used to other channels, click Copy and choose the channel you want to apply
  the settings.

### 5.8 Configuring Redundant Recording

#### **Purpose**

Enabling redundant recording, which means saving the record files not only in the R/W HDD but also in the redundant HDD, will effectively enhance the data safety and reliability.

#### Before you start

You must set the Storage mode in the HDD advanced settings to *Group* before you set the HDD property to Redundant. For detailed information, please refer to *Chapter 12.3 Managing HDD Group*. There should be at least another HDD which is in Read/Write status.

Step 1 Enter HDD Information interface.

#### Menu> HDD



Figure 5-24 HDD General

Step 2 Select the **HDD** and click does not enter the Local HDD Settings interface.

1) Set the HDD property to Redundant.



Figure 5-25 HDD General-Editing

- 2) Click **Apply** to save the settings.
- 3) Click **OK** to back to the upper level menu.

Step 3 Enter the Record setting interface.

Menu> Record> Parameters

- 1) Select the Record tab.
- 2) Select Camera you want to configure.
- 3) Click More Settings button.



Figure 5-26 More Settings

- 4) Check the checkbox of Redundant Record.
- 5) Click **OK** to save the settings.
- 6) If the encoding parameters can also be used to other channels, click **Copy** and choose the channel you want to apply the settings.

## 5.9 Configuring HDD Group

#### **Purpose**

You can group the HDDs and save the record files in certain HDD group.

Step 1 Enter HDD setting interface.

Menu>HDD>Advanced

Step 2 Select Storage Mode tab.

Check whether the storage mode of the HDD is Group. If not, set it to Group. For detailed information, please refer to *Chapter 12.3 Managing HDD Group*.

Step 3 Select General in the left bar.

Click to enter editing interface.

Step 4 Configuring HDD group.

- 1) Choose a group number for the HDD group.
- 2) Click **Apply** to save your settings.
- 3) Click **OK** to back to the upper level menu.

Step 5 Repeat the above steps to configure more HDD groups.

Step 6 Choose the Channels which you want to save the record files in the HDD group.

1) Enter Storage Mode interface.

Menu>HDD>Advanced> Storage Mode

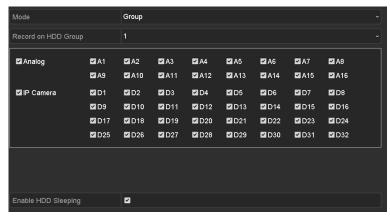


Figure 5-27 HDD Advanced

- 2) Choose Group number in the drop-down list of Record on HDD Group
- 3) Check the channels you want to save in this group.
- 4) Click **Apply** to save settings.



After you have configured the HDD groups, you can configure the recording settings following the procedure provided in *Chapter 5.2-5.7*.

### 5.10 Files Protection

#### **Purpose**

You can lock the recorded files or set the HDD property to Read-only to protect the record files from being overwritten.

### Protect file by locking the record files

Step 1 Enter Export Settings interface.

Menu> Export

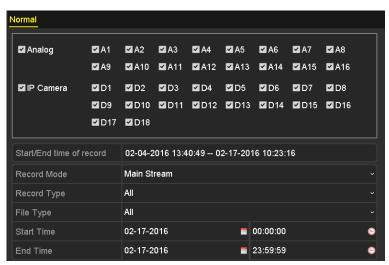


Figure 5-28 Export

- Step 2 Select the channels you want to investigate by checking the checkbox to .
- Step 3 Configure the record mode, record type, file type, start time and end time.
- Step 4 Click **Search** to show the results.



Figure 5-29 Export-Search Result

#### Step 5 Protect the record files.

1) Find the record files you want to protect, and then click the file is locked.



The record files of which the recording is still not completed cannot be locked.

2) Click to change it to to unlock the file and the file is not protected.

#### Protect file by setting HDD property to Read-only

#### Before you start

To edit HDD property, you need to set the storage mode of the HDD to Group. See *Chapter 12.3 Managing HDD Group*.

Step 1 Enter HDD setting interface.

#### Menu> HDD



Figure 5-30 HDD General

Step 2 Click of to edit the HDD you want to protect.

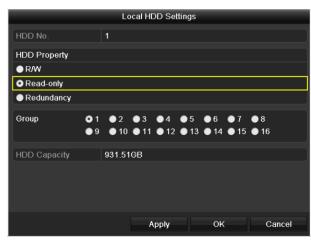


Figure 5-31 HDD General- Editing

Step 3 Set the HDD to Read-only.

Step 4 Click **OK** to save settings and back to the upper level menu.



- You cannot save any files in a Read-only HDD. If you want to save files in the HDD, change the property to R/W.
- If there is only one HDD and is set to Read-only, the DVR cannot record any files. Only live view mode is available.
- If you set the HDD to Read-only when the DVR is saving files in it, then the file will be saved
  in next R/W HDD. If there is only one HDD, the recording will be stopped.

## 5.11 One-Key Enabling and Disabling H.264+ for Analog Cameras

### **Purpose**

You can one-key enable or disable H.264+ for the analog cameras.

#### Task 1: One-Key Enabling H.264+ for All Analog Cameras

Step 1 Enter the Record menu

Menu > Record

Step 2 Click **Advanced** to enter the Advanced Settings interface.



Figure 5-32 Advanced Settings

Step 3 Click **Enable** to enable H.264+ for all the analog cameras and the following attention box pops up.



Figure 5-33 Attention Box

Step 4 Click **Yes** to enable the function and reboot the device to have new settings taken effect.



If H.264+ is already enabled for all the analog cameras, when you click **Enable** button, the following attention box pops up to remind you that H.264+ is already enabled for all analog cameras.

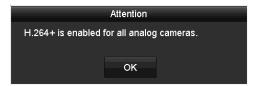


Figure 5-34 Attention Box

#### Task 2: One-Key Disabling H.264+ for All Analog Cameras

Step 1 Enter the Record menu

Menu > Record

Step 2 Click Advanced to enter the advanced interface.



Figure 5-35 Advanced Settings

Step 3 Click **Disable** to disable H.264+ for all the analog cameras and the following attention box pops up.



Figure 5-36 Attention Box

Step 4 Click **Yes** to enable the function and reboot the device to have new settings taken effect.



If H.264+ is already disabled for all the analog cameras, when you click **Disable** button, the following attention box pops up to remind you that H.264+ is already disabled for all analog cameras.

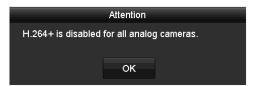


Figure 5-37 Attention Box

## 5.12 Configuring 1080P Lite

#### **Purpose**

When 1080p lite mode is enabled, the encoding resolution at 1080p lite (real-time) is supported. If not, up to 1080p (non-real-time) is supported.

You can enable 1080p lite mode in two ways.

#### Task 1: Enabling 1080P Lite Mode in Live View

Step 1 In live view mode, connect 1080p signal to the DVR.

Then the interface as shown below will pop up to remind you to enable 1080p lite mode.



Figure 5-38 Attention

Step 2 Click Yes to reboot the device and enable 1080p lite mode.

Or click No to cancel it.



- The Attention interface will only pop up in live view mode. If you enter the main menu, it will not pop up. If you exit from the main menu and the device detects the signal, it will pop up.
- When the 1080p signal is connected to multiple channels and the interface already pops up for one channel, the interface will not pop up for other channels.
- If you click **No**, the interface will not pop up again if you do not disconnect it. If you disconnect it and connect it again, the interface will pop up.
- The interface will not disappear if you do not operate.

#### Task 2: Enabling 1080P Lite Mode in Advanced Settings

Step 1 Enter the Record menu

Menu > Record

Step 2 Click **Advanced** to enter the advanced interface.

Figure 5-39 Advanced Interface

Step 3 Check the checkbox of **1080P Lite Mode**.

Step 4 Click **Apply** and the attention box pops up as below.



Figure 5-40 Attention

Step 5 Click **Yes** to reboot the device and enable 1080p lite mode.

#### Task 3: Disabling the 1080P Lite Mode

Step 1 On the Advanced Settings interface, uncheck the checkbox of **1080P Lite Mode**.

Step 2 Click **Apply** and the attention box pops up as below.



Figure 5-41 Attention

Step 3 Click **Yes** on the pop-up interface to reboot the device and disable 1080p lite mode.

# Chapter 6 Playback

# 6.1 Playing Back Record Files

# 6.1.1 Instant Playback

#### **Purpose**

Play back the recorded video files of a specific channel in the live view mode. Channel switch is supported.

#### Instant playback by channel

Choose a channel in live view mode and click the button in the quick setting toolbar.



In the instant playback mode, only record files recorded during the last five minutes on this channel will be played back.



Figure 6-1 Instant Playback Interface

## 6.1.2 Playing Back by Normal Search

### Playback by Channel

Enter the Playback interface.

Right click a channel in live view mode and select **Playback** from the menu, as shown in the following figure:

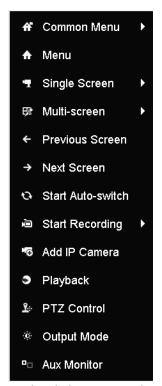


Figure 6-2 Right-click Menu under Live View

### Playback by Time

### **Purpose**

Play back video files recorded in specified time duration. Multi-channel simultaneous playback and channel switch are supported.

Step 1 Enter Playback interface.

Menu>Playback

Step 2 Check the checkbox of channel(s) in the channel list and then double-click to select a date on the calendar.



Figure 6-3 Playback Calendar



If there are record files for that camera in that day, in the calendar, the icon for that day is displayed as 9. Otherwise it is displayed as 9.

### Playback Interface

You can select the main stream or sub stream from the drop-down list for playback.

You can also use the toolbar in the bottom part of **Playback** interface to control playing progress, as shown in the following figure.



Figure 6-4 Playback Interface

Select the channel(s) if you want to switch playback to another channel or execute simultaneous playback of multiple channels.



Figure 6-5 Toolbar of Playback

Table 6-1 Detailed Explanation of Playback Toolbar

Button	Operation	Button	Operation	Button	Operation
<b>4</b> / <b>8</b>	Audio on/Mute	ŏs / ŏv	Start/Stop clipping	N. T.	Lock File
15	Add default tag	L	Add customized tag	Φ	File management for video clips, locked files and

Button	Operation	Button	Operation	Button	Operation
					tags
<b>₫/Ⅲ</b>	Reverse play/Pause	0	Stop	a	Digital Zoom
305	30s forward	305	30s reverse	□/▶	Pause/Play
<b>D</b>	Fast forward	<	Previous day	44	Slow forward
**	Full Screen	×	Exit	>	Next day
₽	Save the clips	10 11 12	Process bar	••• /••	Scaling up/down the time line



- The 01-01-2015 00:00:23 14-07-2015 16:10:27 indicates the start time and end time of the record files.
- represents normal recording (manual or schedule);
   represents event recording (motion, alarm, motion | alarm, motion & alarm).
- Playback progress bar: use the mouse to click any point of the progress bar to locate special frames.

## 6.1.3 Playing Back by Event Search

#### Purpose

Play back record files on one or several channels searched out by restricting event type (motion detection, alarm input or VCA). Channel switch is supported.

Step 1 Enter the Playback interface.

Menu>Playback

- Step 2 Click Normal and select Event Playback interface.
- Step 3 Select **Alarm Input**, **Motion**, **VCA** as the event type, and specify the start time and end time for search.



Figure 6-6 Video Search by Motion Detection

Step 4 Click Search, and the record files matching the search conditions will be displayed on a list.

Step 5 Select and click button to play back the record files.

You can click **Back** button to return to the search interface.

If there is only one channel triggered, clicking button takes you to **Full-screen Playback** interface of this channel.

If several channels are triggered, clicking button takes you to the **Synchronous Playback** interface. Check checkbox to select one channel for playback or select multiple channels for synchronous playback.

NOTE

The maximum number of channels for synchronous playback supported varies to different models.

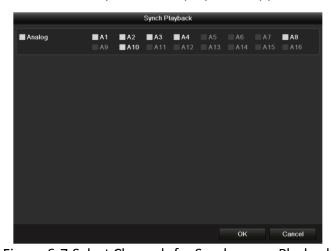


Figure 6-7 Select Channels for Synchronous Playback

Step 6 On the **Event Playback** interface, you can select the main stream or sub-stream from the drop-down list for playback.

The toolbar in the bottom part of **Playback** interface can be used to control playing process.



Figure 6-8 Interface of Playback by Event

Pre-play and post-play can be configured for the playback of event triggered record files.

**Pre-play**: The time you set to play back before the event. For example, when an alarm triggered the recording at 10:00, if you set the pre-play time as 5 seconds, the video plays back from 9:59:55.

**Post-play:** The time you set to play back after the event. For example, when an alarm triggered the recording ends at 11:00, if you set the post-play time as 5 seconds, the video plays back till 11:00:05.

Step 7 You can click or button to select the previous or next event. Please refer to Table 6-1 for the description of buttons on the toolbar.

### 6.1.4 Playing Back by Tag

#### **Purpose**

Video tag allows you to record related information like people and location of a certain time point during playback. You are also allowed to use video tag(s) to search for record files and position time point.

#### Before playing back by tag

Step 1 Enter Playback interface.

Menu>Playback

Step 2 Search and play back the record file(s). Refer to *Chapter 6.1.2 Playing Back by Normal Search* for the detailed information about searching and playback of the record files.



Figure 6-9 Interface of Playback by Time

Click button to add default tag.

Click button to add customized tag and input tag name.

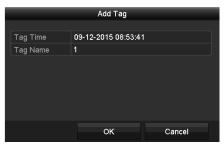


Figure 6-10 Add Tag



Max. 64 tags can be added to a single video file.

Step 3 Tag management.

Click button to check, edit and delete tag(s).



Figure 6-11 Tag Management Interface

#### Steps

- Step 1 Select Tag from the drop-down list in the Playback interface.
- Step 2 Choose channels, edit start time and end time, and then click **Search** to enter **Search Result** interface.



You can enter keyword in the textbox Keyword to search the tag on your command.



Figure 6-12 Video Search by Tag

Step 3 Click button to play back the file.

You can click the **Back** button to return to the search interface.



- Pre-play and post-play can be configured.
- You can click or button to select the previous or next tag. Please refer to Table 6-1 for the description of buttons on the toolbar.

### 6.1.5 Playing Back by Smart Search

#### **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 or VCA information, mark it with green color and play it in the normal speed while the video without motion will be played in the 16-time speed. The smart playback rules and areas are configurable.

#### Before you start

To get the smart search result, the corresponding event type must be enabled and configured on the IP camera. Here we take the intrusion detection as an example.

Step 1 Log in the IP camera by the web browser, and enable the intrusion detection by checking the checkbox of it. You may enter the motion detection configuration interface by Configuration > Advanced Configuration > Events > Intrusion Detection.



Figure 6-13 Setting Intrusion Detection on IP Camera

Step 2 Configure the required parameters of intrusion detection, including area, arming schedule and linkage methods. Refer to the user manual of smart IP camera for detailed instructions.

#### Steps

Step 1 Enter the Playback interface.

Menu>Playback

- Step 2 Select the **Smart** in the drop-down list on the top-left side.
- Step 3 Select a camera in the camera list.



Figure 6-14 Smart Playback Interface

Step 4 Select a date in the calendar and click the button to play.

Refer to Table 6-2 for the descriptions of the buttons on the Smart Playback Toolbar.

Table 6-2 Detailed Explanation of Smart Playback Toolbar

Button	Operation	Button	Operation	Button	Operation
<b>/</b>	Draw line for the line crossing detection	<b>♦</b>	Draw quadrilateral for the intrusion detection	ī <u>.</u>	Draw rectangle for the intrusion detection
	Set full screen for motion detection	III	Clear all	do / de/	Start/Stop clipping
<b>\$</b>	File management for video clips	•	Stop playing	11 /	Pause playing /Play
۶	Smart settings	Q	Search matched video files	Y	Filter video files by setting the target



Step 5 Set the rules and areas for smart search of VCA event or motion event.

#### Line Crossing Detection

Select the button, and click on the image to specify the start point and end point of the line.

#### Intrusion Detection

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

#### Motion Detection

Click the button and then click and draw the mouse to set the detection area manually. You can also click the button to set the full screen as the detection area.

Step 6 Click **t** to configure the smart settings.

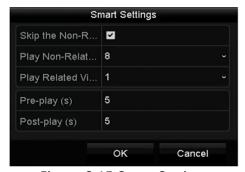


Figure 6-15 Smart Settings

**Skip the Non-Related Video:** The non-related video will not be played if this function is enabled.

**Play Non-Related Video at:** Set the speed to play the non-related video. Max. 8/4/2/1 are selectable.

Play Related Video at: Set the speed to play the related video. Max. 8/4/2/1 are selectable.



Pre-play and post-play is not available for the motion event type.

Step 7 Click to search and play the matched video files.

Step 8 (Optional) You can click to filter the searched video files by setting the target characters, including the gender and age of the human and whether he/she wears glasses.



Figure 6-16 Set Result Filter



The Result Filter function is supported by the IP camera only.

### 6.1.6 Playing Back by System Logs

#### **Purpose**

Play back record file(s) associated with channels after searching system logs.

#### Step 1 Enter Log Information interface.

Menu>Maintenance>Log Information

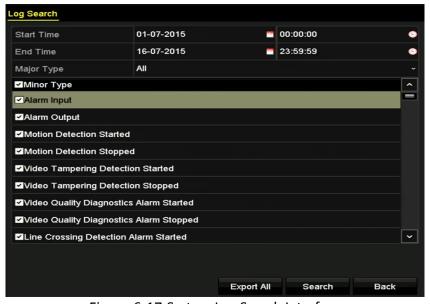


Figure 6-17 System Log Search Interface

Step 2 Click Log Search tab to enter System Log Search interface.

Set search time and type and click **Search** button.

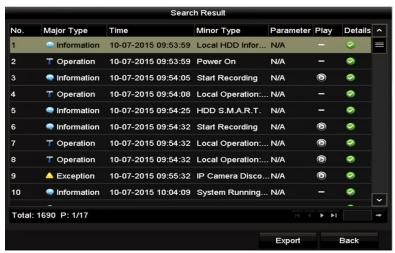


Figure 6-18 Result of System Log Search

Step 3 Choose a log with record file and click button to enter **Playback** interface.



If there is no record file at the time point of the log, the message box "No result found" will pop up.

Step 4 Playback management.

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



Figure 6-19 Interface of Playback by Log

## 6.1.7 Playing Back by Sub-Periods

#### **Purpose**

The video files can be played in multiple sub-periods simultaneously on the screens.

Step 1 Enter Playback interface.

Menu>Playback

Step 2 Select **Sub-periods** from the drop-down list in the upper-left corner of the page to enter the **Sub-periods Playback** interface.

Step 3 Select a date and start playing the video file.

Step 4 Select the Split-screen Number from the drop-down list. Up to 16 screens are configurable.

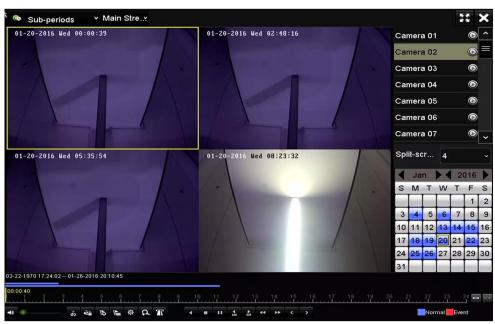


Figure 6-20 Interface of Sub-periods Playback



According to the defined number of split-screens, the video files on the selected date can be divided into average segments for playback. E.g., if there are video files existing between 16:00 and 22:00, and the 6-screen display mode is selected, then it can play the video files for 1 hour on each screen simultaneously.

## 6.1.8 Playing Back External File

#### **Purpose**

Perform the following steps to look up and play back files in the external devices.

Step 1 Enter the Playback interface.

Menu>Playback

Step 2 Select the **External File** in the drop-down list on the top-left side.

The files are listed in the right-side list.

You can click the Refresh button to refresh the file list.

Step 3 Select and click the button to play back it.



Figure 6-21 Interface of External File Playback

# 6.2 Auxiliary Functions of Playback

### 6.2.1 Playing Back Frame by Frame

#### Purpose

Play video files frame by frame, in order to check image details of the video when abnormal events happen.

- Step 1 Go to Playback interface and click button until the speed changes to Single frame.
- Step 2 One click on the playback screen represents playback or adverse playback of one frame. You can use button in toolbar to stop the playing.

## 6.2.2 Digital Zoom

- Step 1 Click the button on the playback control bar to enter Digital Zoom interface.
- Step 2 Use the mouse to draw a red rectangle and the image within it will be enlarged up to 16 times.



Figure 6-22 Draw Area for Digital Zoom

Step 3 Right-click the image to exit the digital zoom interface.

## 6.2.3 Reverse Playback of Multi-Channel

### Purpose

You can play back record files of multi-channel reversely. Up to 16-ch simultaneous reverse playback is supported.

Step 1 Enter Playback interface.

Menu>Playback

Step 2 Check more than one checkboxes to select multiple channels and click to select a date on the calendar.



Figure 6-23 4-ch Synchronous Playback Interface

Step 3 Click 1 to play back the record files reversely.

# Chapter 7 Backup

## 7.1 Backing up Record Files

#### Before you start

Please insert the backup device(s) into the device.

### 7.1.1 Backing up by Normal Video/Picture Search

#### **Purpose**

The record files or pictures can be backed up to various devices, such as USB devices (USB flash drives, USB HDDs, USB writer), SATA writer and e-SATA HDD.

#### Backup using USB flash drives and USB HDDs

Step 1 Enter Export interface.

Menu>Export>Normal/Picture

Step 2 Select the cameras to search.

Step 3 Set search condition and click **Search** button to enter the search result interface.

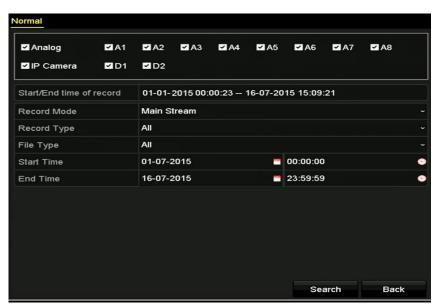


Figure 7-1 Normal Video Search for Backup

Step 4 The matched video files are displayed in **Chart** or **List** display mode.

Click on to play the record file if you want to check it.

Check the checkbox before the video files you want to back up.



The size of the currently selected files is displayed in the lower-left corner of the window.



Figure 7-2 Result of Normal Video Search for Backup

Step 5 Select video files from the **Chart** or **List** to export, and click the button **Export** to enter the **Export** interface.

You can also click **Export All** to select all the video files for backup and enter the **Export** interface.

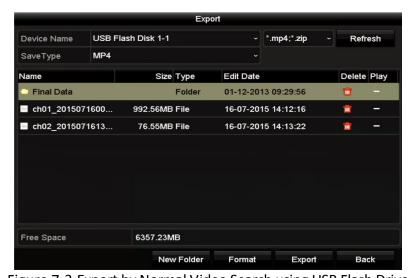


Figure 7-3 Export by Normal Video Search using USB Flash Drive

- Step 6 Select the backup device from the drop-down list and you can also select the file format to filter the files existing in the backup device.
- Step 7 Select the saving type.
- Step 8 Click the **Export** button on the Export interface to start the backup process.

- 1) On the pop-up message box, click the radio button to export the video files, log or the player to the backup device.
- 2) Click OK to confirm it.

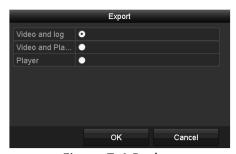


Figure 7-4 Backup

Step 9 A prompt message will pop up after the backup process is complete. Click **OK** to confirm it.



Figure 7-5 Export Finished



The backup of pictures using USB writer or SATA writer has the same operating instructions. Please refer to steps described above.

## 7.1.2 Backing up by Event Search

#### **Purpose**

Back up event-related record files using USB devices (USB flash drives, USB HDDs, USB writer), SATA writer or eSATA HDD. Quick Backup and Normal Backup are supported.

Step 1 Enter Export interface.

Menu > Export > Event

Step 2 Select the cameras to search.

Step 3 Select the event type to alarm input, motion or VCA.



Figure 7-6 Event Search for Backup

Step 4 Set search condition and click **Search** button to enter the search result interface. The matched video files are displayed in **Chart** or **List** display mode.

Step 5 Select video files from the Chart or List interface to export.



Figure 7-7 Result of Event Search

Step 6 Export the video files. Please refer to step5 of *Chapter 7.1.1 Backing up by Normal Video/Picture* Search for details.

### 7.1.3 Backing up Video Clips

#### **Purpose**

You may also select video clips in playback mode to export directly during Playback, using USB devices (USB flash drives, USB HDDs, USB writer), or SATA writer.

Step 1 Enter Playback interface.

- Step 2 During playback, use buttons or lipping in the playback toolbar to start or stop clipping record file(s).
- Step 3 Click to enter the file management interface.



Figure 7-8 Video Clips Export Interface

Step 4 Export the video clips in playback. Please refer to step5 of *Chapter 7.1.1 Backing up by Normal Video/Picture* Search for details.

# 7.2 Managing Backup Devices

Management of USB flash drives, USB HDDs and eSATA HDDs

Step 1 Enter the Export interface.



Figure 7-9 Storage Device Management

Step 2 Backup device management.

Click New Folder button if you want to create a new folder in the backup device.

### Digital Video Recorder User Manual

Select a record file or folder in the backup device and click **button** if you want to delete it.

Click **Erase** button if you want to erase the files from a re-writable CD/DVD.

Click Format button to format the backup device.



If the inserted storage device is not recognized:

- Click the **Refresh** button.
- Reconnect device.
- Check for compatibility from vendor.

# **Chapter 8 Alarm Settings**

# 8.1 Setting Motion Detection

Step 1 Enter **Motion Detection** interface of Camera Management and choose a camera you want to set up motion detection.

Menu> Camera> Motion



Figure 8-1 Motion Detection Setup Interface

Step 2 Set detection area and sensitivity.

Check checkbox to enable motion detection. Use the mouse to draw detection area(s) or click **Full Screen** to set the detection area to be the full screen and drag the sensitivity bar to set sensitivity.

Click to set alarm response actions.

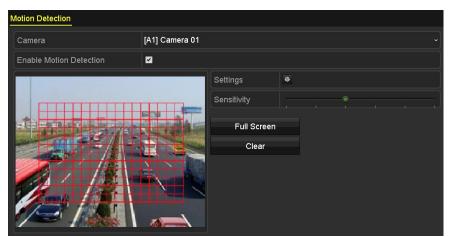


Figure 8-2 Set Detection Area and Sensitivity

Step 3 Click **Trigger Channel** tab and select one or more channels which will start to record or become full-screen monitoring when motion alarm is triggered.

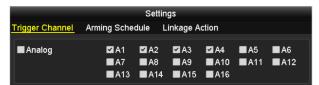


Figure 8-3 Set Trigger Camera of Motion Detection

Step 4 Set arming schedule of the channel.

Select **Arming Schedule** tab to set the channel's arming schedule.

Choose one day of a week and up to eight time periods can be set within each day. Or you can click the **Copy** button to copy the time period settings to other day(s).



Time periods shall not be repeated or overlapped.

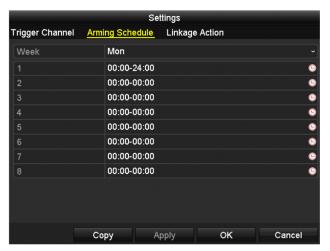


Figure 8-4 Set Arming Schedule of Motion Detection

Step 5 Click **Linkage Action** tab to set up alarm response actions of motion alarm (please refer to *Chapter 8.7 Setting Alarm Response Actions*).

Repeat the above steps to set up arming schedule of other days of a week.

Click the **OK** button to complete the motion detection settings of the channel.

Step 6 If you want to set motion detection for another channel, repeat the above steps or just copy the above settings to it.



You are not allowed to copy the "Trigger Channel" action.

### 8.2 Setting Sensor Alarms

### **Purpose**

Set up handling method of an external sensor alarm.

Step 1 Enter Alarm Settings of System Configuration and select an alarm input.

Menu> Configuration> Alarm

Select Alarm Input tab to enter Alarm Input Settings interface.

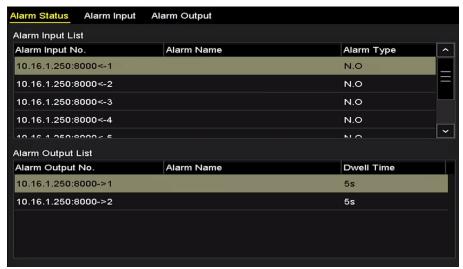


Figure 8-5 Alarm Status Interface of System Configuration

Step 2 Set the handling method of the selected alarm input.

Check the **Enable** checkbox and click button to set its alarm response actions.

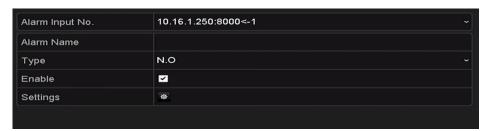


Figure 8-6 Alarm Input Settings Interface

- Step 3 Select **Trigger Channel** tab and select one or more channels which will start to record or become full-screen monitoring when an external alarm input is triggered.
- Step 4 Select **Arming Schedule** tab to set the channel's arming schedule.

Choose one day of a week and max. eight time periods can be set within each day.



Time periods shall not be repeated or overlapped.



Figure 8-7 Set Arming Schedule of Alarm Input

Step 5 Select **Linkage Action** tab to set up alarm response actions of the alarm input (please refer to *Chapter 8.7 Setting Alarm Response Actions*).

Repeat the above steps to set up arming schedule of other days of a week. You can also use **Copy** button to copy an arming schedule to other days.

Step 6 If necessary, select PTZ Linking tab and set PTZ linkage of the alarm input.

Set PTZ linking parameters and click the **OK** button to complete the settings of the alarm input.



Please check whether the PTZ or speed dome supports PTZ linkage.

One alarm input can trigger presets, patrol or pattern of more than one channel. But presets, patrols and patterns are exclusive.

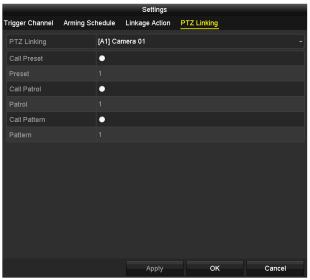


Figure 8-8 Set PTZ Linking of Alarm Input

Step 7 If you want to set handling action of another alarm input, repeat the above steps or just copy the above settings to it.



Figure 8-9 Copy Settings of Alarm Input

## 8.3 Detecting Video Loss

### Purpose

Detect video loss of a channel and take alarm response action(s).

Step 1 Enter **Video Loss** interface of Camera Management and select a channel you want to detect.

Menu> Camera> Video Loss



Figure 8-10 Video Loss Setup Interface

Step 2 Set up handling method of video loss.

Check the checkbox of Enable Video Loss Alarm.

Click button to set up handling method of video loss.

Step 3 Set arming schedule of the channel.

Select **Arming Schedule** tab to set the channel's arming schedule.

Choose one day of a week and up to eight time periods can be set within each day. Or you can click the **Copy** button to copy the time period settings to other day(s).



Time periods shall not be repeated or overlapped.

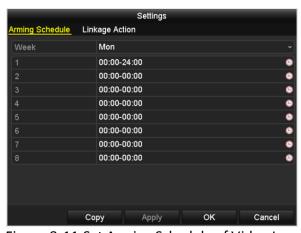


Figure 8-11 Set Arming Schedule of Video Loss

Repeat the above steps to set arming schedule of other days of a week. You can also use **Copy** button to copy an arming schedule to other days.

Step 4 Select **Linkage Action** tab to set up alarm response action of video loss (please refer to *Chapter 8.7 Setting Alarm Response Actions*).

Step 5 Click the **OK** button to complete the video loss settings of the channel.

Repeat the above steps to finish settings of other channels, or click the **Copy** button copy the above settings to them.

## 8.4 Detecting Video Tampering

### **Purpose**

Trigger alarm when the lens is covered and take alarm response action(s).

Step 1 Enter **Video Tampering** interface of Camera Management and select a channel you want to detect video tampering.

Menu> Camera> Video Tampering Detection



Figure 8-12 Video Tampering Interface

- Step 2 Check the checkbox of **Enable Video Tampering Detection**.
- Step 3 Drag the sensitivity bar and choose a proper sensitivity level.
- Step 4 Click to set handling method of video tampering. Set arming schedule and alarm response actions of the channel.
  - 1) Click **Arming Schedule** tab to set the arming schedule of response action.
  - 2) Choose one day of a week and up to eight time periods can be set within each day.



Time periods shall not be repeated or overlapped.

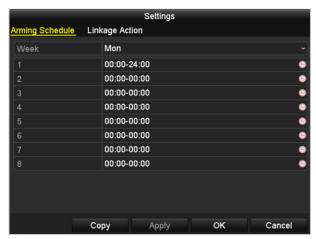


Figure 8-13 Set Arming Schedule of Video Tampering

- 3) Select **Linkage Action** tab to set alarm response actions of video tampering alarm (please refer to *Chapter 8.7 Setting Alarm Response Actions*).
  - Repeat the above steps to set arming schedule of other days of a week. You can also use **Copy** button to copy an arming schedule to other days.
- 4) Click the **OK** button to complete the video tampering settings of the channel.
  - Repeat the above steps to finish settings of other channels, or click the **Copy** button copy the above settings to them.
- Step 5 Click the **Apply** button to save and activate the settings.

# 8.5 Setting All-day Video Quality Diagnostics

#### **Purpose**

The device provides two ways to diagnose the video quality: manual and all-day. Perform the following steps to set the threshold of the diagnosing and the linkage actions.

Step 1 Enter **Video Quality Diagnostics Settings** interface of Camera Management and select a channel you want to detect video tampering.

Menu> Camera> Video Quality Diagnostics



Figure 8-14 Video Quality Diagnostics Interface

Step 2 Check the checkbox of Enable Video Quality Diagnostics.



To enable video quality diagnostics, the function should be supported by the selected camera.

Step 3 Enable and set the threshold of the diagnostic types, there are **Blurred Image**, **Abnormal Brightness**, and **Color Cast**.

Check the corresponding checkbox of the diagnostic type, and adjust the threshold of it by dragging the bar.



The higher the threshold you set, the harder the exception will be detected.

- Step 4 Click to set handling method of video quality diagnostics. Set arming schedule and alarm response actions of the channel.
  - 1) Click **Arming Schedule** tab to set the arming schedule of response action.
  - 2) Choose one day of a week and up to eight time periods can be set within each day.



Time periods shall not be repeated or overlapped.



Figure 8-15 Set Arming Schedule of Video Quality Diagnostics

3) Select **Linkage Action** tab to set alarm response actions of video quality diagnostics alarm (please refer to *Chapter 8.7 Setting Alarm Response Actions*).

Repeat the above steps to set arming schedule of other days of a week. You can also use **Copy** button to copy an arming schedule to other days.

4) Click the **OK** button to complete the video quality diagnostics settings of the channel.

Step 5 Click the **Apply** button to save and activate settings.

Step 6 (Optional) you can copy the same settings to other cameras by clicking the **Copy** button.

## 8.6 Handling Exceptions

#### **Purpose**

Exception settings refer to the handling method of various exceptions, e.g.

- **HDD Full:** The HDD is full.
- **HDD Error:** Writing HDD error, unformatted HDD, etc.
- Network Disconnected: Disconnected network cable.
- IP Conflicted: Duplicated IP address.
- Illegal Login: Incorrect user ID or password.
- Input/Recording Resolution Mismatch: The input resolution is smaller than the recording resolution.
- Record/Capture Exception: No space for saving recorded files or captured pictures.

Step 1 Enter **Exceptions** interface and handle various exceptions.

Menu> Configuration> Exceptions



Figure 8-16 Exception Settings Interface

Step 2 Check the checkbox of **Enable Event Hint** to display the (Event/Exception icon) when an exceptional event occurs. And click the icon to select the detailed event hint for display.



Figure 8-17 Event Hint Settings

NOTE

Click the icon appears in the live view interface, and you can view the detailed information of the exceptional event. Click the button **Set**, and then you can select the detailed event hint for display.

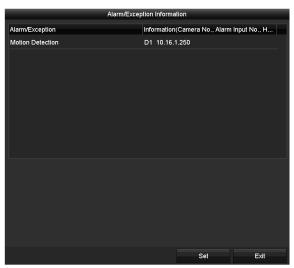


Figure 8-18 Detailed Event

Step 3 Set the alarm linkage actions. For details, see Chapter 8.7 Setting Alarm Response Actions.

Step 4 Click **Apply** to save the settings.

## 8.7 Setting Alarm Response Actions

### **Purpose**

Alarm response actions will be activated when an alarm or exception occurs, including Full Screen Monitoring, Audible Warning (buzzer), Notify Surveillance Center, Send Email and Trigger Alarm Output.

#### **Full Screen Monitoring**

When an alarm is triggered, the local monitor (HDMI or VGA monitor) displays in full screen the video image from the alarming channel configured for full screen monitoring.

If alarms are triggered simultaneously in several channels, their full-screen images will be switched at an interval of 10 seconds (default dwell time). A different dwell time can be set by going to Menu > Configuration > Live View.

Auto-switch will terminate once the alarm stops and you will be taken back to the Live View interface.

#### **Audible Warning**

Trigger an audible *beep* when an alarm is detected.

#### **Notify Surveillance Center**

Sends an exception or alarm signal to remote alarm host when an event occurs. The alarm host refers to the PC installed with Remote Client.



The alarm signal will be transmitted automatically at detection mode when remote alarm host is configured. Please refer to *Chapter 12.2.6 Configuring More Settings* for details of alarm host configuration.

#### **Send Email**

Send an email with alarm information to a user or users when an alarm is detected.

Please refer to Chapter 12.2.8 Configuring Email for details of Email configuration.

### **Trigger Alarm Output**

Trigger an alarm output when an alarm is triggered.

Step 1 Enter Alarm Output interface.

Menu> Configuration> Alarm> Alarm Output

Select an alarm output and set alarm name and dwell time.



Figure 8-19 Alarm Output Settings Interface



If **Manually Clear** is selected in the drop-down list of **Dwell Time**, you can clear it only by going to Menu> Manual> Alarm.

Step 2 Click button to set the arming schedule of alarm output.

Choose one day of a week and up to 8 time periods can be set within each day.



Time periods shall not be repeated or overlapped.



Figure 8-20 Set Arming Schedule of Alarm Output

Step 3 Repeat the above steps to set arming schedule of other days of a week. You can also click **Copy** button to copy an arming schedule to other days.

Click the **OK** button to complete the arming schedule setting of alarm output.

Step 4 Click the **Apply** button to save the settings.

# Chapter 9 VCA Alarm

### **Purpose**

The DVR can receive the VCA alarm (line crossing detection, intrusion detection, sudden scene change detection and audio exception detection) sent by analog camera, and the VCA detection must be enabled and configured on the camera settings interface first. All other VCA detection features must be supported by the connected IP camera.



- Supports 1-ch VCA (line crossing detection and intrusion detection). Channels with audio support audio exception detection.
- For the analog channels, the line crossing detection and intrusion detection conflict with other VCA detection such as sudden scene change detection, face detection and vehicle detection and heat map or people counting functions. You can only enable one function.

### 9.1 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 Enter the VCA settings interface.

Menu > Camera > VCA

Step 2 Select the camera to configure the VCA.

You can click the checkbox of **Save VCA Picture** to save the captured pictures of VCA detection.

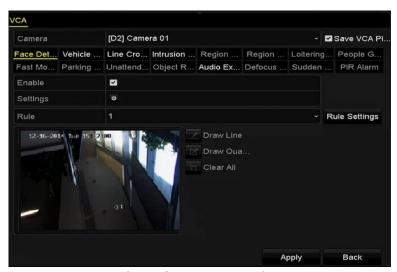


Figure 9-1 Face Detection

- Step 3 Select the VCA detection type to **Face Detection**.
- Step 4 Click to enter the face detection settings interface. Configure the trigger channel, arming schedule and linkage action for the face detection alarm. Please refer to step3 to step5 of *Chapter 8.1 Setting Motion Detection* for detailed instructions.
- Step 5 Click the **Rule Settings** button to set the face detection rules. You can drag the slider to set the detection sensitivity.

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



Figure 9-2 Set Face Detection Sensitivity

Step 6 Click **Apply** to activate the settings.

### 9.2 Vehicle Detection

### **Purpose**

Vehicle Detection is available for the road traffic monitoring. In Vehicle Detection, the passed vehicle can be detected and the picture of its license plate can be captured. You can send alarm signal to notify the surveillance center and upload the captured picture to FTP server.

Step 1 Enter the VCA settings interface.

Menu> Camera> VCA

Step 2 Select the camera to configure the VCA.

You can click the checkbox of **Save VCA Picture** to save the captured pictures of VCA detection.

- Step 3 Select the VCA detection type to **Vehicle Detection**.
- Step 4 Check the Enable checkbox to enable this function.

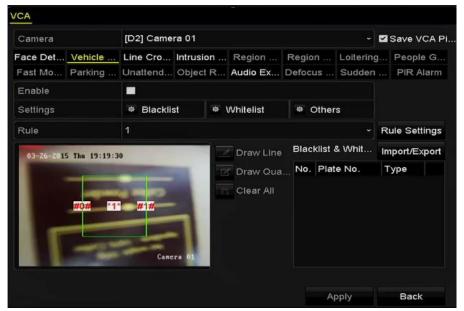


Figure 9-3 Set Vehicle Detection

- Step 5 Click to configure the trigger channel, arming schedule and linkage actions for the Blacklist, Whitelist and Others.
- Step 6 Click the **Rule Settings** to enter the rule settings interface. Configure the lane, upload picture and overlay content settings. Up to 4 lanes are selectable.

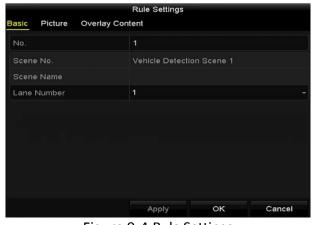


Figure 9-4 Rule Settings

Step 7 Click Save to save the settings.



Please refer to the User Manual of Network Camera for the detailed instructions for the vehicle detection.

## 9.3 Line Crossing Detection

### **Purpose**

This function can be used for detecting people, vehicles and objects cross a set virtual line. The line crossing direction can be set as bidirectional, from left to right or from right to left. And you can set the duration for the alarm response actions, such as full screen monitoring, audible warning, etc.

Step 1 Enter the VCA settings interface.

Menu> Camera> VCA

Step 2 Select the camera to configure the VCA.

You can click the checkbox of **Save VCA Picture** to save the captured pictures of VCA detection.

- Step 3 Select the VCA detection type to **Line Crossing Detection**.
- Step 4 Check the **Enable** checkbox to enable this function.
- Step 5 Click to configure the trigger channel, arming schedule and linkage actions for the line crossing detection alarm.
- Step 6 Click the Rule Settings button to set the line crossing detection rules.
  - 1) Select the direction to A<->B, A->B or B->A.
    - **A<->B**: Only the arrow on the B side shows. When an object goes across the configured line, both directions can be detected and alarms are triggered.
    - **A->B**: Only the object crossing the configured line from the A side to the B side can be detected.
    - **B->A**: Only the object crossing the configured line from the B side to the A side can be detected.
  - 2) Drag the slider to set the detection sensitivity.
    - **Sensitivity**: Range [1-100]. The higher the value is, the more easily the detection alarm can be triggered.
  - 3) Click **OK** to save the rule settings and return to the line crossing detection settings interface.



Figure 9-5 Set Line Crossing Detection Rules

Step 7 Click and set two points in the preview window to draw a virtual line.

You can use the **to clear the existing virtual line and re-draw it.** 



Up to 4 rules can be configured.



Figure 9-6 Draw Line for Line Crossing Detection

Step 8 Click **Apply** to activate the settings.



The sudden scene change detection and the line crossing detection cannot be enabled at the same channel.

### 9.4 Intrusion Detection

#### **Purpose**

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

Step 1 Enter the VCA settings interface.

Menu> Camera> VCA

Step 2 Select the camera to configure the VCA.

You can click the checkbox of **Save VCA Picture** to save the captured pictures of VCA detection.

- Step 3 Select the VCA detection type to **Intrusion Detection**.
- Step 4 Check the **Enable** checkbox to enable this function.
- Step 5 Click to configure the trigger channel, arming schedule and linkage actions for the intrusion detection alarm.
- Step 6 Click the **Rule Settings** button to set the intrusion detection rules. Set the following parameters.
  - 1) **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.
  - 2) Drag the slider to set the detection sensitivity.
    - **Sensitivity:** Range [1-100]. The value of the sensitivity defines the size of the object which can trigger the alarm. The higher the value is, the more easily the detection alarm can be triggered.
  - 3) **Percentage:** Range [1-100]. Percentage defines the ratio of the in-region part of the object which can trigger the alarm. For example, if the percentage is set as 50%, when the object enters the region and occupies half of the whole region, the alarm is triggered.



Figure 9-7 Set Intrusion Crossing Detection Rules

- 4) Click **OK** to save the rule settings and back to the line crossing detection settings interface.
- Step 7 Click and draw a quadrilateral in the preview window by specifying four vertexes of the detection region, and right click to complete drawing. Only one region can be configured.

You can use the to clear the existing virtual line and re-draw it.



Up to 4 rules can be configured.

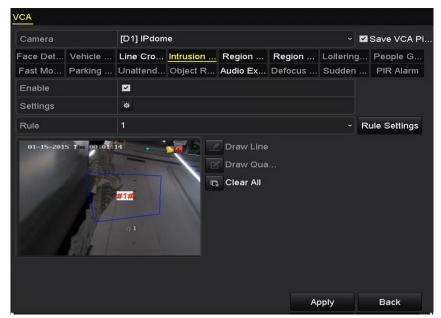


Figure 9-8 Draw Area for Intrusion Detection

Step 8 Click **Apply** to save the settings.



The sudden scene change detection and the intrusion detection cannot be enabled at the same channel.

### 9.5 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 Enter the VCA settings interface.

Menu> Camera> VCA

Step 2 Select the camera to configure the VCA.

You can click the checkbox of **Save VCA Picture** to save the captured pictures of VCA detection.

- Step 3 Select the VCA detection type to **Region Entrance Detection**.
- Step 4 Check the **Enable** checkbox to enable this function.
- Step 5 Click to configure the trigger channel, arming schedule and linkage actions for the region entrance detection alarm.
- Step 6 Click the **Rule Settings** button to set the sensitivity of the region entrance detection.

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

Step 7 Click and draw a quadrilateral in the preview window by specifying four vertexes of the detection region, and right click to complete drawing. Only one region can be configured.

You can use the to clear the existing virtual line and re-draw it.



Figure 9-9 Set Region Entrance Detection



Up to 4 rules can be configured.

Step 8 Click **Apply** to save the settings.

## 9.6 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.



- Please refer to the *Chapter 10.5 Region Entrance Detection* for operating steps to configure the region exiting detection.
- Up to 4 rules can be configured.

## 9.7 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.



- Please refer to the *Chapter 10.4 Intrusion Detection* for operating steps to configure the loitering detection.
- The **Threshold** [1s-10s] in the Rule Settings 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.
- Up to 4 rules can be configured.

## 9.8 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.



- Please refer to the Chapter 10.4 Intrusion Detection for operating steps to configure the people gathering detection.
- The **Percentage** in the Rule Settings 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.
- Up to 4 rules can be configured.

## 9.9 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.



- Please refer to the Chapter 10.4 Intrusion Detection for operating steps to configure the fast moving detection.
- The Sensitivity in the Rule Settings 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.
- Up to 4 rules can be configured.

## 9.10 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.



- Please refer to the *Chapter 10.4 Intrusion Detection* for operating steps to configure the parking detection.
- The Threshold [5s-20s] in the Rule Settings 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.
- Up to 4 rules can be configured.

## 9.11 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.



- Please refer to the *Chapter 10.4 Intrusion Detection* for operating steps to configure the unattended baggage detection.
- The Threshold [5s-20s] in the Rule Settings 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. And the 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.
- Up to 4 rules can be configured.

### 9.12 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.



- Please refer to the Chapter 10.4 Intrusion Detection for operating steps to configure the object removal detection.
- The Threshold [5s-20s] in the Rule Settings 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. And the 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.
- Up to 4 rules can be configured.

### 9.13 Audio Exception Detection

### **Purpose**

Audio exception detection 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.



The audio exception detection is supported by all analog channels.

Step 1 Enter the VCA settings interface.

Menu> Camera> VCA

Step 2 Select the camera to configure the VCA.

You can click the checkbox of **Save VCA Picture** to save the captured pictures of VCA detection.

- Step 3 Select the VCA detection type to **Audio Exception Detection**.
- Step 4 Click to configure the trigger channel, arming schedule and linkage action for the audio exception alarm.
- Step 5 Click the **Rule Settings** button to set the audio exception rules.

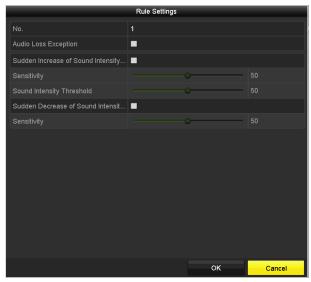


Figure 9-10 Set Audio Exception Detection Rules

- 1) Check the checkbox of **Audio Loss Exception** to enable the audio loss detection function.
- 2) Check the checkbox of **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 the checkbox of **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 6 Click **Apply** to activate the settings.

### 9.14 Defocus Detection

#### **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.



- Please refer to the *Chapter 10.1 Face Detection* for operating steps to configure the defocus detection.
- The **Sensitivity** in the Rule Settings ranges from 1 to 100, and the higher the value is, the more easily the defocus image can trigger the alarm.

### 9.15 Sudden Scene Change

### **Purpose**

Scene change detection 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.



- Please refer to the *Chapter 10.1 Face Detection* for operating steps to configure the scene change detection.
- 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.
- For the analog cameras, the line crossing detection and intrusion detection conflict with other VCA detection such as sudden scene change detection, face detection and vehicle detection. You can only enable one function. If you have enabled line crossing detection or intrusion detection, when you enable sudden scene change detection and apply the settings, the following attention box pops up to remind you there is no enough resource and ask you to disable the enabled VCA type(s) of the selected channel(s).



Figure 9-11 Disable Other VCA Type(s)

### 9.16 PIR Alarm

#### **Purpose**

A PIR (Passive Infrared) alarm is triggered when an intruder moves within the detector's field of view. The heat energy dissipated by a person, or any other warm blooded creature such as dogs, cats, etc., can be detected.

Step 1 Enter the VCA settings interface.

Menu> Camera> VCA

Step 2 Select the camera to configure the VCA.

You can click the checkbox of **Save VCA Picture** to save the captured pictures of VCA detection.

- Step 3 Select the VCA detection type to PIR Alarm.
- Step 4 Click to configure the trigger channel, arming schedule and linkage action for the PIR alarm.
- Step 5 Click the **Rule Settings** button to set the rules. Please refer to the *Chapter 10.1 Face Detection* for instructions.
- Step 6 Click **Apply** to activate the settings.

# Chapter 10 VCA Search

With the configured VCA detection, the device supports the VCA search for the behavior search, face search, plate search, people counting and heat map results.

### 10.1 Face Search

### **Purpose**

When there are detected face picture captured and saved in HDD, you can enter the **Face Search** interface to search the picture and play the picture related video files according to the specified conditions.

### Before you start

Please refer to Section 10.1 Face Detection for configuring the face detection.

Step 1 Enter the Face Search interface.

Menu>VCA Search> Face Search

Step 2 Select the camera (s) for the face search.

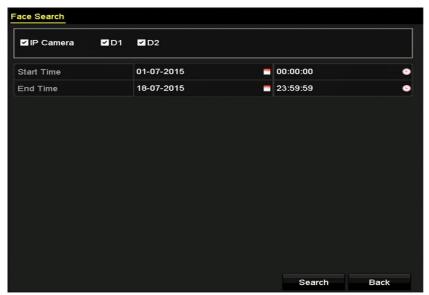


Figure 10-1 Face Search

Step 3 Specify the start time and end time for searching the captured face pictures or video files.

Step 4 Upload the pictures from your local storage device for matching the detected face pictures.

Step 5 Set the similarity level for the source pictures and the captured pictures.

Step 6 Click **Search** to start searching. The search results of face detection pictures are displayed in list or in chart.



Figure 10-2 Face Search Interface

Step 7 Play the face picture related video file.

You can double click on a face picture to play its related video file in the view window on the top right, or select a picture item and click on to play it.

You can also click to stop the playing, or click to play the previous/next file.

Step 8 If you want to export the captured face pictures to local storage device, connect the storage device to the device and click **Export All** to enter the Export interface.

Click **Export** to export all face pictures to the storage device.

Please refer to Chapter 7 Backup for the operation of exporting files.



Figure 10-3 Export Files

### 10.2 Behavior Search

### **Purpose**

The behavior analysis detects a series of suspicious behavior based on VCA detection, and certain linkage methods will be enabled if the alarm is triggered.

Step 1 Enter the Behavior Search interface.

Menu>VCA Search> Behavior Search

- Step 2 Select the camera (s) for the behavior search.
- Step 3 Specify the start time and end time for searching the matched pictures.

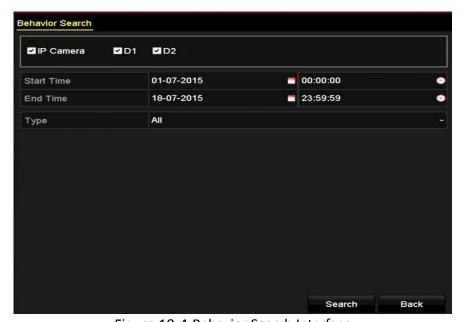


Figure 10-4 Behavior Search Interface

- Step 4 Select the VCA detection type from the drop-down list, including the line crossing detection, intrusion detection, unattended baggage detection, object removal detection, region entrance detection, region exiting detection, parking detection, loitering detection, people gathering detection and fast moving detection.
- Step 5 Click **Search** to start searching. The search results of pictures are displayed in list or in chart.



Figure 10-5 Behavior Search Results

Step 6 Play the behavior analysis picture related video file.

You can double click on a picture from the list to play its related video file in the view window on the top right, or select a picture item and click to play it.

You can also click to stop the playing, or click to play the previous/next file.

Step 7 If you want to export the captured pictures to local storage device, connect the storage device to the device and click **Export All** to enter the Export interface.

Click **Export** to export all pictures to the storage device.

### 10.3 Plate Search

#### **Purpose**

You can search and view the matched captured vehicle plate picture and related information according to the plate searching conditions including the start time/end time, country and plate No.

Step 1 Enter the **Plate Search** interface.

Menu>VCA Search> Plate Search

Step 2 Select the camera (s) for the plate search.

Step 3 Specify the start time and end time for searching the matched plate pictures.

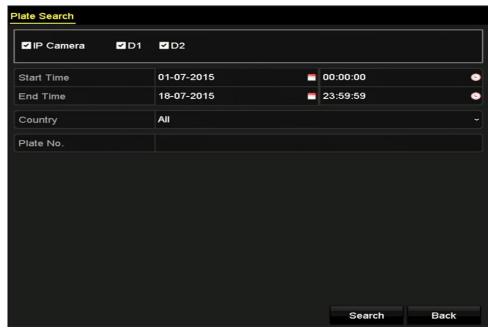


Figure 10-6 Plate Search

- Step 4 Select the country from the drop-down list for searching the location of the vehicle plate.
- Step 5 Input the plate No. in the field for search.
- Step 6 Click **Search** to start searching. The search results of detected vehicle plate pictures are displayed in list or in chart.



Please refer to the Step 7 to Step 8 of *Section 11.1 Face Search* for the operation of the search results.

## 10.4 People Counting

### **Purpose**

The People Counting is used to calculate the number of people entered or left a certain configured area and form in daily/weekly/monthly/annual reports for analysis.

Step 1 Enter the People Counting interface.

Menu>VCA Search> People Counting

- Step 2 Select the camera for the people counting.
- Step 3 Select the report type to Daily Report, Weekly Report, Monthly Report or Annual Report.
- Step 4 Set the statistics time.



### Step 5 Click the **Counting** button to start people counting statistics.

Figure 10-7 People Counting Interface

Step 6 You can click the **Export** button to export the statistics report in excel format.

# 10.5 Heat Map

### **Purpose**

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

Step 1 Enter the **Heat Map** interface.

Menu>VCA Search> Heat Map

- Step 2 Select the camera for the heat map processing.
- Step 3 Select the report type to Daily Report, Weekly Report, Monthly Report or Annual Report.
- Step 4 Set the statistics time.

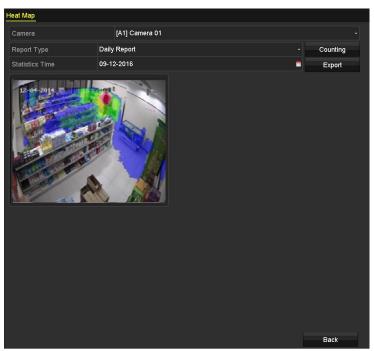


Figure 10-8 Heat Map Interface

Step 5 Click the **Counting** button to export the report data and start heat map statistics, and the results are displayed in graphics marked in different colors.



As shown in Figure 10-8, red color block (255, 0, 0) indicates the most welcome area, and blue color block (0, 0, 255) indicates the less-popular area.

Step 6 You can click the **Export** button to export the statistics report in excel format.

# **Chapter 11 Network Settings**

## 11.1 Configuring General Settings

### **Purpose**

Network settings must be properly configured before you operate DVR over network.

Step 1 Enter the Network Settings interface.

Menu > Configuration > Network

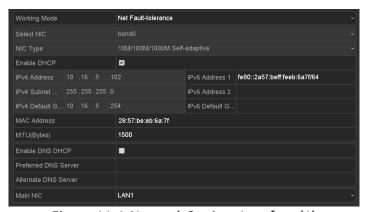


Figure 11-1 Network Settings Interface (1)



1 self-adaptive 10M/100M/1000M network interface or 1 self-adaptive 10M/100Mbps network interface provided.

Step 2 Select the **General** tab.

- Step 3 In the **General Settings** interface, you can configure the following parameters: NIC Type, IPv4 Address, IPv4 Gateway, MTU, DNS Server and Main NIC.
  - 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 device 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.



- The valid value of MTU is from 500 to 1500.
- If the DHCP server is available, you can check the checkbox of **Enable DHCP** to automatically obtain an IP address and other network settings from that server.
- If DHCP is enabled, you can check the checkbox of **Enable DNS DHCP** or uncheck it and edit the **Preferred DNS Server** and **Alternate DNS Server**.

Step 4 After having configured the general settings, click the **Apply** button to save the settings.

## 11.2 Configuring Advanced Settings

### 11.2.1 Configuring PPPoE Settings

### **Purpose**

The DVR also allows access by Point-to-Point Protocol over Ethernet (PPPoE).

Step 1 Enter the Network Settings interface.

Menu > Configuration > Network

Step 2 Select the **PPPoE** tab to enter the **PPPoE Settings** interface.



Figure 11-2 PPPoE Settings Interface

Step 3 Check the **Enable PPPoE** checkbox to enable this feature.

Step 4 Enter User Name and Password for PPPoE access.



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

Step 5 Click the **Apply** button to save the settings.

Step 6 After successful settings, the system asks you to reboot the device to enable the new settings, and the PPPoE dial-up is automatically connected after reboot.

You can go to Menu > Maintenance > System Info > Network interface to view the status of PPPoE connection.

## 11.2.2 Configuring Guarding Vision (Mobile access)

#### **Purpose**

Guarding Vision provides the mobile phone application and the service platform page (www.guardingvision.com) to access and manage your connected DVR, which enables you to get a convenient remote access to the surveillance system.

# NOTE

The Guarding Vision can be enabled via operation on SADP software, GUI and Web browser. We introduce the operation steps on GUI in this section.

Step 1 Enter the **Network Settings** interface.

Menu > Configuration > Network

Step 2 Select the **Platform Access** tab to enter the Guarding Vision Settings interface.



Figure 11-3 Guarding Vision Settings

Step 3 Check the **Enable** checkbox to activate the function.

Then the **Service Terms** interface pops up as below.



Figure 11-4 Service Terms

- 1) Create the verification code and enter the code in the **Verification Code** text field.
- 2) Check the checkbox of **The Guarding Vision service will require internet access.**Please read Service Terms and Privacy Statement before enabling the service.
- 3) Scan the QR code on the interface to read the Service Terms and Privacy Statement.
- 4) Click **OK** to save the settings and return to the Guarding Vision interface.



- Guarding Vision is disabled by default.
- The verification code is empty when the device leaves factory.
- The verification code must contain 6 to 12 letters or numbers and is case sensitive.
- For the old versions of DVR with Guarding Vision enabled, if you upgrade it, Guarding Vision is still enabled. If you disable it and then enable it for the first time, you need to change the verification code if the encrypted verification code is the same with that of the configuration file, or the encrypted verification code is empty and the verification code of configuration file is ABCDEF. In these two conditions, you should create a new verification code or you can delete the default one and input the same verification code with the default one.
- Every time you enable Guarding Vision, the Terms of Service interface pops up and you should check the checkbox before enabling it.

Step 4 (Optional) Check the checkbox of **Custom** and input the **Server Address**.

Step 5 (Optional) Check the checkbox of **Enable Stream Encryption**.

After this feature is enabled, the verification code is required for remote access and live view.



You can use the scanning tool of your phone to quickly get the code by scanning the QR code below.

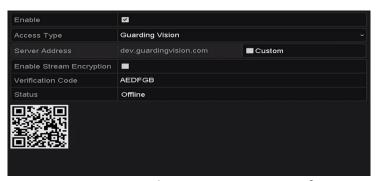


Figure 11-5 Guarding Vision Settings Interface

Step 6 Click the **Apply** button to save the settings.

After configuration, you can access and manage the DVR by your mobile phone on which the Guarding Vision application is installed (download "Guarding Vision" through Google Play (Android) or the Apple Store (Apple iOS)) or by the website (www.guardingvision.com).



Please refer to the help file on the official website (www.guardingvision.com) and the *Guarding Vision Mobile Client User Manual* for adding the device to Guarding Vision and more operation instructions.

### 11.2.3 Configuring DDNS

#### **Purpose**

If your DVR is set to use PPPoE as its default network connection, you may set Dynamic DNS (DDNS) to be used for network access.

Prior registration with your ISP is required before configuring the system to use DDNS.

Step 1 Enter the Network Settings interface.

Menu > Configuration > Network

- Step 2 Select the **DDNS** tab to enter the DDNS Settings interface.
- Step 3 Check the **Enable DDNS** checkbox to enable this feature.
- Step 4 Select **DDNS Type**. Three different DDNS types are selectable: DynDNS, PeanutHull and NO-IP.
  - DynDNS:
  - 1) Enter Server Address for DynDNS (i.e. members.dyndns.org).
  - 2) In the **Device Domain Name** text field, enter the domain obtained from the DynDNS website.
  - 3) Enter the User Name and Password registered in the DynDNS website.

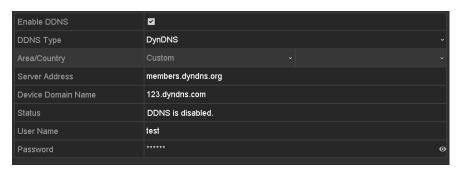


Figure 11-6 DynDNS Settings Interface

 PeanutHull: Enter the User Name and Password obtained from the PeanutHull website.

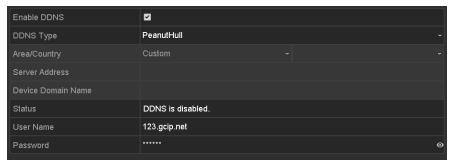


Figure 11-7 PeanutHull Settings Interface

#### NO-IP:

Enter the account information in the corresponding fields. Refer to the DynDNS settings.

- 1) Enter Server Address for NO-IP.
- 2) In the **Device Domain Name** text field, enter the domain obtained from the NO-IP website (www.no-ip.com).
- 3) Enter the **User Name** and **Password** registered in the NO-IP website.

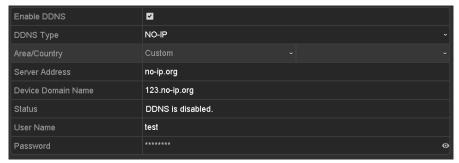


Figure 11-8 NO-IP Settings Interface

Step 5 Click the **Apply** button to save and exit the interface.

### 11.2.4 Configuring NTP Server

#### **Purpose**

A Network Time Protocol (NTP) Server can be configured on your DVR to ensure the accuracy of system date/time.

Step 1 Enter the **Network Settings** interface.

Menu > Configuration > Network

Step 2 Select the **NTP** tab to enter the **NTP Settings** interface.



Figure 11-9 NTP Settings Interface

Step 3 Check the **Enable NTP** checkbox to enable this feature.

Step 4 Configure the following NTP settings:

- Interval: Time interval between the two synchronizing actions with NTP server. The unit is minute.
- NTP Server: IP address of NTP server.

• NTP Port: Port of NTP server.

Step 5 Click the **Apply** button to save and exit the interface.



The time synchronization interval can be set from 1 to 10080 minutes, and the default value is 60 minutes. If the DVR is connected to a public network, you should use a NTP server that has a time synchronization function, such as the server at the National Time Center (IP Address: 210.72.145.44). If the DVR is set in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.

### 11.2.5 Configuring NAT

#### **Purpose**

Universal Plug and Play (UPnP™) can permit the device seamlessly discover the presence of other network devices on the network and establish functional network services for data sharing, communications, etc. You can use the UPnP™ function to enable the fast connection of the device to the WAN via a router without port mapping.

### Before you start

If you want to enable the UPnP™ function of the device, you must enable the UPnP™ function of the router to which your device is connected. When the network working mode of the device is set as multi-address, the Default Route of the device should be in the same network segment as that of the LAN IP address of the router.

Step 1 Enter the **Network Settings** interface.

Menu > Configuration > Network

Step 2 Select the **NAT** tab to enter the **UPnP™ Settings** interface.

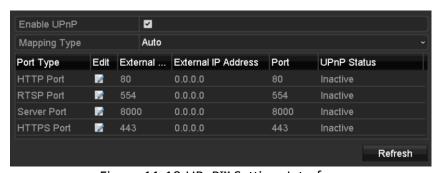


Figure 11-10 UPnP™ Settings Interface

Step 3 Check **Enable UPnP** checkbox to enable UPnP™.

Step 4 Select the Mapping Type as Manual or Auto in the drop-down list.

**OPTION 1: Auto** 

If you select **Auto**, the Port Mapping items are read-only, and the external ports are set by the router automatically.

- 1) Click **Apply** button to save the settings.
- 2) You can click **Refresh** button to get the latest status of the port mapping.

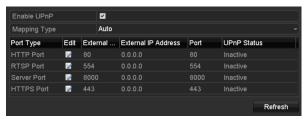


Figure 11-11 UPnP™ Settings Finished-Auto

#### **OPTION 2: Manual**

If you select **Manual** as the mapping type, you can edit the external port on your demand by clicking to activate the **External Port Settings** dialog box.

1) Click at to activate the **External Port Settings** dialog box. Configure the external port No. for server port, http port and RTSP port respectively.

## NOTE

- You can use the default 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.

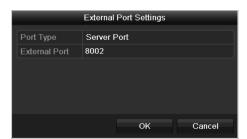


Figure 11-12 External Port Settings Dialog Box

- 2) Click **Apply** button to save the settings.
- 3) You can click **Refresh** button to get the latest status of the port mapping.

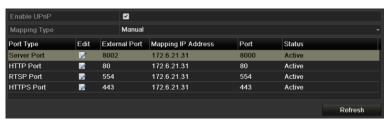


Figure 11-13 UPnP™ Settings Finished-Manual

### 11.2.6 Configuring More Settings

Step 1 Enter the Network Settings interface.

Menu > Configuration > Network

Step 2 Select the More Settings tab to enter the More Settings interface.

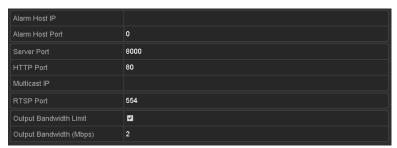


Figure 11-14 More Settings Interface

Step 3 Configure the remote alarm host, server port, HTTP port, multicast, and RTSP port.

 Alarm Host IP/Port: With a remote alarm host configured, the device will send the alarm event or exception message to the host when an alarm is triggered. The remote alarm host must have the CMS (Client Management System) software installed.

The **Alarm Host IP** refers to the IP address of the remote PC on which the CMS (Client Management System) software (e.g., Guarding Expert) is installed, and the **Alarm Host Port** must be the same as the alarm monitoring port configured in the software (default port is 7200).

Multicast IP: The multicast can be configured to realize live view for more than the
maximum number of cameras through network. A multicast address spans the Class-D IP
range of 224.0.0.0 to 239.255.255.255. It is recommended to use the IP address ranging
from 239.252.0.0 to 239.255.255.255.

When adding a device to the CMS (Client Management System) software, the multicast address must be the same as the device's multicast IP.

RTSP Port: The RTSP (Real Time Streaming Protocol) is a network control protocol
designed for use in entertainment and communications systems to control streaming
media servers.

Enter the RTSP port in the text field of **RTSP Port**. The default RTSP port is 554, and you can change it according to different requirements.

Server Port and HTTP Port: Enter the Server Port and HTTP Port in the text fields. The
default Server Port is 8000 and the HTTP Port is 80, and you can change them according
to different requirements.



The Server Port should be set to the range of 2000-65535 and it is used for remote client software access. The HTTP port is used for remote IE access.

- 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 in the text field.



- Enabling output bandwidth limit and settings output bandwidth options are applicable.
- The output bandwidth limit is used for the remote live view and playback.
- The minimum output bandwidth is 2 Mbps.

Step 4 Click the **Apply** button to save and exit the interface.

### 11.2.7 Configuring HTTPS Port

### **Purpose**

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

#### Example

If you set the port number as 443 and the IP address is 192.0.0.64, you may access the device by inputting https://192.0.0.64:443 via the web browser.



The HTTPS port can be only configured through the web browser.

- Step 1 Open web browser, input the IP address of device, and the web server will select the language automatically according to the system language and maximize the web browser.
- Step 2 Input the correct user name and password, and click **Login** button to log in the device.
- Step 3 Enter the HTTPS settings interface.

Configuration > Remote Configuration > Network Settings > HTTPS

Step 4 Create the self-signed certificate or authorized certificate.



Figure 11-15 HTTPS Settings

### **OPTION 1**: Create the self-signed certificate

1) Click the **Create** button to create the following dialog box.



Figure 11-16 Create Self-signed Certificate

- 2) Enter the country, host name/IP, validity and other information.
- 3) Click **OK** to save the settings.

### **OPTION 2**: Create the authorized certificate

- 1) Click the **Create** button to create the certificate request.
- 2) Download the certificate request and submit it to the trusted certificate authority for signature.
- 3) After receiving the signed valid certificate, import the certificate to the device.
- Step 5 There will be the certificate information after you successfully create and install the certificate.



Figure 11-17 Installed Certificate Property

Step 6 Check the checkbox to enable the HTTPS function.

Step 7 Click the **Save** button to save the settings.

### 11.2.8 Configuring Email

### **Purpose**

The system can be configured to send an Email notification to all designated users if an event is detected, e.g. an alarm or motion event is detected, etc.

Before configuring the Email settings, the DVR must be connected to a local area network (LAN) that maintains an SMTP mail server. The network must also be connected to either an intranet or the Internet depending on the location of the e-mail accounts to which you want to send notification. Additional, the Preferred DNS server must be configured.

#### Before you start

Make sure you have configured the IPv4 Address, IPv4 Subnet Mask, IPv4 Gateway and the Preferred DNS Server in the Network Settings menu. Please refer to *Chapter 11.1 Configuring General Settings* for detailed information.

Step 1 Enter the **Network Settings** interface.

Menu > Configuration > Network

Step 2 Select the **Email** tab to enter the **Email Settings** interface.



Figure 11-18 Email Settings Interface

Step 3 Configure the following Email settings:

**Enable Server Authentication (optional):** Check the checkbox 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.

SMTP Server: The SMTP Server IP address or host name (e.g., smtp.263xmail.com).

**SMTP Port:** The SMTP port. The default TCP/IP port used for SMTP is 25.

**Enable SSL (optional):** Click the checkbox to enable SSL if required by the SMTP server.

**Sender:** The name of sender.

Sender's Address: The Email address of sender.

**Select Receivers:** Select the receiver. Up to 3 receivers can be configured.

Receiver: The name of the receiver of the Email.

Receiver's Address: The Email address of the receiver.

**Enable Attached Picture:** Check the checkbox if you want to send email with attached alarm images. The interval is the time between two captures of the alarm images.



- For the IP cameras, the alarm images are directly sent as the attached pictures by Email. Up
  to one picture can be sent for one IP camera. The attached pictures of the linked cameras
  cannot be sent.
- For analog cameras, 3 attached pictures can be sent for one analog camera when the alarm is triggered.

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

**E-mail Test:** Sends a test message to verify that the SMTP server can be reached.

Step 4 Click the **Apply** button to save the Email settings.

Step 5 You can click the **Test** button to test whether your Email settings work. The corresponding Attention message box pops up.



Figure 11-19 Email Testing Attention

## 11.2.9 Checking Network Traffic

#### **Purpose**

You can check the network traffic to obtain real-time information of DVR such as linking status, MTU, sending/receiving rate, etc.

Step 1 Enter the **Network Traffic** interface.

Menu > Maintenance > Net Detect

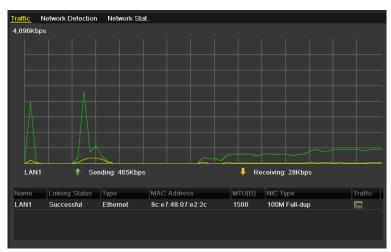


Figure 11-20 Network Traffic Interface

Step 2 You can view the sending rate and receiving rate information on the interface. The traffic data is refreshed every 1 second.

## 11.3 Configuring Network Detection

#### **Purpose**

You can obtain network connecting status of DVR through the network detection function, including network delay, packet loss, etc.

### 11.3.1 Testing Network Delay and Packet Loss

Step 1 Enter the Network Traffic interface.

Menu > Maintenance > Net Detect

Step 2 Click the **Network Detection** tab to enter the **Network Detection** interface.

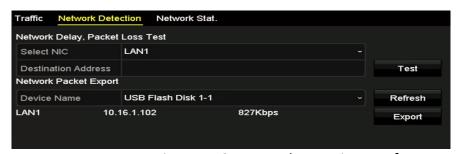


Figure 11-21 Network Detection Interface

Step 3 Select a NIC to test network delay and packet loss.

Step 4 Enter the destination address in the text field of **Destination Address**.

Step 5 Click the **Test** button to start testing network delay and packet loss.

### 11.3.2 Exporting Network Packet

#### **Purpose**

By connecting the DVR to network, the captured network data packet can be exported to USB-flash disk, SATA and other local backup devices.

Step 1 Enter the Network Traffic interface.

Menu > Maintenance > Net Detect

Step 2 Click the **Network Detection** tab to enter the **Network Detection** interface.

Step 3 Select the backup device from the drop-down list of **Device Name**.



Click the **Refresh** button if the connected local backup device cannot be displayed. When it fails to detect the backup device, please check whether it is compatible with the DVR. You can format the backup device if the format is incorrect.

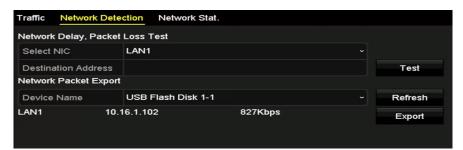


Figure 11-22 Export Network Packet

Step 4 Click the **Export** button to start exporting.

Step 5 After the exporting is complete, click **OK** to finish the packet export.



Figure 11-23 Packet Export Attention



Up to 1M data can be exported each time.

## 11.3.3 Checking Network Status

#### **Purpose**

You can also check the network status and quick set the network parameters in this interface.

Step 1 Enter the Network Traffic interface.

Menu > Maintenance > Net Detect

Step 2 Click the **Network Detection** tab to enter the **Network Detection** interface.

Step 3 Click Status on the right bottom of the interface.

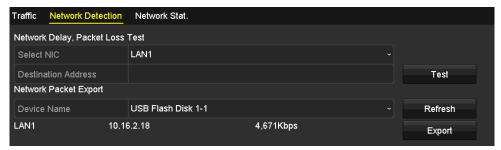


Figure 11-24 Checking Network Status

If the network is normal the following message box pops out.



Figure 11-25 Network Status Checking Result

If the message box pops out with other information instead of this one, you can click **Network** button to show the quick setting interface of the network parameters.

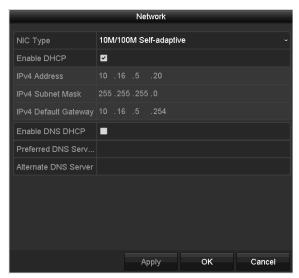


Figure 11-26 Network Parameters Configuration

## 11.3.4 Checking Network Statistics

### Purpose:

You can check the network statistics to obtain the real-time information of the device.

### Step 1 Enter the **Network Statistics** interface.

Menu > Maintenance> Net Detect

Step 2 Click the **Network Stat.** tab to enter the **Network Statistics** interface.

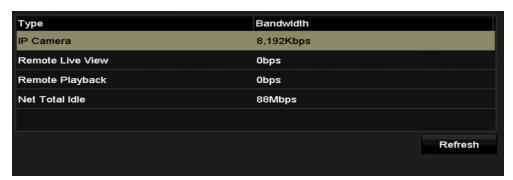


Figure 11-27 Network Stat. Interface

Step 3 View the bandwidth of Remote Live View, bandwidth of Remote Playback, and bandwidth of Net Total Idle.

Step 4 Click **Refresh** button to get the latest bandwidth statistics.

# Chapter 12 HDD Management

## 12.1 Initializing HDDs

### **Purpose**

A newly installed hard disk drive (HDD) must be initialized before it can be used with your DVR.

Step 1 Enter the **HDD Information** interface.

Menu > HDD > General

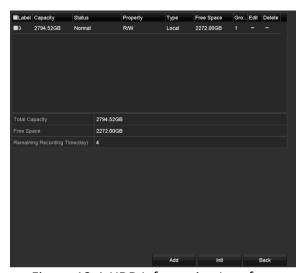


Figure 12-1 HDD Information Interface

You can view the Total Capacity, Free Space and Remaining Recording Time of the HDD. The algorithm of the Remaining Recording Time is to use average bit rate for the channel enabling smart encoding to raise accuracy.

Step 2 Select HDD to be initialized.

Step 3 Click the Init button.



Figure 12-2 Confirm Initialization

Step 4 Select the **OK** button to start initialization.

Figure 12-3 Start Initialization

Step 5 After the HDD has been initialized, the status of the HDD will change from *Uninitialized* to *Normal*.



Figure 12-4 HDD Status Changes to Normal



Initializing the HDD will erase all data on it.

The HDDs which are free of working for a long time can be enabled to sleep, thus to decrease the power consumption of the device and extend the life of the HDDs.

Click Menu > HDD > Advanced

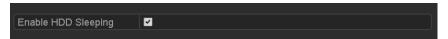


Figure 12-5 Enable HDD Sleeping

Check the checkbox of **Enable HDD Sleeping** (by default), and the HDDs which are free of working for a long time will be set to sleep.

Uncheck the checkbox of **Enable HDD Sleeping**, and the HDDs will be set to work for all time.

## 12.2 Managing Network HDD

#### **Purpose**

You can add the allocated NAS or disk of IP SAN to DVR, and use it as network HDD.

Step 1 Enter the HDD Information interface.

Menu > HDD>General



Figure 12-6 HDD Information Interface

Step 2 Click the Add button to enter the Add NetHDD interface, as shown in Figure 12-7.

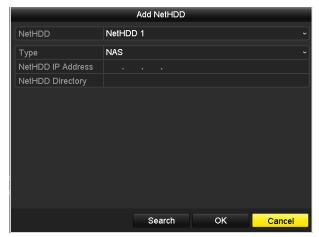


Figure 12-7 HDD Information Interface

Step 3 Add the allocated NetHDD.

Step 4 Select the type to NAS or IP SAN.

Step 5 Configure the NAS or IP SAN settings.

### • Add NAS disk:

- 1) Enter the NetHDD IP address in the text field.
- 2) Click **Search** to search the available NAS disks.
- Select the NAS disk from the list shown below.
   Or you can just manually enter the directory in the text field of NetHDD Directory.
- 4) Click **OK** to add the configured NAS disk.



Up to 8 NAS disks can be added.



Figure 12-8 Add NAS Disk

#### Add IP SAN:

- 1) Enter the NetHDD IP address in the text field.
- 2) Click the Search button to the available IP SAN disks.
- 3) Select the IP SAN disk from the list shown below.
- 4) Click the **OK** button to add the selected IP SAN disk.



Up to 8 IP SAN disks can be added.

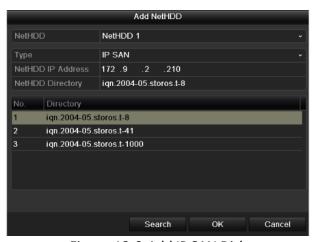


Figure 12-9 Add IP SAN Disk

5) After having successfully added the NAS or IP SAN disk, return to the HDD Information menu. The added NetHDD will be displayed in the list.



If the added NetHDD is uninitialized, please select it and click the **Init** button for initialization.



Figure 12-10 Initialize Added NetHDD

## 12.3 Managing HDD Group

### 12.3.1 Setting 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 Enter the Storage Mode interface.

Menu > HDD > Advanced

Step 2 Set the Mode to Group, as shown in Figure 12-11.



Figure 12-11 Storage Mode Interface

Step 3 Click the **Apply** button and the following Attention box will pop up.



Figure 12-12 Attention for Reboot

Step 4 Click the Yes button to reboot the device to activate the changes.

Step 5 After reboot of device, enter the HDD Information interface.

Menu > HDD > General

Step 6 Select HDD from the list and click the icon to enter the **Local HDD Settings** interface, as shown in Figure 12-13.



Figure 12-13 Local HDD Settings Interface

Step 7 Select the Group number for the current HDD.



The default group No. for each HDD is 1.

Step 8 Click the **OK** button to confirm the settings.



Figure 12-14 Confirm HDD Group Settings

Step 9 In the pop-up Attention box, click the **Yes** button to finish the settings.

## 12.3.2 Setting HDD Property

#### **Purpose**

The HDD property can be set to redundancy, read-only or read/write (R/W). Before setting the HDD property, please set the storage mode to Group (refer to step1-4 of *Chapter 12.3.1 Setting HDD Groups*).

A HDD can be set to read-only to prevent important recorded files from being overwritten when the HDD becomes full in overwrite recording mode.

When the HDD property is set to redundancy, the video can be recorded both onto the redundancy HDD and the R/W HDD simultaneously so as to ensure high security and reliability of video data.

Step 1 Enter the HDD Information interface.

Menu > HDD > General

Step 2 Select HDD from the list and click the icon to enter the **Local HDD Settings** interface, as shown in Figure 12-15.



Figure 12-15 Set HDD Property

Step 3 Set the HDD property to R/W, Read-only or Redundancy.

Step 4 Click the **OK** button to save the settings and exit the interface.

Step 5 In the HDD Information menu, the HDD property will be displayed in the list.



At least 2 hard disks must be added on your DVR when you want to set a HDD to Redundancy, and there is one HDD with R/W property.

# 12.4 Configuring Quota Mode

### **Purpose**

Each camera can be configured with allocated quota for the storage of recorded files.

#### Steps

Step 1 Enter the **Storage Mode** interface.

Menu > HDD > Advanced

Step 2 Click the **Storage Mode** tab.

Step 3 Set the **Mode** to Quota, as shown in Figure 12-16.



The DVR must be rebooted to enable the changes to take effect.

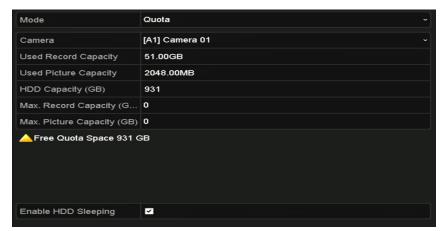


Figure 12-16 Storage Mode Settings Interface

- Step 4 Select a camera for which you want to configure quota.
- Step 5 Enter the storage capacity in the text field of Max. Record Capacity (GB).
- Step 6 You can copy the quota settings of the current camera to other cameras if required. Click the **Copy** button to enter the **Copy Camera** interface, as shown in Figure 12-17.



Figure 12-17 Copy Settings to Other Camera(s)

- Step 7 Select the camera (s) to be configured with the same quota settings. You can also click the checkbox of Analog to select all cameras.
- Step 8 Click the **OK** button to finish the Copy settings and back to the Storage Mode interface.
- Step 9 Click the **Apply** button to apply the settings.



If the quota capacity is set to 0, then all cameras will use the total capacity of HDD for record.

## 12.5 Checking HDD Status

#### **Purpose**

You may check the status of the installed HDDs on DVR so as to take immediate check and maintenance in case of HDD failure.

### **Checking HDD Status in HDD Information Interface**

Step 1 Enter the HDD Information interface.

Menu > HDD > General

Step 2 Check the status of each HDD which is displayed on the list, as shown in Figure 12-18.



Figure 12-18 View HDD Status (1)



If the status of HDD is *Normal* or *Sleeping*, it works normally. If the status is *Uninitialized* or *Abnormal*, please initialize the HDD before use. And if the HDD initialization is failed, please replace it with a new one.

#### **Checking HDD Status in System Information Interface**

Step 1 Enter the **System Information** interface.

Menu > Maintenance > System Info

Step 2 Click the **HDD** tab to view the status of each HDD displayed on the list, as shown in Figure 12-19.



Figure 12-19 View HDD Status (2)

# 12.6 Checking S.M.A.R.T Information

#### **Purpose**

The S.M.A.R.T. (Self-Monitoring, Analysis and Reporting Technology) is a monitoring system for HDD to detect  $\alpha$ nd report on various indicators of reliability in the hopes of anticipating failures.

Step 1 Enter the HDD Detect interface.

Menu > Maintenance > HDD Detect

Step 2 Click the S.M.A.R.T. Settings tab to enter the interface.

Step 3 Select the HDD to view its S.M.A.R.T. information list, as shown in Figure 12-20.



If you want to use the HDD even when the S.M.A.R.T. checking is failed, you can check the checkbox before the **Continue to use this disk when self-evaluation is failed** item.

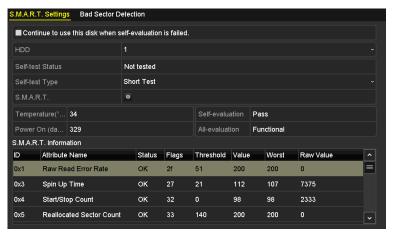


Figure 12-20 S.M.A.R.T Settings Interface

# 12.7 Detecting Bad Sector

### **Purpose**

You can detect the bad sector of the HDD to check the status of the HDD.

Step 1 Enter the **HDD Detect** interface.

Menu>HDD>HDD Detect

Step 2 Click the Bad Sector Detection tab to enter the interface.

Step 3 Select a HDD and click the **Detect** button to start detecting.



Figure 12-21 Bad Sector Detecting

- Step 4 You can click the **Pause** button to pause the detection and click the **Resume** button to resume the detection.
- Step 5 If there is error information about the HDD, you can click the **Error Info** button to view the information.

## 12.8 Configuring HDD Error Alarms

#### **Purpose**

You can configure the HDD error alarms when the HDD status is *Uninitialized* or *Abnormal*.

Step 1 Enter the Exception interface.

Menu > Configuration > Exceptions

- Step 2 Select the Exception Type to **HDD Error** from the drop-down list.
- Step 3 Check the checkbox(s) below to select the linkage action(s) for HDD error, as shown in Figure 14-30.

The linkage actions can be selected to: Audible Warning, Notify Surveillance Center, Send Email and Trigger Alarm Output.

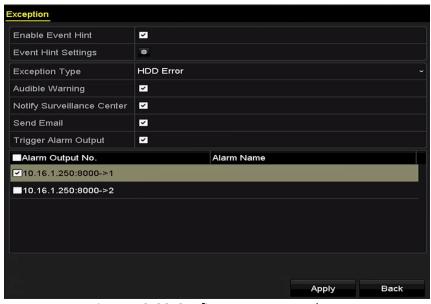


Figure 12-22 Configure HDD Error Alarm

- Step 4 When the **Trigger Alarm Output** is selected, you can also select the alarm output to be triggered from the list below.
- Step 5 Click the **Apply** button to save the settings.

# **Chapter 13 Camera Settings**

# 13.1 Configuring OSD Settings

### **Purpose**

You can configure the OSD (On-Screen Display) settings for the camera, including date/time, camera name, etc.

Step 1 Enter the OSD Configuration interface.

Menu > Camera > OSD

- Step 2 Select the camera to configure OSD settings.
- Step 3 Edit the Camera Name in the text field.
- Step 4 Configure the **Display Name**, **Display Date** and **Display Week** by checking the checkbox.
- Step 5 Select the **Date Format**, **Time Format**, **Display Mode** and the **OSD Font**.

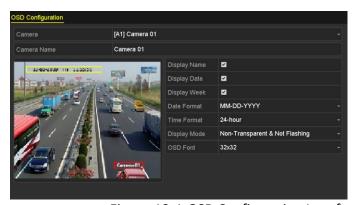


Figure 13-1 OSD Configuration Interface

Step 6 You can use the mouse to drag the text frame on the preview window to adjust the OSD position.

### Step 7 Copy Camera Settings

1) If you want to copy the OSD settings of the current camera to other cameras, click the **Copy** button to enter the **Copy Camera** interface, as shown in Figure 13-2.



Figure 13-2 Copy Settings to Other Cameras

- 2) Select the camera (s) to be configured with the same OSD settings. You can also check the checkbox of **Analog** to select all cameras.
- 3) Click the **OK** button to finish the **Copy** settings and back to the **OSD Configuration** interface.

Step 8 Click the **Apply** button to apply the settings.

# 13.2 Configuring Privacy Mask

#### **Purpose**

You are allowed to configure the four-sided privacy mask zones that cannot be viewed or recorded by the operator.

Step 1 Enter the Privacy Mask Settings interface.

Menu > Camera > Privacy Mask

- Step 2 Select the camera to set privacy mask.
- Step 3 Check the checkbox of **Enable Privacy Mask** to enable this feature.



Figure 13-3 Privacy Mask Settings Interface

Step 4 Use the mouse to draw a zone on the window. The zones will be marked with different frame colors.



Up to 4 privacy mask zones can be configured, and the size of each area can be adjusted.

Step 5 The configured privacy mask zones on the window can be cleared by clicking the corresponding **Clear Zone1-4** icons on the right side of the window, or click **Clear All** to clear all zones.

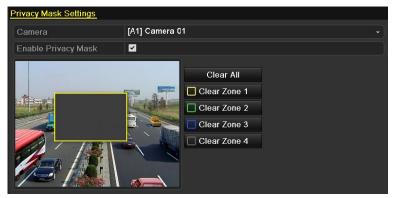


Figure 13-4 Set Privacy Mask Area

Step 6 You can click the **Copy** button to copy the privacy mask settings of the current camera to other cameras.

Please refer to step 7 of Chapter 13.1 Configuring OSD Settings.

Step 7 Click the **Apply** button to save the settings.

# 13.3 Configuring Video Parameters

## 13.3.1 Configuring Image Settings

Step 1 Enter the Image Settings interface.

Menu > Camera > Image

### Step 2 Select the Image Settings tab.



Figure 13-5 Image Settings Interface (Analog Camera)



Figure 13-6 Image Settings Interface (IP Camera)

- Step 3 Select the camera to set image parameters.
- Step 4 Two periods for different image settings are provided, select the period name in the drop-down list.



The time periods cannot be overlapped with each other.

- Step 5 Select the mode from the drop-down list of **Mode**, there are four modes selectable for the analog cameras: Standard, Indoor, Dim Light and Outdoor.
- Step 6 Adjust the image parameters according to actual needs. The parameters include Brightness, Contrast, Saturation, Hue, Sharpness and Denoising for the analog cameras and Brightness,

Contrast and Saturation for the IP cameras. You can also click **Restore** to set the parameters to the default settings.

Step 7 You can click **Copy** to copy the image settings of the current camera to other cameras.

Step 8 Click **Apply** to save the settings.

### 13.3.2 Configuring Camera Parameters Settings

Step 1 Enter the Image Settings interface.

Menu > Camera > Image

Step 2 Select the Camera Parameters Settings tab.



Figure 13-7 Camera Parameters Settings

- Step 3 Select the Camera from the drop-down list.
- Step 4 Adjust the camera parameters. The parameters include **Day to Night Sensitivity**, **Night to Day Sensitivity** and **IR Light Brightness** for the analog cameras. You can also click **Default** to set the parameters to the default settings.
- Step 5 You can click **Copy** to copy the parameters of the current camera to other analog cameras.
- Step 6 Click **Apply** to save the settings.

## NOTE

- The camera parameters settings is only applicable for ananlog cameras.
- The Day to Night Sensitivity, Night to Day Sensitivity and IR Light Brightness functions must be supported by the connected analog camera. You cannot set the parameters if the connected analog camera does not support them or there is no video signal.
- The parameters are saved to the connected analog camera and are not saved to the DVR.
- The default value of Day to Night Sensitivity, Night to Day Sensitivity and IR Light Brightness is 5. The effective value ranges from 1 to 9.
- If you exit from the interface and enter it again, the parameters displayed are those you have set the last time.
- The DVR connects to the analog camera via coaxitron and there is no response mechanism. Even if the coaxitron is abnormal, the parameters are still displayed to be set successfully.

# Chapter 14 DVR Management and Maintenance

# 14.1 Viewing System Information

Step 1 Enter the **System Information** interface.

Menu > Maintenance > System Info

Step 2 You can click the **Device Info**, **Camera**, **Record**, **Network** and **HDD** tabs to view the system information of the device.

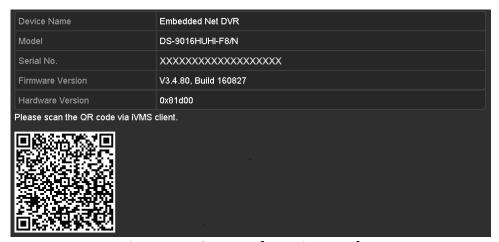


Figure 14-1 System Information Interface

You can view the hardware version in the Device Information interface.

# 14.2 Searching Log Files

### **Purpose**

The operation, alarm, exception and information of the DVR can be stored in log files, which can be viewed and exported at any time.

Step 1 Enter the **Log Search** interface.

Menu > Maintenance > Log Information

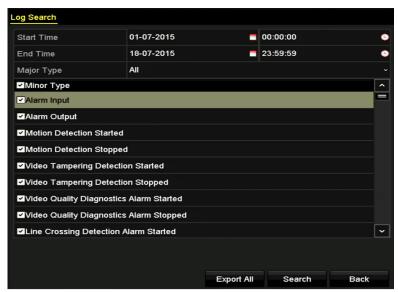


Figure 14-2 Log Search Interface

- Step 2 Set the log search conditions to refine your search, including the Start Time, End Time, Major Type and Minor Type.
- Step 3 Click the **Search** button to start search log files.
- Step 4 The matched log files will be displayed on the list shown below.
  - NOTE

Up to 2000 log files can be displayed each time.

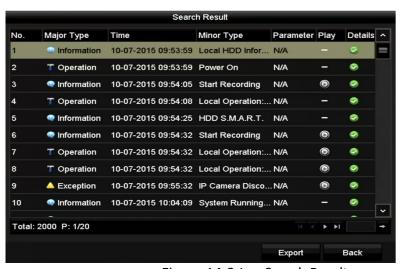


Figure 14-3 Log Search Results

Step 5 You can click the button of each log or double-click it to view its detailed information.

And you can also click the button to view the related video files if available.

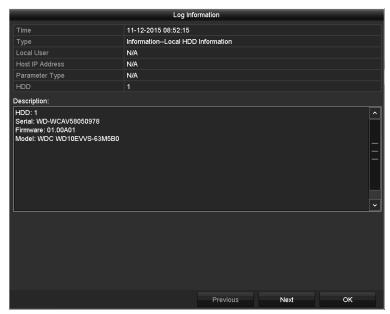


Figure 14-4 Log Information Interface

Step 6 If you want to export the log files, click the **Export** button to enter the Export menu, as shown in Figure 16-5.



Figure 14-5 Export Log Files

- Step 7 Select the backup device from the drop-down list of **Device Name**.
- Step 8 Click the **Export** to export the log files to the selected backup device.

You can click the **New Folder** button to create new folder in the backup device, or click the **Format** button to format the backup device before log export.

# NOTE

- Please connect the backup device to DVR before operating log export.
- The log files exported to the backup device are named by exporting time, e.g., 20110514124841logBack.txt.

## 14.3 Importing/Exporting IP Camera Info

#### **Purpose**

The information of added IP 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 PC, like adding or deleting the content, and copy the setting to other devices by importing the excel file to it.

Step 1 Enter the camera management interface.

Menu > Camera > Camera

Click the **IP Camera Import/Export** tab, the content of detected plugged external device appears.

Step 2 Click the **Export** button to export configuration files to the selected local backup device.

Step 3 To import a configuration file, select the file from the selected backup device and click the **Import** button. After the importing process is completed, you must reboot the DVR.

## 14.4 Importing/Exporting Configuration Files

#### **Purpose**

The configuration files of the DVR can be exported to local device for backup; and the configuration files of one DVR can be imported to multiple DVR devices if they are to be configured with the same parameters.

Step 1 Enter the Import/Export Configuration File interface.

Menu > Maintenance > Import/Export

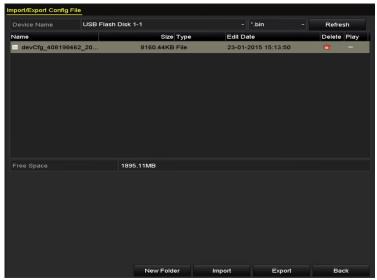


Figure 14-6 Import/Export Configuration File

- Step 2 Click the **Export** button to export configuration files to the selected local backup device.
- Step 3 To import a configuration file, select the file from the selected backup device and click the **Import** button. After the import process is completed, you must reboot the DVR.



After having finished the import of configuration files, the device will reboot automatically.

# 14.5 Upgrading System

## **Purpose**

The firmware on your DVR can be upgraded by local backup device or remote FTP server.

# 14.5.1 Upgrading by Local Backup Device

- Step 1 Connect your DVR with a local backup device where the update firmware file is located.
- Step 2 Enter the **Upgrade** interface.

Menu > Maintenance > Upgrade

Step 3 Click the **Local Upgrade** tab to enter the **Local Upgrade** interface, as shown in Figure 14-7.



Figure 14-7 Local Upgrade Interface

Step 4 Select the update file from the backup device.

Step 5 Click the **Upgrade** button to start upgrading.

Step 6 After the upgrading is complete, reboot the DVR to activate the new firmware.

## 14.5.2 Upgrading by FTP

## Before you start

Configure PC (running FTP server) and DVR to the same Local Area Network. Run the 3<sup>rd</sup>-party TFTP software on the PC and copy the firmware into the root directory of TFTP.

Step 1 Enter the **Upgrade** interface.

Menu > Maintenance > Upgrade

Step 2 Click the FTP tab to enter the Local Upgrade interface, as shown in Figure 14-8.



Figure 14-8 FTP Upgrade Interface

Step 3 Enter the FTP Server Address in the text field.

Step 4 Click the **Upgrade** button to start upgrading.

Step 5 After the upgrading is complete, reboot the DVR to activate the new firmware.

# 14.6 Restoring Default Settings

Step 1 Enter the **Default** interface.

Menu > Maintenance > Default



Figure 14-9 Restore Defaults

Step 2 Select the restoring type from the following three options.

**Restore Defaults:** 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.

Step 3 Click the **OK** button to restore the default settings.



The device will reboot automatically after restoring to the default settings.

# **Chapter 15 Others**

# 15.1 Configuring General Settings

## **Purpose**

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

Step 1 Enter the **General Settings** interface.

Menu > Configuration > General

Step 2 Select the General tab.

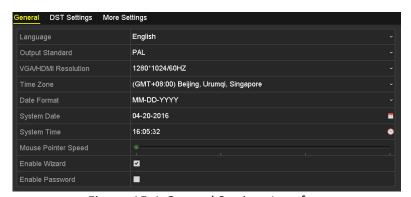


Figure 15-1 General Settings Interface

## Step 3 Configure the following settings:

- Language: The default language used is English.
- Output Standard: Select the output standard to be PAL or NTSC.
- **VGA/HDMI Resolution:** Select the output resolution, which must be the same with the resolution of the VGA/HDMI display.
- Time Zone: Select the time zone.
- Date Format: Select the date format.
- System Date: Select the system date.
- **System Time:** Select the system time.
- Mouse Pointer Speed: Set the speed of mouse pointer; 4 levels are configurable.
- Enable Wizard: Enable/disable the Wizard when the device starts up.
- Enable Password: Enable/disable the use of the login password.



If you check the checkbox of **Enable Password**, every time when you log in to the DVR, the Unlock Pattern interface will pop up. If you uncheck the checkbox of **Enable Password**, when you log in to the DVR, the Unlock Pattern interface will not pop up.

Step 4 Click the Apply button to save the settings.

# 15.2 Configuring DST Settings

Step 1 Enter the **General Settings** interface.

Menu > Configuration > General

Step 2 Choose DST Settings tab.



Figure 15-2 DST Settings Interface

You can check the checkbox before the **Auto DST Adjustment** item.

Or you can manually check the **Enable DST** checkbox, and then you choose the date of the DST period.

# 15.3 Configuring More Settings

Step 1 Enter the General Settings interface.

Menu > Configuration > General

Step 2 Click the **More Settings** tab to enter the **More Settings** interface, as shown in the following figures.



Figure 15-3 More Settings Interface (1)

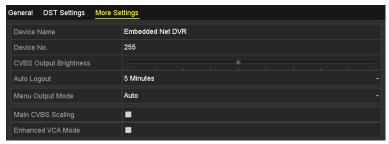


Figure 15-4 More Settings Interface (2)



Figure 15-5 More Settings Interface (3)



Figure 15-6 More Settings Interface (4)

## Step 3 Configure the following settings:

- Device Name: Edit the name of DVR.
- Device No.: Edit the serial number of DVR. The Device No. can be set in the range of 1~255, and the default No. is 255.
- Auto Logout: Set timeout time for menu inactivity. E.g., when the timeout time is set to 5
   Minutes, then the system will exit from the current operation menu to live view screen
   after 5 minutes of menu inactivity.
- Menu Output Mode: You can choose the menu display on different video output.
- Main CVBS Scaling: You can check the checkbox to enable main CVBS scaling.

Step 4 Click the **Apply** button to save the settings.

## 15.4 Managing User Accounts

## **Purpose**

There is a default account in the DVR: *Administrator*. The *Administrator* user name is *admin* and the password is set when you start the device for the first time. The *Administrator* has the permission to add and delete user and configure user parameters.

## 15.5.1 Adding a User

Step 1 Enter the User Management interface.

Menu > Configuration > User



Figure 15-7 User Management Interface

Step 2 Click the Add button to enter the Add User interface.



Figure 15-8 Add User Menu

Step 3 Enter the information for new user, including **User Name**, **Password**, **Confirm**, **Level** and **User's MAC Address**.

Password: Set the password for the user account.



## WARNING

<u>STRONG PASSWORD RECOMMENDED</u>-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.

**Level:** Set the user level to Operator or Guest. Different user levels have different operating permission.

- **Operator:** The *Operator* user level has permission of Two-way Audio in Remote Configuration and all operating permission in Camera Configuration by default.
- **Guest:** The *Guest* user has no permission of Two-way Audio in Remote Configuration and only has the local/remote playback in the Camera Configuration by default.

**User's MAC Address:** The MAC address of the remote PC which logs onto the DVR. If it is configured and enabled, it only allows the remote user with this MAC address to access the DVR.

Step 4 Click the **OK** button to save the settings and go back to the **User Management** interface. The added new user will be displayed on the list, as shown in Figure 15-9.

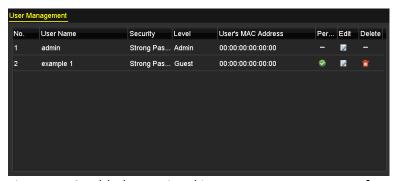


Figure 15-9 Added User Listed in User Management Interface

Step 5 You can assign permissions for the added user.

1) Select the user from the list and then click does not enter the **Permission Settings** interface, as shown in Figure 15-10.



Figure 15-10 User Permission Settings Interface

2) Set the operating permission of Local Configuration, Remote Configuration and Camera Configuration for the user.

## **Local Configuration**

- Local Log Search: Searching and viewing logs and system information of device.
- Local Parameters Settings: Configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- Local Camera Management: Enabling and disabling analog camera (s). Adding, deleting and editing of network camera (s).
- Local Advanced Operation: Operating HDD management (initializing HDD, setting HDD property), upgrading system firmware.
- Local Shutdown /Reboot: Shutting down or rebooting the device.

## **Remote Configuration**

- Remote Log Search: Remotely viewing logs that are saved on the device.
- Remote Parameters Settings: Remotely configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- Remote Camera Management: Remotely enabling and disabling analog camera (s), and adding, deleting and editing of network camera (s).
- Remote Serial Port Control: Configuring settings for RS-485 port.
- Remote Video Output Control: Sending remote control panel signal.
- Two-way Audio: Realizing two-way radio between the remote client and the device.
- Remote Alarm Control: Remotely arming (notify alarm and exception message to the remote client) and controlling the alarm output.
- Remote Advanced Operation: Remotely operating HDD management (initializing HDD, setting HDD property), upgrading system firmware.

• Remote Shutdown/Reboot: Remotely shutting down or rebooting the device.

## **Camera Configuration**

- Remote Live View: Remotely viewing live video of the selected camera (s).
- Local Manual Operation: Locally starting/stopping manual recording, picture capturing and alarm output of the selected camera (s).
- Remote Manual Operation: Remotely starting/stopping manual recording, picture capturing and alarm output of the selected camera (s).
- Local Playback: Locally playing back recorded files of the selected camera (s).
- Remote Playback: Remotely playing back recorded files of the selected camera (s).
- Local PTZ Control: Locally controlling PTZ movement of the selected camera (s).
- Remote PTZ Control: Remotely controlling PTZ movement of the selected camera (s).
- Local Video Export: Locally exporting recorded files of the selected camera (s).



Local Camera Management is provided for the IP cameras only.

3) Click **OK** to save the settings and exit.

## 15.5.2 Deleting a User

Step 1 Enter the **User Management** interface.

Menu > Configuration > User

Step 2 Select the user to be deleted from the list, as shown in Figure 15-11.

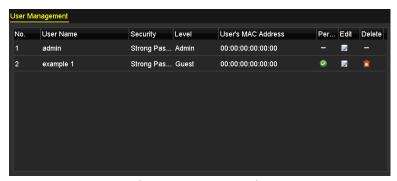


Figure 15-11 User List

Step 3 Click to delete the selected user account.

## 15.5.3 Editing a User

## **Purpose**

For the added user accounts, you can edit the parameters.

## Step 1 Enter the User Management interface.

Menu > Configuration > User

Step 2 Select the user to be edited from the list, as shown in Figure 15-11.

Step 3 Click the icon to enter the **Edit User** interface, as shown in Figure 15-12.

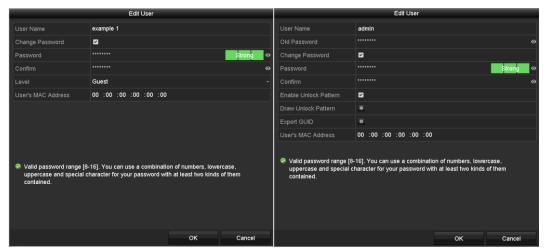


Figure 15-12 Edit User Interface

Step 4 Edit the corresponding parameters.

## Operator and Guest

You can edit the user information, including user name, password, permission level and MAC address. Check the checkbox of **Change Password** if you want to change the password, and input the new password in the text field of **Password** and **Confirm**. A strong password is recommended.

### Admin

You are only allowed to edit the password and MAC address. Check the checkbox of **Change Password** if you want to change the password, and input the correct old password, and the new password in the text field of **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.



Hold the icon and you can see the clear text of the password. Release the mouse and the content of the password restores invisible.

Step 5 Edit the unlock pattern for the admin user account.

- 1) Check the checkbox of **Enable Unlock Pattern** to enable the use of unlock pattern when logging in to the device.
- 2) Use the mouse to draw a pattern among the 9 dots on the screen. Release the mouse when the pattern is done.
- 3) Confirm the pattern again with the mouse.
- NOTE

Please refer to Chapter 2.3.1 Configuring the Unlock Pattern for detailed instructions.

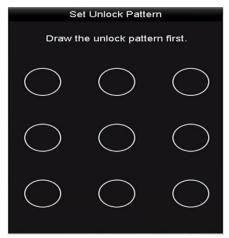


Figure 15-13 Set Unlock Patter for Admin User

Step 6 (Optional) Click icon after **Draw Unlock Pattern** to modify the pattern.

Step 7 (Optional) Click icon after **Export GUID** to pop up the Reset Password interface. Click **Export** button to export GUID to the USB flash disk for retrieving the forgotten password. Then a GUID file will be saved in the USB flash disk.

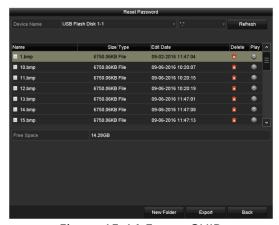


Figure 15-14 Export GUID



You must input the correct old password of the admin before exporting GUID.

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Step 8 Click the **OK** button to save the settings and exit from the menu.

Step 9 (Optional) For the **Operator** or **Guest** user account, you can also click the button on the **User Management** interface to edit the permission.

# Chapter 16 Appendix

# 16.1 Specifications

Model		C8XVR
Video/Audio input	Video compression	H.264+/H.264
	Analog video input	8-ch
		BNC interface (1.0 Vp-p, 75 $\Omega$ ), supporting coaxitron connection
	HDTVI input	1080p25, 1080p30, 720p25, 720p30
	AHD input	720p25, 720p30
	HDCVI input	720p25, 720p30
	CVBS input	Support
	IP video input	2-ch
		Up to 1080p resolution
	Audio compression	G.711u
	Audio input/Two-way audio input	1-ch, RCA (2.0 Vp-p, 1 KΩ)
Video/Audio output	HDMI/VGA output	1-ch, 1920 × 1080/60Hz,1280 × 1024/60Hz, 1280 × 720/60Hz, 1024 × 768/60Hz
	Encoding resolution	When 1080p Lite mode not enabled: 720p/WD1/4CIF/VGA/CIF When 1080p Lite mode enabled: 1080p lite/720p/WD1/4CIF/VGA/CIF
	Frame rate	Main stream: When 1080p Lite mode not enabled: For 720p stream access: 720p/WD1/4CIF/VGA/CIF@25fps (P)/30fps (N) When 1080p Lite mode enabled: 1080p lite/720p/WD1/4CIF/VGA/CIF@25fps (P)/30fps (N)

		Sub-stream: 4CIF/2CIF@6fps;
		CIF/QVGA/QCIF@25fps (P)/30fps (N)
	Video bit rate	32 Kbps to 4 Mbps
	Audio output	1-ch, RCA (Linear, 1 KΩ)
	Audio bit rate	64 Kbps
	Dual-stream	Support
	Stream type	Video, Video & Audio
	Synchronous playback	8-ch
Network management	Remote connections	128
	Network protocols	TCP/IP, PPPoE, DHCP, Guarding Vision, DNS, DDNS, NTP, SADP, SMTP, NFS, iSCSI, UPnP™, HTTPS
Hard disk	SATA	1 SATA interface
	Capacity	Up to 6 TB capacity for each disk
External interface	Network interface	1, RJ-45 10M/100M self-adaptive Ethernet interface
	USB interface	Rear panel: 2 × USB 2.0
General	Power supply	12 VDC
	Consumption (without HDD)	≤ 12 W
	Working temperature	-10 °C to +55 °C (14 °F to 131 °F)
	Working humidity	10% to 90%
	Dimensions (W × D × H)	260 × 222 × 45 mm (10.2 × 8.7 × 1.8 inch)
	Weight	≤ 1 kg (2.2 lb) (without HDD)

# 16.2 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.

# 16.3 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.



Please refer to the "Quick Installation 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 the "Init" button.

- 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 8-channel synchronize playback at the resolution of 4CIF, if you want a 8-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.