INTERNEC

SECURITY SOLUTIONS

Digital Video Recorder

User Manual

Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer.
This manual is applicable to following embedded network DVR series.

Series	Model	Type
I7-H07xxvh	I7-H0704/08/16Vh	Hybrid

This manual may contain several technically incorrect places or printing errors, and the content is subject to change without notice. The updates will be added into the new version of this manual. We will readily improve or update the products or procedures described in the manual.

In order to simplify the description, we make the following conventions (unless otherwise stated):
We define I7-H07xx VH series as **HDVR (**Hybrid DVR) in this manual.
The figures shown in this manual are for reference only. The appearance and interface of the device are subject to the actual model.

Regulatory information

FCC information

FCC compliance: This equipment has been tested and found to comply with the limits for 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

CE

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 Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, 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.

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 the network cameras, network dome and encoders.
- Connectable to the third-party network cameras like ACTI, Arecont, AXIS, Brickcom, Bosch, Canon, PANASONIC, Pelco, SAMSUNG and SANYO, SONY, Vivotek and ZAVIO.
- Connectable to the third-party cameras that adopt ONVIF or PSIA protocol.
- PAL/NTSC adaptive video inputs.
- H.264 video compression with high reliability and superior definition.
- Each channel supports dual-stream.
- Up to 32 network cameras can be added.
- Independent configuration for each channel, including resolution, frame rate, bitrate, image quality, etc.
- The quality of the input and output video is configurable.
- Each channel supports two kinds of compression parameters, the normal continuous and event. Sub-stream can be configured locally.
- Encoding for both audio/video composite stream and video stream; audio and video synchronization during composite stream encoding.
- Support CABAC (this feature is supported by analog cameras only).
- Watermark technology.

Local Monitoring

- Simultaneous HDMI, VGA and CVBS outputs.
- HDMI output and VGA output at up to 1920×1080P resolution.
- 1/4/6/8/9/16-division live view is supported, and the display sequence of screens is adjustable.
- Live view screen can be switched in group, and manual switch and auto-switch review is also provided, the interval of auto-switch can be adjusted.
- Quick setting menu is provided for live view.
- The selected live view channel can be shielded.
- Motion detection, video tampering, video exception alarm and video loss alarm functions.
- Privacy mask.
- Several PTZ protocols supported; PTZ preset, patrol and pattern.
- Zooming in by clicking the mouse and PTZ tracing by dragging mouse.

HDD Management

- Up to 2 SATA hard disks can be connected, each disk with a maximum of 4TB storage capacity.
- 8 network disks (8 NAS disks, or 7 NAS disks+1 IP SAN disk) can be connected.
- HDD group management.
- HDD property: redundancy, read-only, read/write (R/W).
- HDD quota management; different capacity can be assigned to different channel.
- Support S.M.A.R.T. and bad sector detection.

Recording and Playback

- Provide new playback interface with easy and flexible operation.
- Holiday recording schedule configuration.
- Normal and event video encoding parameters.
- Multiple recording types: manual, normal, alarm, motion, motion | alarm, motion & alarm.

- 8 recording time periods with separated recording types.
- Pre-record and post-record for alarm, motion detection recording, and pre-record time for schedule and manual recording.
- Searching record files by events (alarm input/motion detection).
- Customization of tags, searching and playing back by tags.
- Locking and unlocking record files.
- Local redundant recording.
- Searching and playing back record files by camera No., recording type, start time, end time, etc.
- Smart search for the selected area in the video.
- Zooming in when playback.
- Reverse playback for multi-channel.
- Supports pause, fast forward, slow forward, skip forward, and skip backward when playback, locating by dragging the mouse.
- Up to 16-ch synchronous playback at WD1 real time.

Backup

- Export video data by USB, or SATA device.
- Export video clips when playback.
- Management and maintenance of backup devices.
- Support NTFS and FAT32 formatted backup devices.

Alarm and Exception

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

Other Local Functions

- Users can operate by mouse and IR remote control.
- Three-level user management; admin user is allowed to create many operating accounts and define their operating permission, which includes the limit to access any camera.
- Operation, alarm, exceptions and log recording and searching.
- Manually triggering and clearing alarms.
- Importing and exporting of device configuration file.

Network Functions

- 1 self-adaptive 10M/100M/1000M (10M/100M for I7-H0704VH) network interface.
- IPv6 is supported.
- TCP/IP protocol, PPPoE, DHCP, DNS, DDNS, NTP, SADP, SMTP, SNMP, NFS, and iSCSI are supported.
- TCP, UDP and RTP for unicast.
- Auto/Manual port mapping and automatically discovered by UPnP™.
- Remote web browser access by HTTPS ensures high security.
- Remote reverse playback by RTSP.
- Support accessing by the platform by ONVIF.
- 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 locking and unlocking of control panel and mouse.
- Remote HDD formatting and program upgrading.
- Remote system restart.
- 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.
- Upgraded by remote FTP server is supported.
- Remote PTZ control.
- Remote JPEG capture.
- Two-way voice talk and voice broadcasting.
- Embedded WEB 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

The front panel of the device is shown in Figure 1.1.

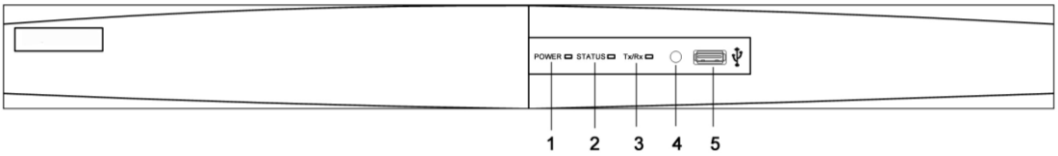

Figure 1. 1 Front Panel

Table 1. 1 Description of Front Panel

No.	Name	Function Description
1	**POWER**	POWER indicator turns green when device is powered up.
2	**STATUS**	STATUS indicator lights in red when data is being read from or written to HDD.
3	**Tx/Rx**	Tx/Rx indictor blinks green when network connection is functioning properly.
4	**IR Receiver**	Receiver for IR remote.
5	**USB Interface**	Connects USB mouse or USB flash memory devices.

1.2 IR Remote Control Operations

The device may also be controlled with the included IR remote control, shown in Figure 1.2.

Note: Batteries (2×AAA) must be installed before operation.

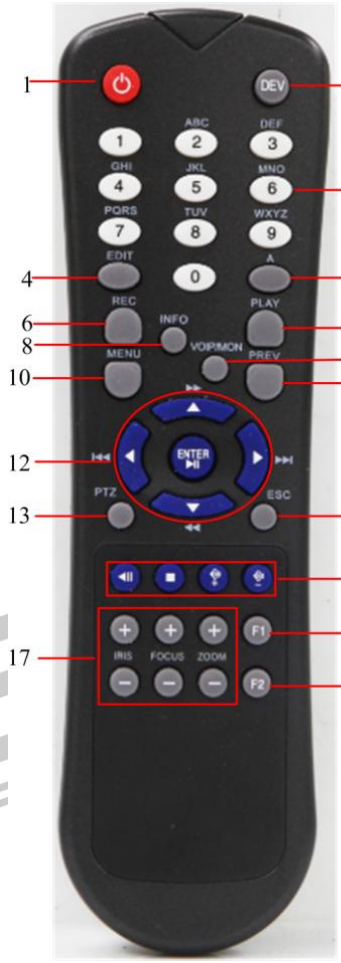

Figure 1. 2 Remote Control

The keys on the remote control closely resemble the ones on the front panel. See Table 1.2.

Table 1. 2 Description of the IR Remote Control Buttons

No.	Name	Description
1	**POWER**	Power on/off the device.
2	**DEV**	Enables/Disables Remote Control.
3	**Alphanumeric Buttons:**	Switch to the corresponding channel in Live view or PTZ Control mode.
		Input numbers and characters in Edit mode.
		Switch channels in Playback mode.
4	**EDIT Button**	Edit text fields. When editing text fields, it will also function as a Backspace button to delete the character in front of the cursor.
		On checkbox fields, pressing the button will tick the checkbox.
		In PTZ Control mode, the button adjusts the iris of the camera.

		In Playback mode, it can be used to generate video clips for backup.
		Enter/exit the folder of USB device.
5	**A Button**	Adjust focus in the PTZ Control menu.
		It is also used to switch input methods (upper and lowercase alphabet, symbols and numeric input).
6	**REC Button**	Enter the Manual Record setting menu.
		In PTZ control settings, press the button and then you can call a PTZ preset by pressing Numeric button.
		It is also used to turn audio on/off in the Playback mode.
7	**PLAY Button**	The button is used to enter the Playback mode.
		It is also used to auto scan in the PTZ Control menu.
8	**INFO Button**	Reserved for future usage.
9	**VOIP/MON Button**	Switch main and spot output.
		In PTZ Control mode, it can be used to zoom out the image.
10	**MENU Button**	Press the button will help you return to the Main menu (after successful login).
		Press and hold the button for 5 seconds will turn off audible key beep.
		In PTZ Control mode, the MENU/WIPER button will start wiper (if applicable).
		In Playback mode, it is used to show/hide the control toolbar.
11	**PREV Button**	Switch single screen and multi-screen mode.
		In PTZ Control mode, it is used to adjust the focus in conjunction with the A/FOCUS+ button.
12	**DIRECTION/ENTER Buttons**	The DIRECTION buttons are used to navigate between different fields and items in menus.
		In the Playback mode, the Up and Down button is used to speed up and slow down recorded video. The Left and Right button will select the next and previous record files.
		In Live View mode, these buttons can be used to cycle through channels.
		In PTZ control mode, it can control the movement of the PTZ camera.
		The ENTER button is used to confirm selection in any of the menu modes.
		It can also be used to *tick* checkbox fields.
		In Playback mode, it can be used to play or pause the video.
		In single-frame Playback mode, pressing the button will advance the video by a single frame.
		In Auto-switch mode, it can be used to stop /start auto switch.
13	**PTZ Button**	Enter the PTZ Control mode.
		In the PTZ Control mode, it is used to adjust the iris of the PTZ camera.
14	**ESC Button**	Back to the previous menu.
		Press for arming/disarming the device in Live View mode.
15	**RESERVED**	Reserved for future usage.
16	**F1 Button**	Select all items on the list when used in a list field.
		In PTZ Control mode, it will turn on/off PTZ light (if applicable).
		In Playback mode, it is used to switch play and reverse play.
17	**PTZ Control Buttons**	Buttons to adjust the iris, focus and zoom of a PTZ camera.
18	**F2 Button**	Cycle through tab pages.
		In synchronous playback mode, it is used to switch channels.

Troubleshooting Remote Control:

Note: Make sure you have installed batteries properly in the remote control. And you have to aim the remote control at the IR receiver in the front panel.

If there is no response after you press any button on the remote, follow the procedure below to troubleshoot.

Steps:

1. Go to Menu > Settings > General > More Settings by operating the front control panel or the mouse.
2. Check and remember device ID#. The default ID# is 255. This ID# is valid for all the IR remote controls.
3. Press the DEV button on the remote control.
4. Enter the device ID# in step 2.
5. Press the ENTER button on the remote.

If the Status indicator on the front panel turns blue, the remote control is operating properly. If the Status indicator does not turn blue and there is still no response from the remote, please check the following:

Note: When the device ID# is 255, the Status indicator is off when device is controlled by an IR remote control.

1. Batteries are installed correctly and the polarities of the batteries are not reversed.
2. Batteries are fresh and not out of charge.
3. IR receiver is not obstructed.

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

1.3 USB Mouse Operation

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

1. Plug USB mouse into one of the USB interfaces on the front panel of the device.
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 device list from your provider.

The operation of the mouse:

Table 1. 3 Description of the Mouse Control

Name	Action	Description
Left-Click	Single-Click	Live view: Select channel and show the quick set menu. Menu: Select and enter.
	Double-Click	Live view: Switch single-screen and multi-screen.
	Click and Drag	PTZ control: pan, tilt and zoom. Tamper-proof, privacy mask and motion detection: Select target area. Digital zoom-in: Drag and select target area. Live view: Drag channel/time bar.
Right-Click	Single-Click	Live view: Show menu. Menu: Exit current menu to upper level menu.
Scroll-Wheel	Scrolling up	Live view: Previous screen. Right-click Menu: Previous item.
	Scrolling down	Live view: Next screen. Right-click Menu: Next item.

1.4 Input Method Description

Figure 1. 3 Soft Keyboard

Description of the buttons on the soft keyboard:

Table 1. 4 Description of the Soft Keyboard Icons

Icons	Description	Icons	Description
En	English	A	Capital English
123	Numbers	+*	Symbols
a/A	Lowercase/Uppercase	⌫	Backspace
␣	Space	Enter	Enter
ESC	Exit		

1.5 Rear Panel

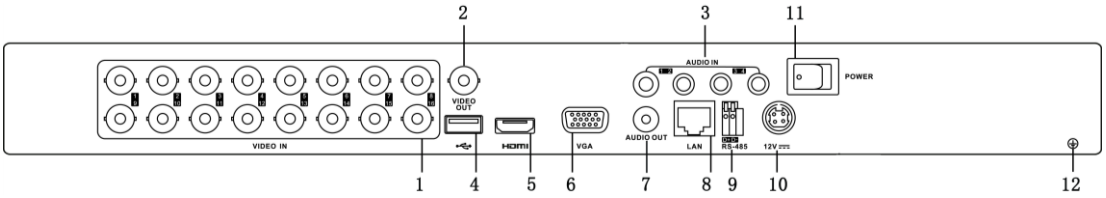

Figure 1. 4 Rear Panel

Table 1. 5 Description of Rear Panel

No.	Item	Description
1	**VIDEO IN**	BNC connector for analog video input.
2	**VIDEO OUT**	BNC connector for video output.
3	**AUDIO IN**	RCA connector for audio input.
4	**USB Interface**	Connects USB mouse or USB flash memory devices.
5	**HDMI**	HDMI video output.
6	**VGA**	DB15 connector for VGA output. Display local video output and menu.
7	**AUDIO OUT**	RCA connector for audio output.
8	**LAN Interface**	Network interface.
9	**RS-485 Interface**	Connector for RS-485 devices. Connect the D+ and D- terminals to R+ and R- of PTZ receiver respectively.
10	**12V**	12 VDC power supply.
11	**POWER**	Switch for turning on/off the device.
12	**GND**	Ground (needs to be connected when device starts up).

1.6 Starting Up and Shutting Down the Device

Purpose:

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

Before you start:

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

Starting up the device:

Steps:

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.
2. Press the POWER button on the rear panel. The Power indicator LED should turn green indicating that the device begins to start up.

Shutting down the device:

Steps:

1. Enter the Shutdown menu.

   Menu > Shutdown

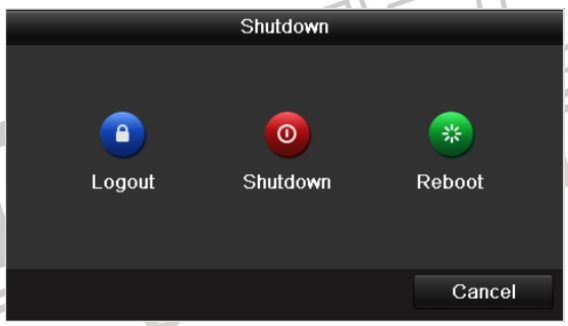

Figure 1. 5 Shutdown Menu

2. Click the **Shutdown** button.
3. Click the **Yes** button.
4. Press the POWER button on the rear panel when the hint "Please power off" pops up to shut down the device properly.

Rebooting the device

In the Shutdown menu (Figure 1.5), you can also reboot the device.

Steps:

1. Enter the **Shutdown** menu by clicking Menu > Shutdown.
2. Click the **Logout** button to logout the device or the **Reboot** button to reboot the device.

Chapter 2 Getting Started

2.1 Using the Wizard for Basic Configuration

By default, the Setup Wizard starts once the device has loaded, as shown in Figure 2.1.

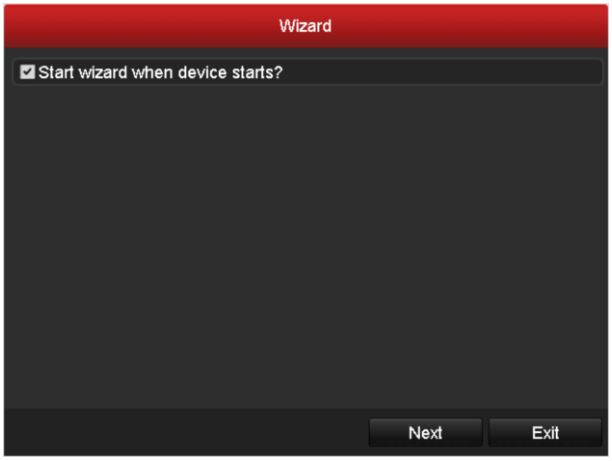

Figure 2. 1 Start Wizard Interface

Operating the Setup Wizard:

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.
2. Click Next on the Wizard window to enter the **Login** window, as shown in Figure 2.2.

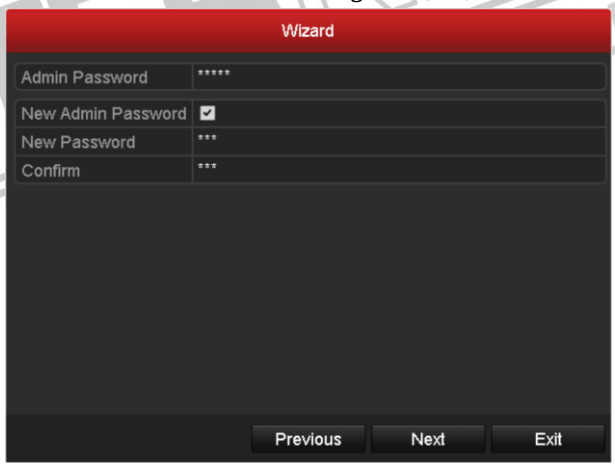

Figure 2. 2 Login Window

3. Enter the admin password. By default, the password is 12345.
4. To change the admin password, check the **New Admin Password** checkbox. Enter the new password and confirm the password in the given fields.
5. Click Next to enter the date and time settings window, as shown in Figure 2.3.

Figure 2. 3 Date and Time Settings

6. After the time settings, click **Next** which takes you to the Network Start Wizard window, as shown in Figure 2.4.

   Note: I7-H0704VH only supports 10M/100Mbps NIC type.

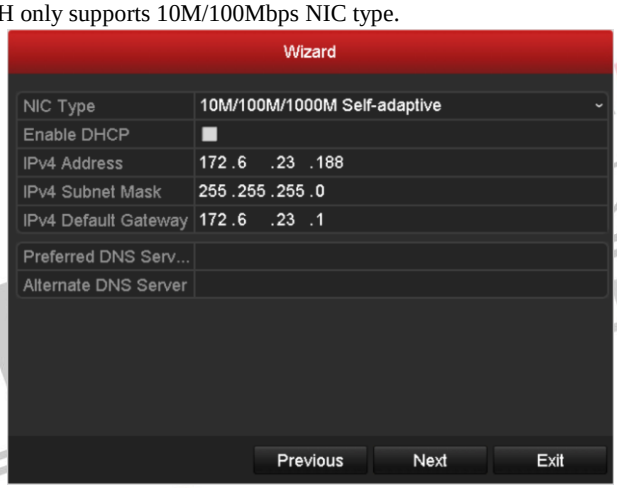

Figure 2. 4 Network Configuration

7. Click **Next** to enter the **HDD Management** window.

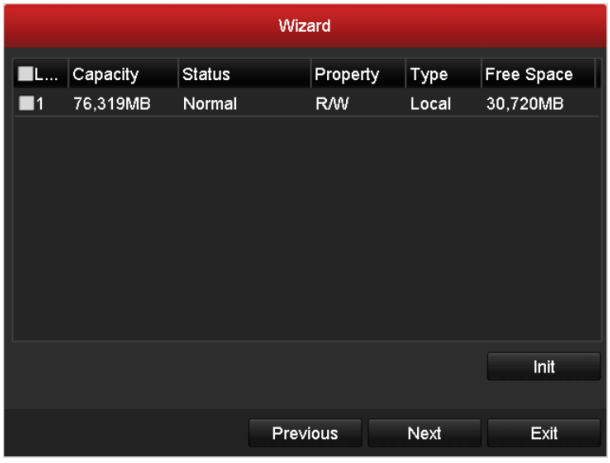

Figure 2. 5 HDD Management

8. To initialize the HDD, select the HDD and click **Init**. Initialization removes all the data saved in the HDD.

9. Click Next to enter the **IP Camera Management** window, as shown in Figure 2.6.

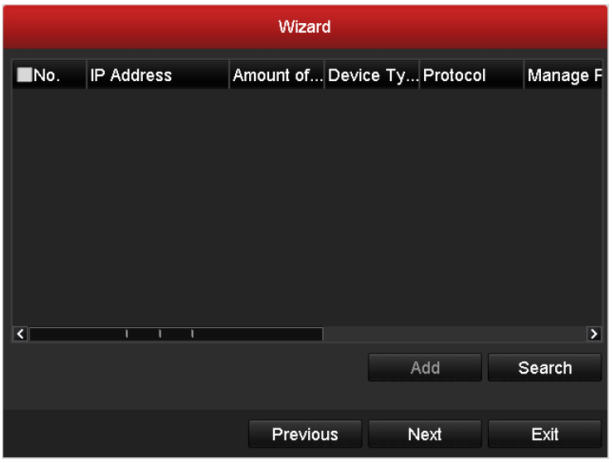

Figure 2. 6 IP Camera Management

10. Click Search to search IP Camera. Click Add to add IP Camera.

11. After finishing IP Camera settings, click Next to enter the **Record Settings** window.

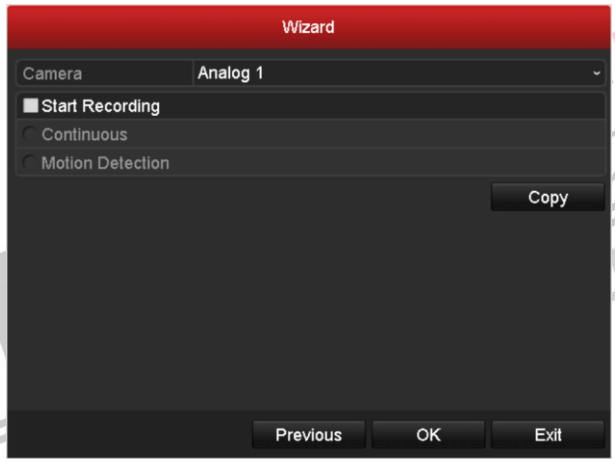

Figure 2. 7 Record Settings

12. Click Copy to copy the settings to other channels, as shown in Figure 2.8.

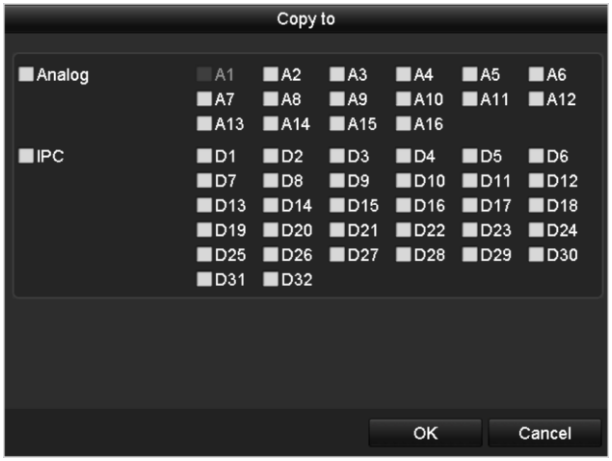

Figure 2. 8 Copy Record Settings

13. Click OK to complete the start wizard settings.

2.2 Adding and Connecting the IP Cameras

2.2.1 Adding the Online IP Cameras

Purpose:

HDVR can connect the network cameras and record the video got from them. So 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 network configuration and checking, please see *Chapter 9.1 Configuring General Settings*, *Chapter 9.3 Checking Network Traffic* and *Chapter 9.4 Network Detection.*

Option 1:

Steps:

1. Right-click the mouse in the live view mode to show the right-click menu.
2. Select **Add IP Camera** and choose **Auto** or **Manual** on your demand.

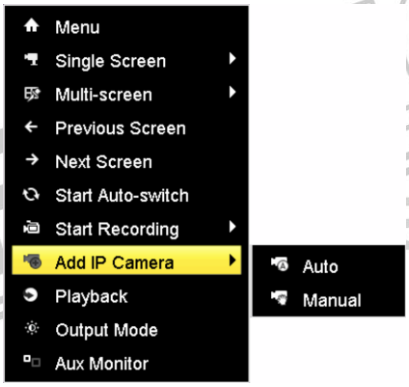

Figure 2. 9 Right-click Menu of Adding IP Camera

- **Auto**

The device will add the detected IP cameras or encoders automatically by the default user name and password of administrator.

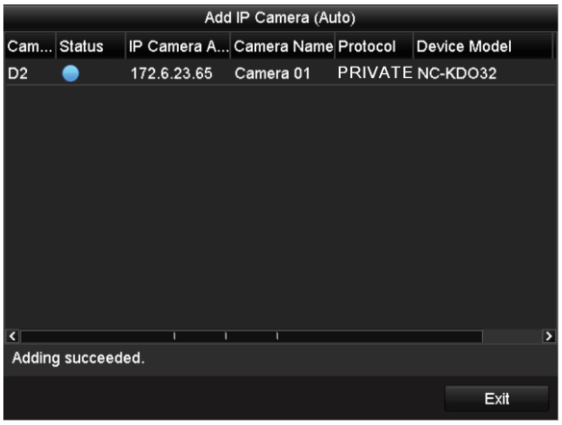

Figure 2. 10 Auto Adding IP Camera Interface

Note: If the user name and password are changed, the auto adding of IP camera will fail, you may add it manually.

- **Manual**

Steps:

1. To add the online cameras with same network segment:
   1) The detected online camera will be listed in the camera list, as shown in the figure below.

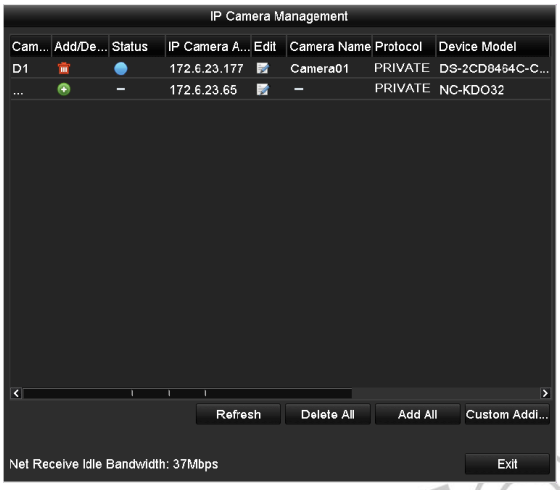

Figure 2. 11 Manual Adding IP Camera Interface

   2) Click the  button to add the camera.

Table 2. 1 Explanation of the icons:

Icon	Explanation	Icon	Explanation
	Edit basic parameters of the camera		Add the detected IP camera.
	Delete the IP camera		The camera is disconnected; you can click the icon to get the exception information of camera.
	The camera is connected.		Advanced settings of the camera.

2. To add other IP cameras:
   1) Click the **Custom Adding** button to pop up the Add IP Camera (Custom) interface.

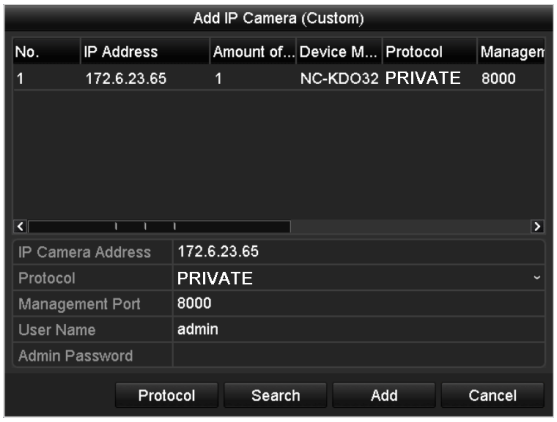

Figure 2. 12 Custom Adding IP Camera Interface

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

3) Click **Add** to add the camera.

Option 2:

Steps:

1. Enter the Camera Management interface.

   Menu> Camera> Camera

Figure 2. 13 Main Menu

Note: In Analog Camera Management interface, the status of analog cameras display. Disabling the analog camera can be realized by clearing the checkbox before the analog camera No.. One more network camera can be added by disabling one analog camera. 16 /8 /4 network cameras can be added to 7616HI-ST/7608HI-ST/7604HI-ST series at most when all the analog cameras are enabled. 32 /16 /8 network cameras can be added to 7616HI-ST /7608HI-ST /7604HI-ST series at most when all the analog cameras are disabled.

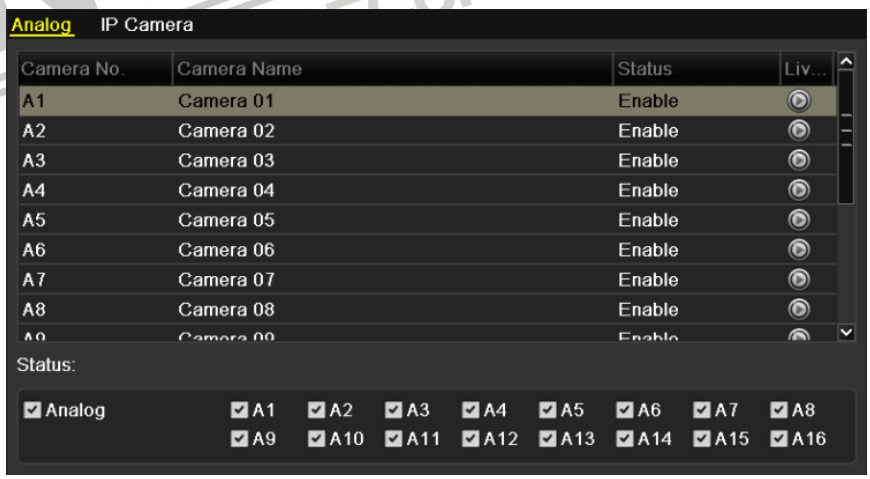

Figure 2. 14 Analog Camera Management

2. Choose **IP Camera** tab and perform step 1 and 2 of **Manual** adding of IP cameras (Option 1) to add the camera.

   Note: The icon indicates the camera is connected and you can click the icon to get the live view of the camera.

Figure 2. 15 IP Camera Management

3. For the encoders with multiple channels, check ☑ checkbox in the pop-up window to select the channels and click OK to finish adding.

Figure 2. 16 Selecting Multiple Channels

2.2.2 Configuring the Connected IP Cameras

Editing the connected IP cameras

Purpose:

After the adding of the IP cameras, the basic information of the camera lists in the page, and you can configure the basic setting of the IP cameras.

Steps:

1. Click  to edit the parameters; you can edit the IP address, protocol and other parameters.

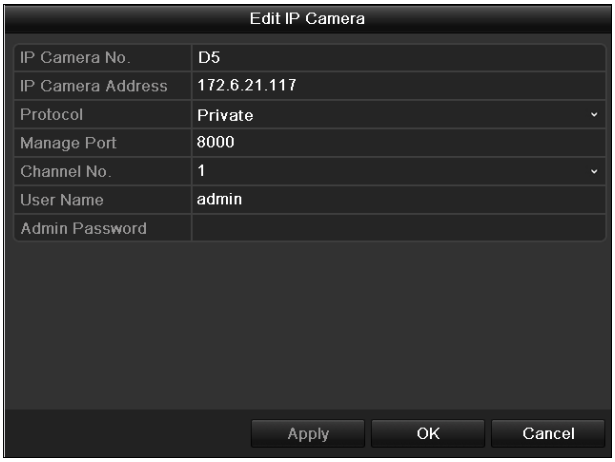

Figure 2. 17 Edit IP Camera

2. Click **OK** to save the settings and exit the editing interface.

To edit more parameters:

1. Drag the horizontal scroll bar to the right side and click the icon.

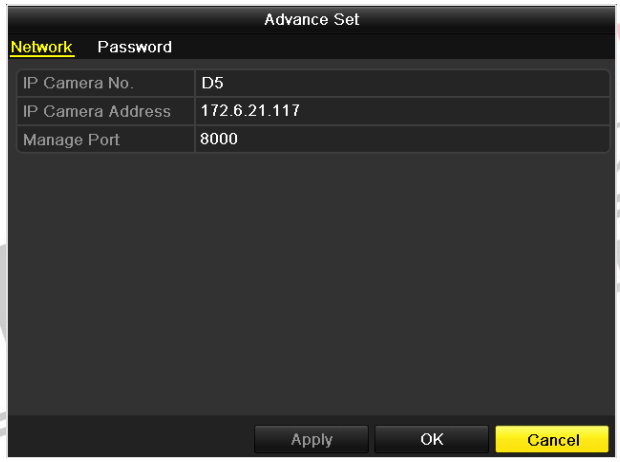

Figure 2. 18 Advance Set-Network

2. You can edit the network information and the password of the camera.

Figure 2. 19 Advance Set-Password

3. Click **Apply** to save the settings and click **OK** to exit the interface.

Explanation of the buttons:

Refresh	Delete All	Add All
Get the latest status of the IP cameras.	Delete all the IP cameras.	Add all the detected IP cameras.

Configuring the customized protocols

Purpose:

To connect the network cameras which are not configured with the standard protocols, you can configure the customized protocols for them.

Steps:

1. Click Custom Addi... and then click Protocol to enter the protocol management interface.

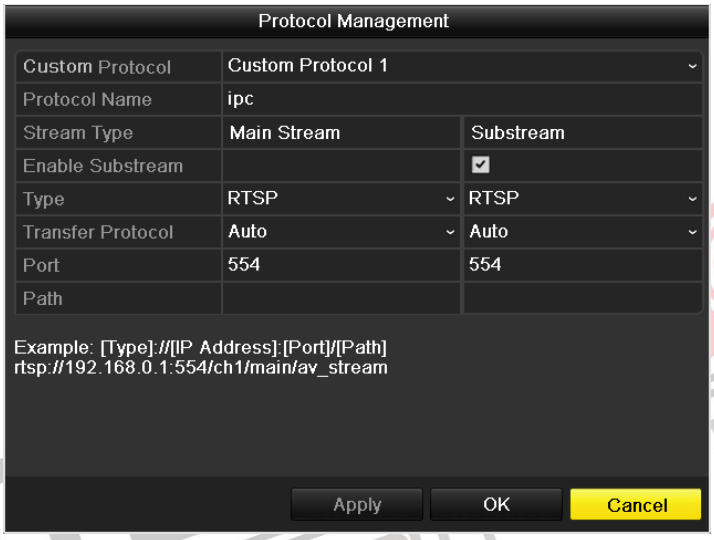

Figure 2. 20 Protocol Management Interface

2. There are 16 customized protocols provided in the system. You can select a **Custom Protocol** and configure its corresponding parameters.

   Note: Before customizing the protocol for the network camera, you have to contact the manufacturer of the network camera to consult about the URL (uniform resource locator) for getting main stream and sub-stream.

   The format of the URL is: [Type]://[IP Address of the network camera]:[Port]/[Path].

   Example: rtsp://192.168.1.55:554/ch1/main/av_stream.

   - **Protocol Name:** Edit the name for the custom protocol.
   - **Enable Substream:** If the network camera does not support sub-stream or the sub-stream is not needed, leave the checkbox empty.
   - **Type:** The network camera adopting custom protocol must support getting stream through standard RTSP.
   - **Transfer Protocol:** Select the transfer protocol for the custom protocol.
   - **Port:** Set the port No. for the custom protocol.
   - **Path:** Set the resource path for the custom protocol. E.g., ch1/main/av_stream.

3. Click Apply to save the settings and click OK to finish customizing the protocol.
4. After successfully adding the custom protocols, you can see the protocol name listed in the dropdown list, see the figure below.

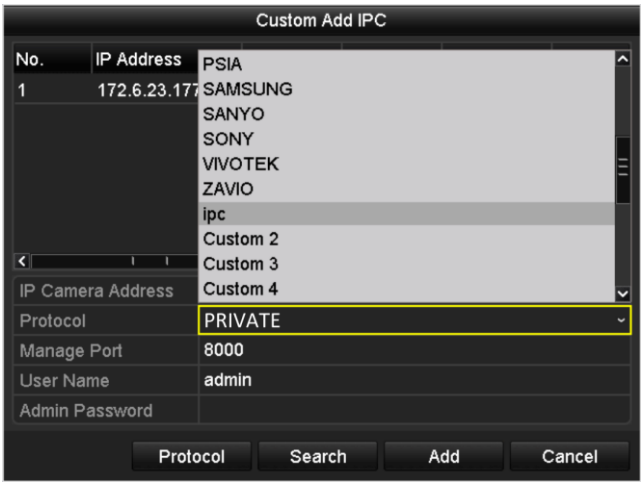

Figure 2. 21 Configure Custom Protocol

5. Select the custom protocol and enter the IP address, user name and password of the camera.
6. Click Add to add the network camera.

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 device automatically enters Live View mode when powered on. It is also at the very top of the menu hierarchy, thus right-clicking the mouse many times (depending on which menu you're on) brings 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
	Alarm (video loss, tampering, motion detection or sensor alarm)
	Record (manual recording, continuous recording, motion detection or sensor alarm triggered recording)
	Alarm & Record

3.2 Operations in Live View Mode

In live view mode, there are many functions provided. Some of the functions are listed below.

- **Single Screen**: showing only one screen on the monitor.
- **Multi-screen:** showing multiple screens on the monitor simultaneously.
- **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:** start all-day normal recording or motion detection recording for all channels.
- **Add IP Camera:** automatically or manually add the online network camera(s).
- **Playback:** play back the recorded videos for current day.
- **Output Mode:** set the video output mode to Standard, Bright, Gentle or Vivid.
- **Aux Monitor:** the device checks the connection of the output interfaces to define the main and auxiliary output interfaces. See the table below for the priority level of the main and aux outputs.

Table 3. 2 Priorities of Outputs

	HDMI/VGA	CVBS	Main output	Auxiliary output
1	√	√	HDMI/VGA	CVBS
2	√	×	HDMI/VGA	
3	×	√	CVBS	

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

When the aux output is enabled, you can do some basic operation in the live view mode for the Aux output, while no operation is allowed for the main output.

3.2.1 Using the Mouse in Live View

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 dropdown list.
Multi-screen	Adjust the screen layout by choosing from the dropdown 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.
Start Recording	Start all-day continuous recording or motion detection recording for all cameras.
Add IP Camera	Automatically or manually add the online network camera(s).
Playback	Play back the video of the selected channel.
Output Mode	Set the video output mode to Standard, Bright, Gentle or Vivid.
Aux Monitor	Switch to the auxiliary output mode.

Note: The *dwell time* of the live view configuration must be set before using **Start Auto-switch**. Refer to *Chapter 3.3* for dwell time settings.

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 **MAIN/AUX** button and **Enter** button on remote control.

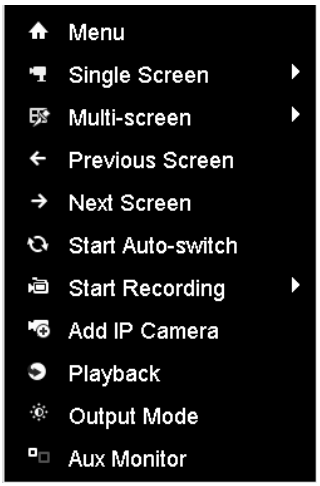

Figure 3. 1 Right-click Menu

3.2.2 Using an Auxiliary Monitor

Certain features of the Live View are also available while in an Aux monitor. These features include:

- **Single Screen:** Switch to a full screen display of the selected camera. Camera can be selected from a dropdown list.
- **Multi-screen:** Switch different display layout options. Layout options can be selected from a dropdown list.
- **Next Screen:** When displaying less than the maximum number of cameras in Live View, clicking this feature will switch to the next set of displays.
- **Playback:** Enter into Playback mode.
- **Output Mode**: Set the video output mode to Standard, Bright, Gentle or Vivid.
- **Main Monitor:** Enter Main operation mode.

Note: In the live view mode of the main output monitor, the menu operation is not available while Aux output mode is enabled.

3.2.3 Quick Setting Toolbar in Live View Mode

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

Note:  Live View Strategy icon is only available for network cameras.

Figure 3. 2 Quick Setting Toolbar

Table 3. 4 Description of Quick Setting Toolbar Icons

Icons	Description	Icons	Description	Icons	Description
/	Enable/Disable Record		Instant Playback	/	Mute/Audio on
	PTZ Control		Digital Zoom		Image Settings
	Live View Strategy		Close		

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. You can left-click and draw to select the area for zooming in, as shown in Figure 3.3.

Figure 3. 3 Digital Zoom

Image Settings icon can be selected to enter the Image Settings menu.

For Analog Cameras:

There are four preset modes for selection according to the real situation.

Below is the explanation for each mode.

- **Standard:** for general lighting conditions (default).
- **Indoor:** the image is relatively smoother.
- **Dim Light:** the image is smoother than the other two modes.
- **Outdoor:** the image is relatively clearer and sharper. The degree of contrast and saturation is high.

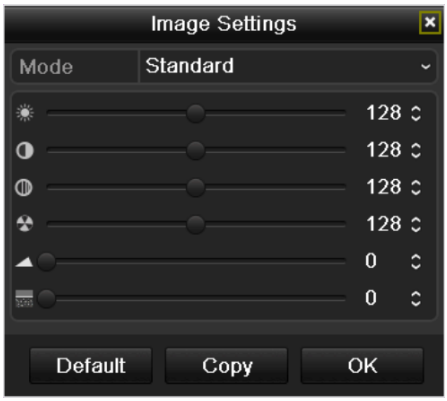

Figure 3. 4 Image Settings for Analog Camera

You can adjust the image parameters, including brightness, contrast, saturation, hue, sharpness and denoising. You can also click Default to restore the default settings and click Copy to copy the image settings to other analog channels.

For Network Cameras:

You can customize the brightness, contrast, saturation and hue of the network camera.

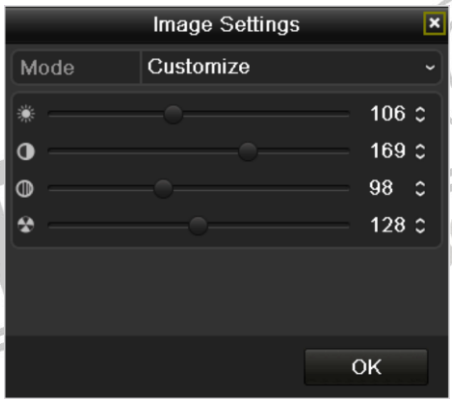

Figure 3. 5 Image Settings- Customize for Network Camera

Live View Strategy icon can be selected to enter the Live View Strategy menu. You can set the live view performance to real-time, balanced or fluency.

Note: This feature is only available for network cameras.

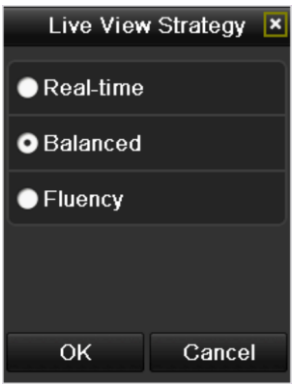

Figure 3. 6 Live View Strategy

3.3 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.

Steps:

1. Enter the Live View Settings interface.

   Menu> Configuration> Live View

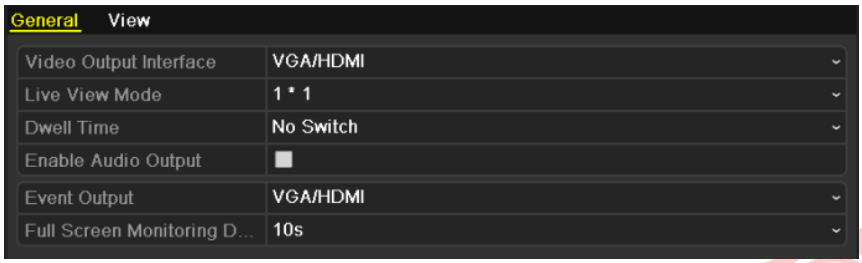

Figure 3. 7 Live View-General

The settings available in this menu include:

- **Video Output Interface:** Designates the output to configure the settings for. Outputs include HDMI / VGA and Main CVBS.
- **Live View Mode:** Designates the window-division 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 video output.
- **Event Output:** Designates the output to show event video.
- **Full Screen Monitoring Dwell Time:** The time in seconds to show alarm event screen.

2. Setting Camera Order

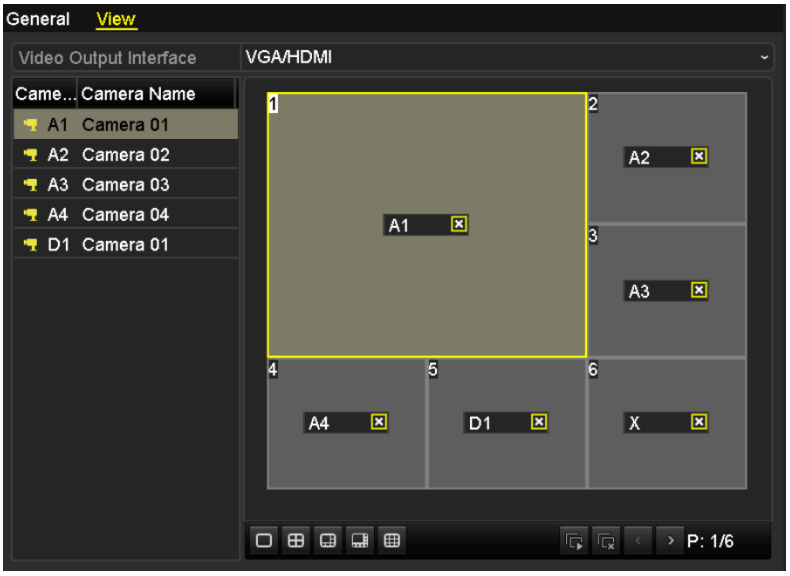

Figure 3. 8 Live View- Camera Order

To set the camera order:

1) Select **View** tab.

2) Select a **Video Output Interface** and select a screen layout  .

3) Click to select a screen in the right region and double-click to select a channel in the left region. Thus the selected channel will be displayed in the corresponding screen.

Note:  means the channel will not be displayed.

You can also click  to start live view of all channels in order and click  to stop live view of all channels. Click  or  to go to the previous or next page.

4) Click  to save the setting.

3.4 User Logout

Purpose:

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

Steps:

1. Enter the Shutdown menu.

   Menu>Shutdown

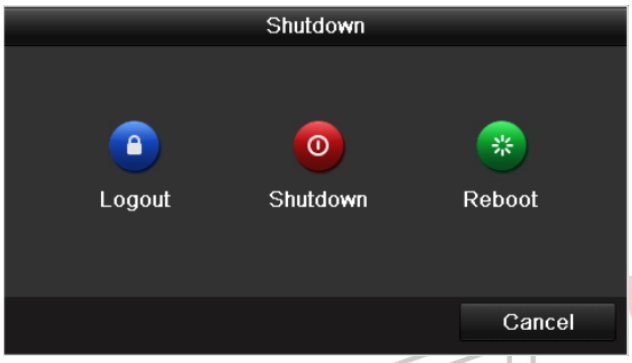

Figure 3. 9 Shutdown

2. Click **Logout**.

   Note: After you have logged out the system, menu operation on the screen is invalid. It is required a user name and password to log into the system.

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.

Before you start:

Check that the analog PTZ camera and the device are connected properly through RS-485 interface.

Steps:

1. Enter the PTZ Settings interface.

   Menu >Camera> PTZ

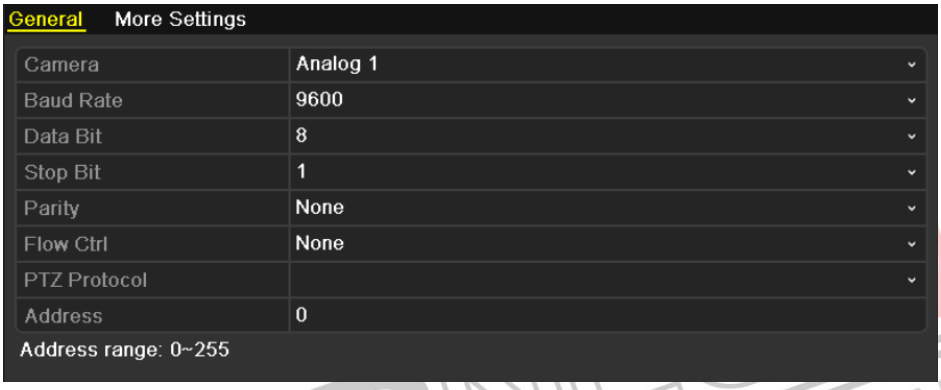

Figure 4. 1 PTZ- General

2. Choose the camera for PTZ setting in the **Camera** dropdown list.
3. Enter the parameters of the PTZ camera.

   Note: All the parameters should be exactly the same as the PTZ camera parameters. Only PTZ Protocol and address can be configured for network cameras.

   Example: If the PTZ camera has a Baud rate as 115200, you should input 115200 in the Baud Rate field.
4. Click Copy if you want to configure same settings to other analog PTZ cameras.
5. Click Apply to save the settings.

4.2 Setting PTZ Presets, Patrols & 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.

Steps:

1. Enter the PTZ Control interface.

Menu>Camera>PTZ>More Settings

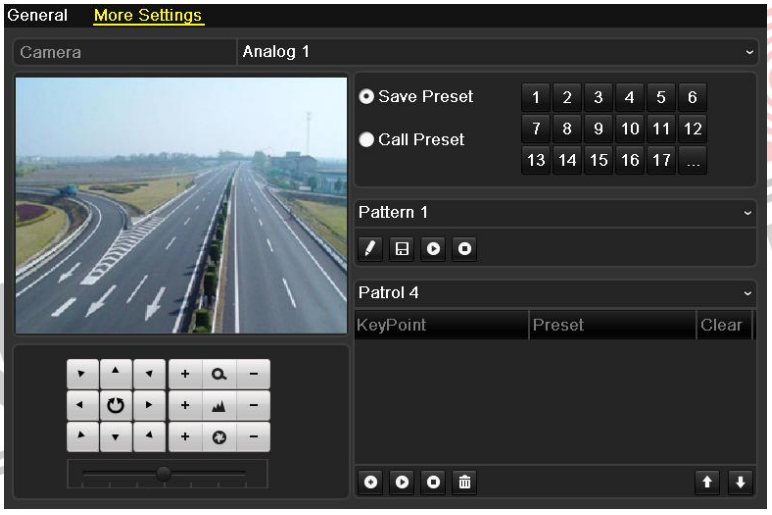

Figure 4. 2 PTZ- More Settings

2. Use the directional button to move the camera to the location where you want to set preset.

3. Check Save Preset.

4. Click the preset number to save the preset.

Repeat the steps2-4 to save more presets. If the number of the presets you want to save is more than 17, you can click ... and choose the available numbers.

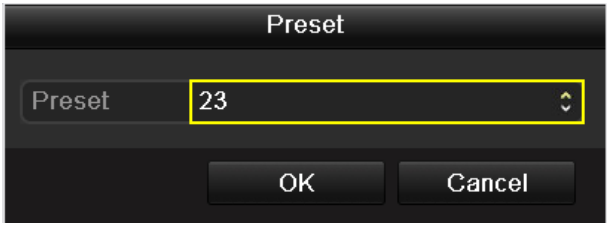

Figure 4. 3 More Presets

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.

Call preset in the PTZ setting interface:

Steps:

1. Enter the PTZ Control interface.
   Menu>Camera>PTZ>More Settings
2. Check Call Preset.

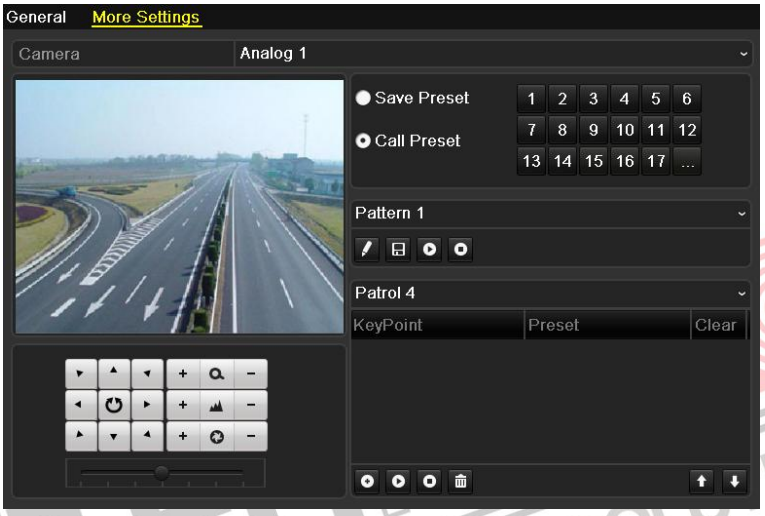

Figure 4. 4 PTZ- Call Preset

3. Choose the preset number.

Call preset in live view mode:

Steps:

1. In the live view mode, 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.

Figure 4. 5 PTZ Toolbar

2. Choose C**amera** in the list on the menu.
3. Double-click the preset you want to call in the **Preset** list.

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 *Chapter 4.2.1 Customizing Presets*.

Steps:

1. Enter the PTZ Control interface.
   Menu>Camera>PTZ>More Settings
2. Select patrol number.
3. Click  under Patrol option box to add key points for the patrol.

Figure 4. 6 PTZ- Add Key Point

4. Configure key point parameters, such as the preset No., duration of staying for one key point and speed of patrol. The key point is corresponding to the preset. The **Preset** 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.

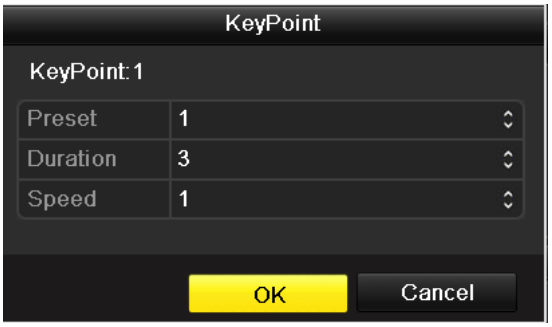

Figure 4. 7 Key point Configuration

5. Click OK to save the key point to the patrol.

Repeat the above steps to add more key points.

You can also click to delete the corresponding key point and click to delete all the key points.

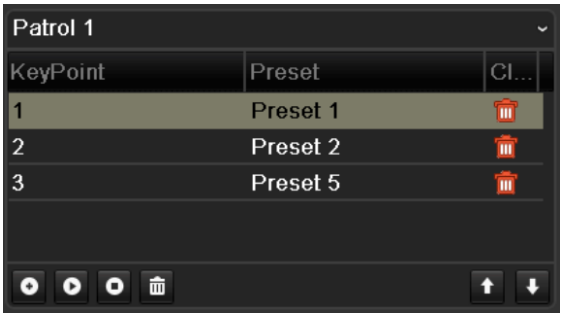

Figure 4. 8 KeyPoints Deletion

4.2.4 Calling Patrols

Purpose:

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

Calling patrol in the PTZ setting interface:

Steps:

1. In the PTZ setting interface.
   Menu> Camera> PTZ> More Settings
2. Select the patrol number, and then click to call the patrol.
3. Click to stop it.

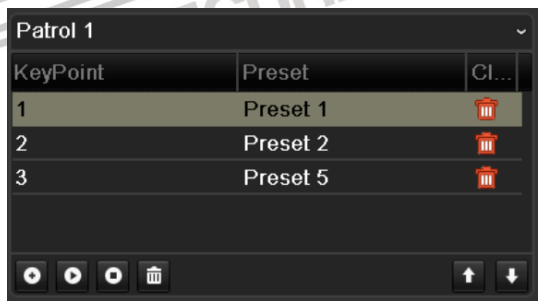

Figure 4. 9 Calling Patrol

Calling patrol in live view mode:

Steps:

1. In the live view mode, press PTZ control on the front panel or on the remote, or click PTZ Control icon on the quick setting toolbar, to show the PTZ control panel.
2. Choose C**amera** in the list on the menu.
3. Choose **Patrol** on the control bar.
4. Double-click the patrol you want to call, or click to select the patrol and click to call the patrol.

Figure 4. 10 PTZ Panel- Patrol

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.

Steps:

1. Enter the PTZ Control interface.
   Menu>Camera>PTZ>More Settings
2. Choose pattern number in the option box.

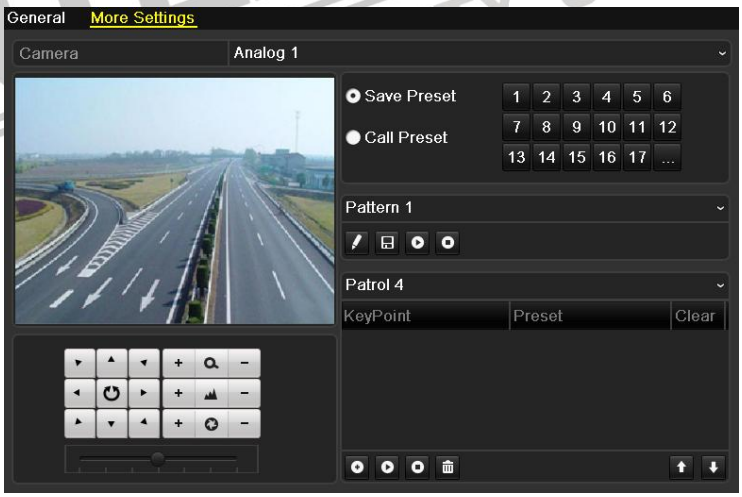

Figure 4. 11 PTZ- Pattern

3. Click , and use your mouse to drag the image or click the eight directional buttons in the control box under the image to move the PTZ camera. The movement of the PTZ is recorded as the pattern.
4. Click to save the pattern.
   Repeat the above steps to save more patterns.

4.2.6 Calling Patterns

Purpose:

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

Calling pattern in the PTZ setting interface

Steps:

1. Enter the PTZ Control interface.
   Menu> Camera> PTZ> More Settings
2. Select the pattern number.
3. Click , then the PTZ moves according to the pattern. Click to stop it.

Figure 4. 12 PTZ- Calling Pattern

Call pattern in live view mode.

Steps:

1. In the live view mode, press PTZ control on the front panel or on the remote control, or click PTZ Control icon on the quick setting toolbar.
2. Choose C**amera** in the list on the menu.
3. And then choose **Pattern** on the control bar.
4. Double-click the pattern number you want to call, or you can select the pattern number and click to call the pattern.

Figure 4. 13 PTZ Panel- Pattern

4.3 PTZ Control Panel

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  to enter the PTZ panel.

Note: In PTZ control mode, the PTZ panel will display when a mouse is connected with the device. If no mouse is connected, the  icon displays in the bottom-left corner of the live video to indicate that this camera is in PTZ control mode.

Figure 4. 14 PTZ Panel

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+		Zoom-, Focus-, Iris-
	The speed of the PTZ movement		Light on/off		Wiper on/off
	3D-Zoom		Image Centralization	Preset	Preset
Patrol	Patrol	Pattern	Pattern		Menu
	Previous item		Next item		Start pattern/patrol
	Stop the patrol or pattern movement		Minimize windows		Exit

Chapter 5 Recording Settings

Note: The interfaces of the device are subject to the actual model.

5.1 Configuring Encoding Parameters

Purpose:

By configuring the encoding parameters you can define the parameters which affect the image quality, such as transmission stream type, the resolution and so on.

Before you start:

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

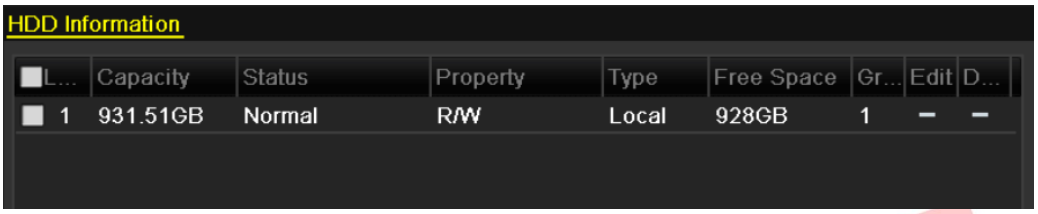

Figure 5. 1 HDD- General

2. Check the storage mode of the HDD
   1) Click **Advanced** to check the storage mode of the HDD.
   2) If the HDD mode is *Quota*, please set the maximum record capacity and maximum picture capacity. For detailed information, see *Chapter 10.4 Configuring Quota Mode*.
   3) If the HDD mode is *Group*, you should set the HDD group. For detailed information, see *Chapter 5.8 Configuring HDD Group for Recording*.

Steps:

1. Enter the Record settings interface to configure the encoding parameters:
   Menu>Record>Parameters

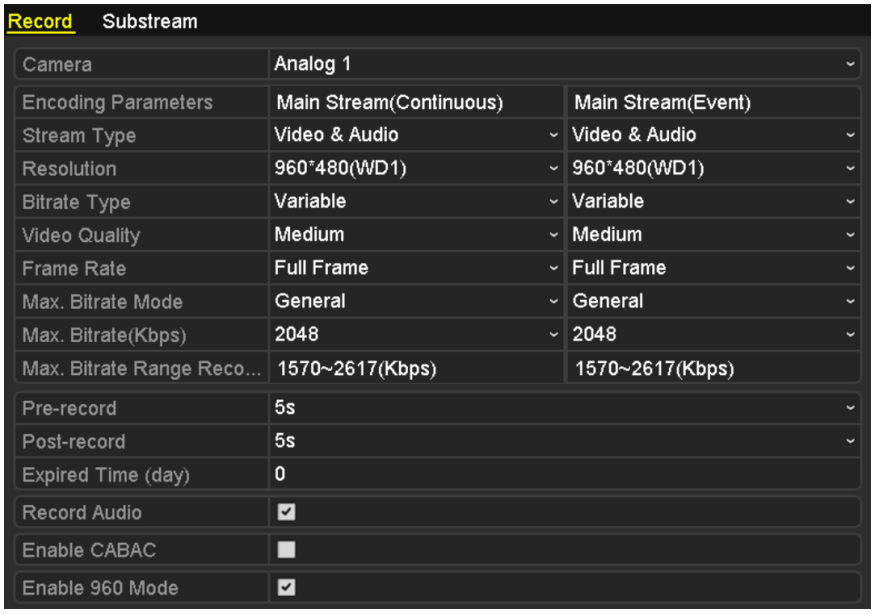

Figure 5. 2 Record Parameters

2. Encoding Parameters for Recording

1) Select **Record** tab to configure the parameters of main stream. You can configure the stream type, resolution, video quality, etc.

- **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 expired time is the longest time for a record file to be kept in the HDD, if the deadline is reached, the file will be deleted. You can set the expired time to 0, and then the file will not be deleted. The actual keeping time for the file should be determined by the capacity of the HDD.
- **Redundant Record:** Enabling redundant record means you save the record files in the redundant HDD or network disk. See *Chapter 5.7 Configuring Redundant Recording*.
- **Record Audio:** Enable this feature to record the sound and disable it to record the image without sound.
- **Enable CABAC:** Enable CABAC to get high quality images with lower bitrate. This feature is only supported by analog cameras.
- **Enable 960 Mode:** Enable 960 mode to get the WD1 (NTSC: 960*480, PAL: 960*576) recording resolution.

Figure 5. 3 Record Encoding (when HDD Mode is Group)

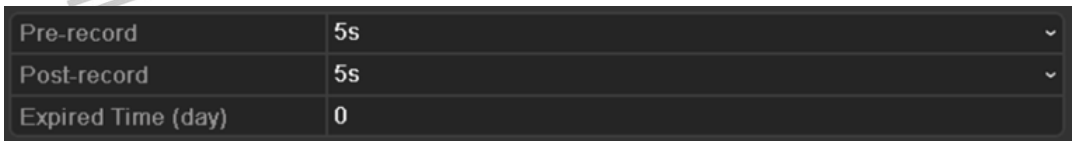

Figure 5. 4 Recording Encoding (when HDD Mode is Quota)

Notes:

- The **Redundant Record** option is only available when the HDD mode is *Group*.
- The redundant record is to decide whether you want the camera to save the record files in the redundant HDD. You must configure the redundant HDD in HDD settings. For detailed information, see *Chapter 10.3.2 Setting HDD Property*.
- For IPC, the parameters of Main Stream (Event) are not supported to modify.

2) Click Apply to save the settings.

3) You can click Copy to copy the settings to other analog channels, if the settings can also be used for other analog channels.

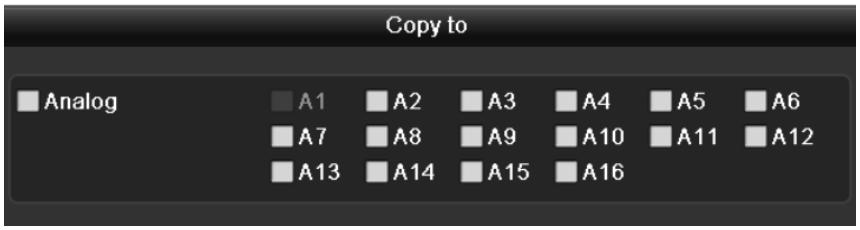

Figure 5. 5 Copy Camera Settings

3. Encoding Parameters for Sub-stream

1) Select **Substream** tab to set the parameters of sub-stream. Configure the stream type, resolution, frame rate, etc.

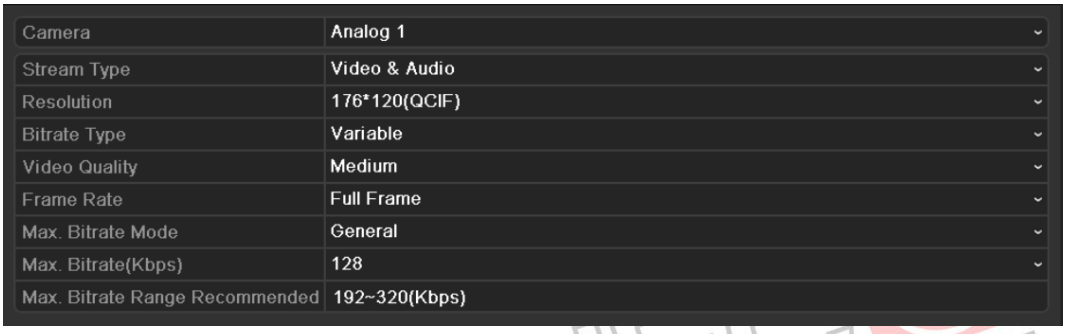

Figure 5. 6 Sub-stream Encoding

2) Click Apply to save the settings.

3) You can click Copy to copy the settings to other analog channels, if the setting can also be used for other analog channels.

4. Configure the overwrite mode of the HDD (Menu>Record>Advanced). Check ☑ checkbox to enable the overwrite mode, and then the record files will be overwritten when the HDD becomes full. Otherwise, the recording will stop when the HDD becomes full.

Figure 5. 7 Overwrite Mode

5.2 Configuring Record Schedule

Purpose:

Set the record schedule, and then the camera automatically starts/stops recording according to the configured schedule.

Steps:

1. Enter the Record Schedule interface.

   Menu>Record>Schedule

2. Configure Record Schedule

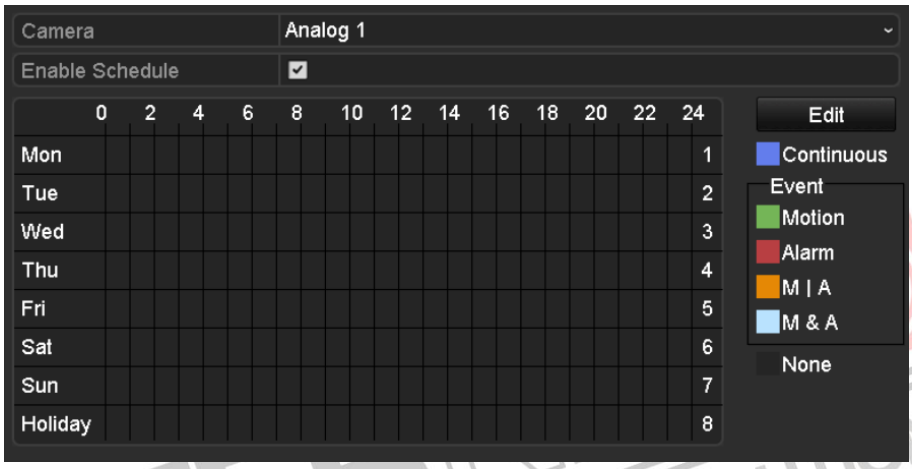

Figure 5. 8 Record Schedule

1) Choose the camera you want to configure.
2) Check ☑ checkbox to enable record schedule.

There are two ways to configure the record schedule.

Task 1: Edit the Schedule

Steps:

1) Click Edit.
2) In the message box, you can choose the day which you want to set schedule.
3) To schedule an all-day recording, check ☑ checkbox to enable all-day recording.
4) Set the Type in the dropdown list, including Continuous, Motion, Alarm, Motion | Alarm and Motion & Alarm.

   Note: To enable Motion, Alarm, Motion | Alarm (motion or alarm) and Motion & Alarm (motion and alarm) triggered recording, you must configure the motion detection settings or alarm input settings as well. For detailed information, refer to *Chapter 8.1* and *Chapter 8.2*.

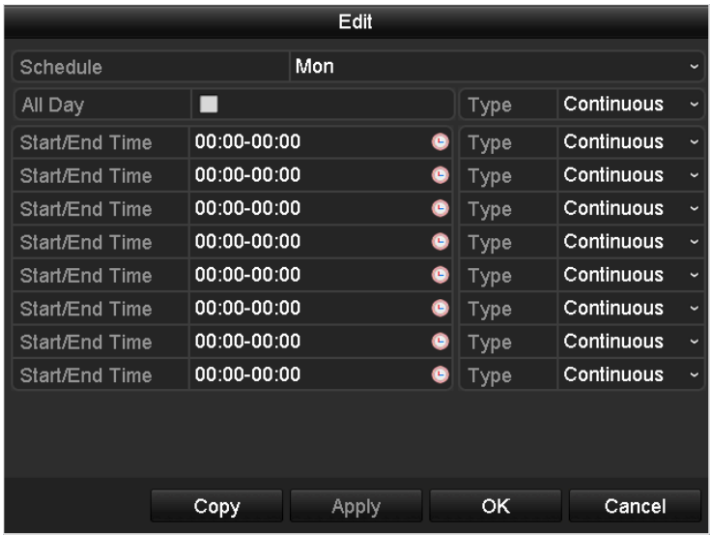

Figure 5. 9 Edit Schedule

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

Note: Up to 8 periods can be configured for each day. And the time periods can't be overlapped each other.

Repeat the above steps2)-5) to schedule recording for other days in the week. If the schedule can also be set to other days, click **Copy**.

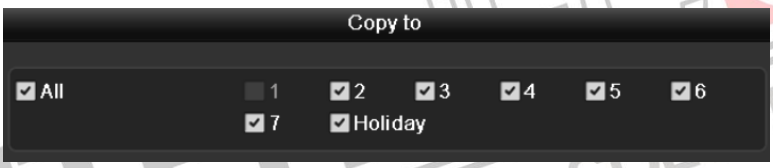

Figure 5. 10 Copy Schedule to Other Days

Note: The **Holiday** option is available when you enable holiday schedule in **Holiday settings**. Refer to *Chapter 5.6 Configuring Holiday Recording*.

Figure 5. 11 Holiday Settings

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

Task 2: Draw the Schedule

Steps:

1) Click to select a record type, including Continuous, Motion, Alarm, M | A, M & A and None.

Note: To enable Motion, Alarm, M | A (motion or alarm) and M & A (motion and alarm) triggered recording, you must configure the motion detection settings or alarm input settings as well. For detailed information, refer to *Chapter 8.1* and *Chapter 8.2*.

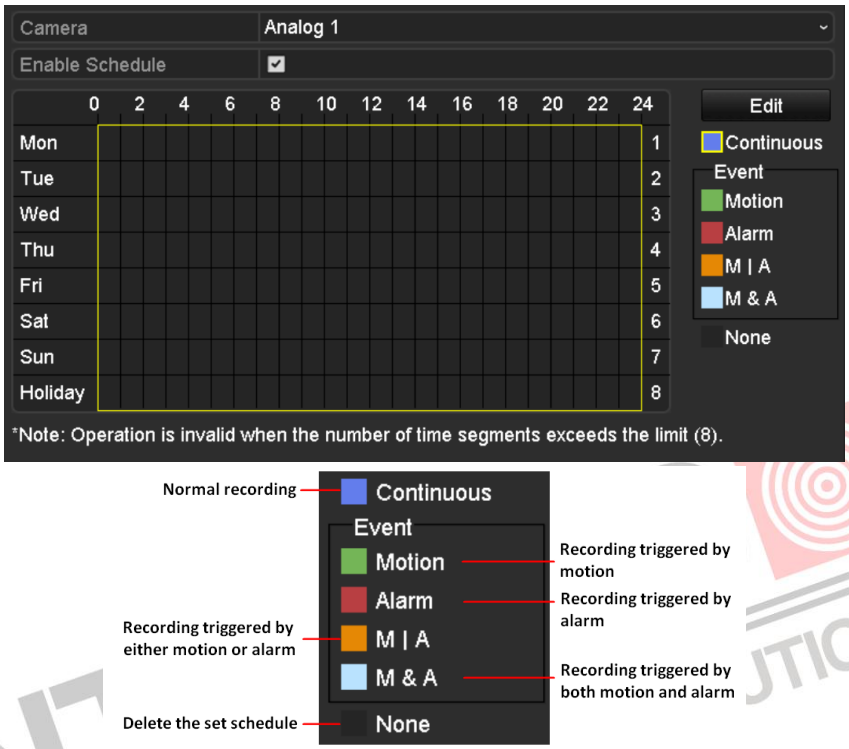

Figure 5. 12 Draw the Schedule (1)

2) Use the mouse to drag and draw time periods.

Note: Up to 8 periods can be configured for each day.

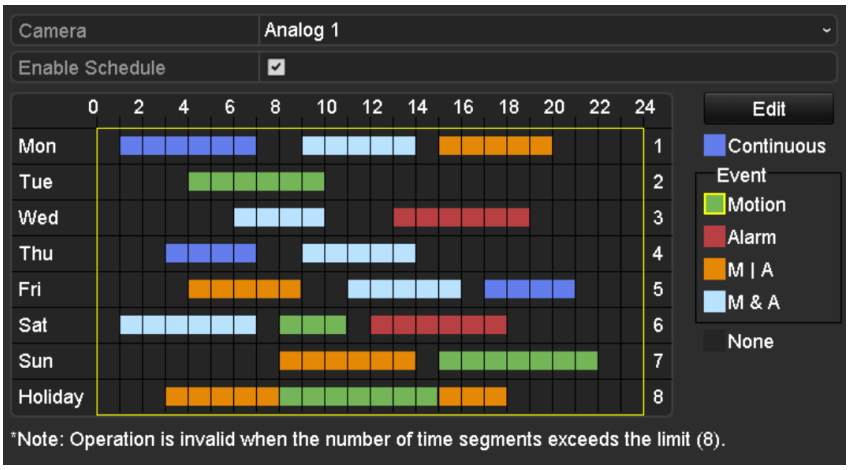

Figure 5. 13 Draw the Schedule (2)

You can repeat the above steps 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. Click Apply in the Record

Schedule interface to save the settings.

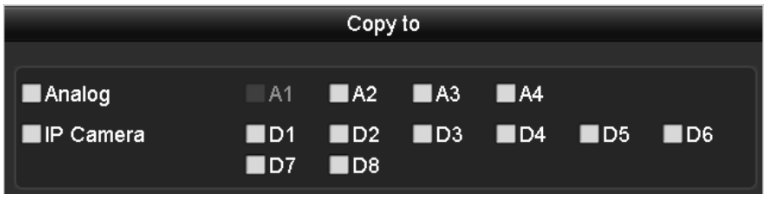

Figure 5. 14 Copy Schedule to Other Channels

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 device can analyze it and perform some response actions to handle it. Enabling motion detection function can trigger certain channels to start recording, or trigger full screen monitoring, audible warning, notify the surveillance center and so on. In this chapter, you can follow the steps to schedule a record which triggered by the detected motion.

Steps:

1. Enter the Motion Detection interface.

Menu>Camera>Motion

Figure 5. 15 Motion Detection

2. Configure Motion Detection:

1) Choose camera you want to configure.
2) Check checkbox to 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.
4) Click to configure the motion detection settings in the pop-up message box.

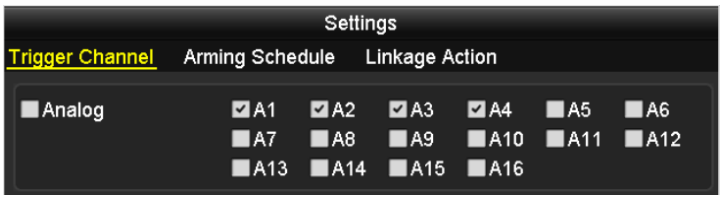

Figure 5. 16 Motion Detection Settings

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) Click Apply in the Motion Detection interface to save the settings. Exit the Motion Detection interface.

3. Enter Record Schedule settings interface (Menu> Record> Schedule>Record). For detailed information about record schedule settings, refer to step 2 in *Chapter 5.2 Configuring Record Schedule.*

Note: You need to select the **Type** as Motion in record schedule settings.

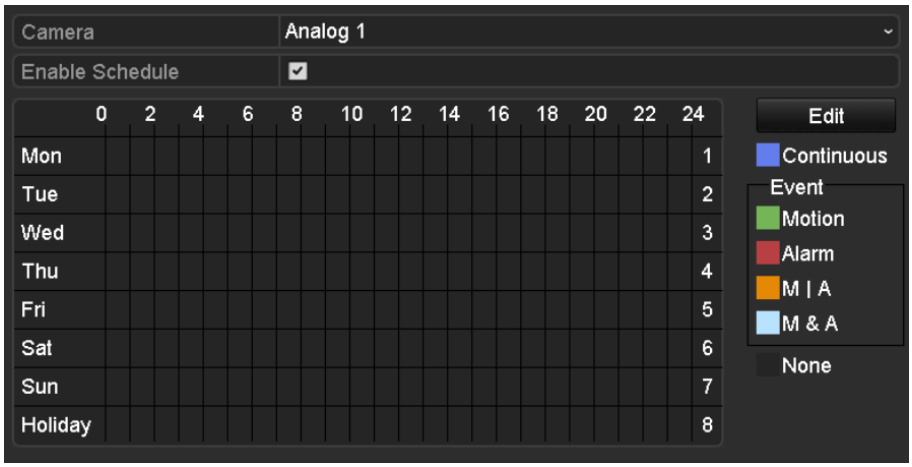

Figure 5. 17 Record Schedule

5.4 Configuring Alarm Triggered Recording

Purpose:

Follow the procedure to configure alarm triggered recording.

Steps:

1. Enter the Alarm setting interface.

Menu> Configuration> Alarm

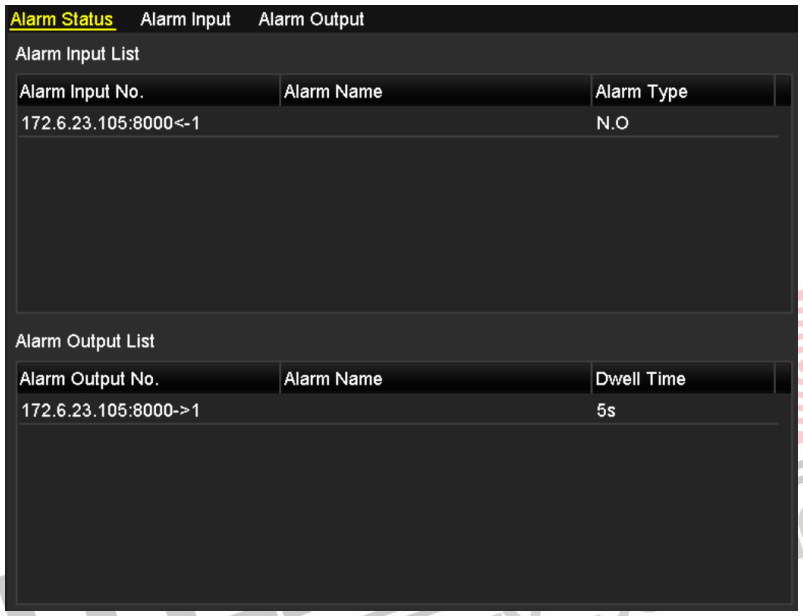

Figure 5. 18 Alarm Settings

2. Click **Alarm Input** tab.

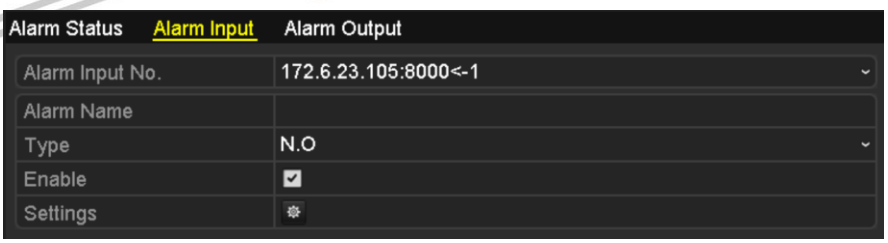

Figure 5. 19 Alarm Settings- Alarm Input

1) Select Alarm Input No. and configure alarm parameters.
2) Edit the alarm name as desired and choose N.O (normally open) or N.C (normally closed) for alarm type.
3) Check checkbox to enable the alarm input.
4) Click to configure the alarm settings.

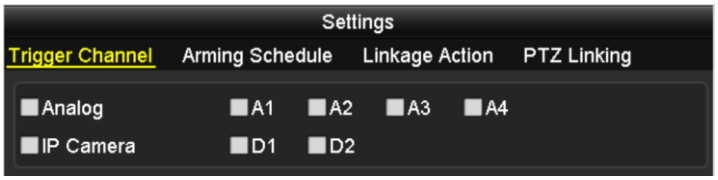

Figure 5. 20 Alarm Settings

5) Check the checkbox to choose the alarm triggered recording channel.
6) Click Apply to save settings.
7) Click OK to back to the upper level menu.
8) Click Apply in the Alarm Input interface to save the settings.

Repeat the above steps 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.

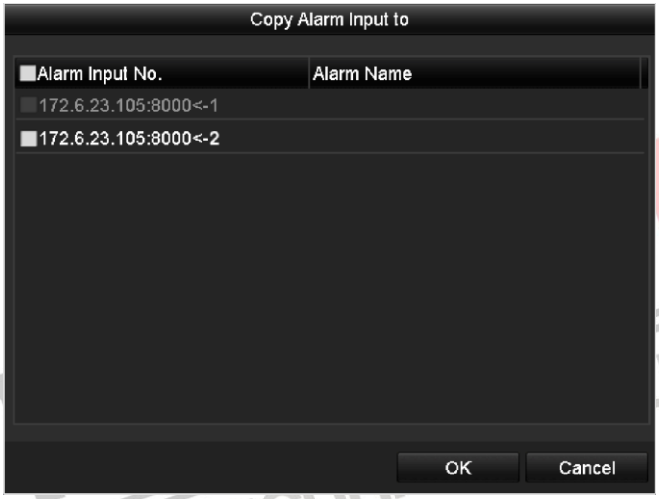

Figure 5. 21 Copy Alarm Input

3. Enter Record Schedule settings interface (Menu> Record> Schedule>Record). For detailed information about record schedule settings, refer to step 2 in *Chapter 5.2 Configuring Record Schedule.*

Note: You need to select the **Type** as Alarm in record schedule settings.

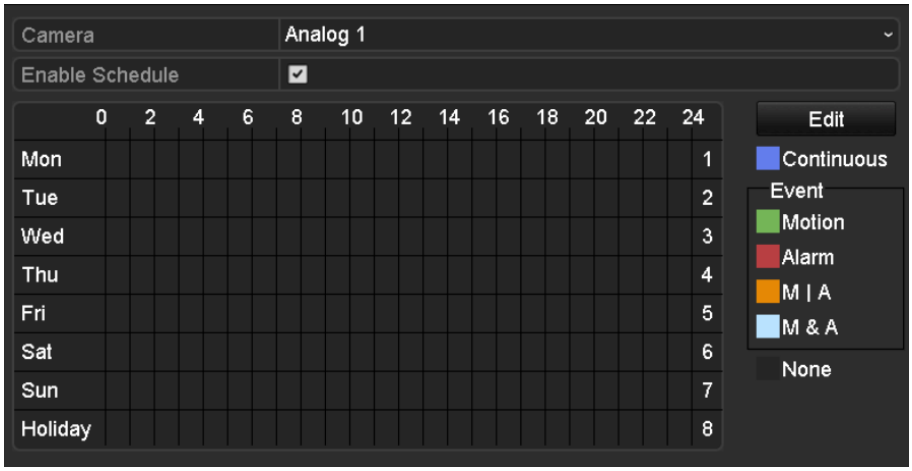

Figure 5. 22 Record Schedule

5.5 Configuring Manual Recording

Purpose:

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

Steps:

1. Enter the Manual settings interface.

Menu> Manual

Figure 5. 23 Manual Record

2. Enable manual record

1) Select **Record** tab on the left bar.

2) Click the status button before camera No. to change OFF to ON.

3. Disable manual record.

Click the status button to change ON to OFF.

Note: After rebooting, all the manual records enabled will be canceled.

4. Start all-day normal recording or all-day motion detection recording of all channels.

1) Click for Continuous or Motion Detection.

Figure 5. 24 Continuous Recording

Figure 5. 25 Motion Detection Recording

2) Click Yes to enable all-day continuous recording or all-day motion detection recording of all channels.

5.6 Configuring Holiday Recording

Purpose:

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

Note: The priority of holiday schedule is higher than any other schedule.

Steps:

1. Enter the Record setting interface.

   Menu>Record

2. Choose **Holiday** on the left bar.

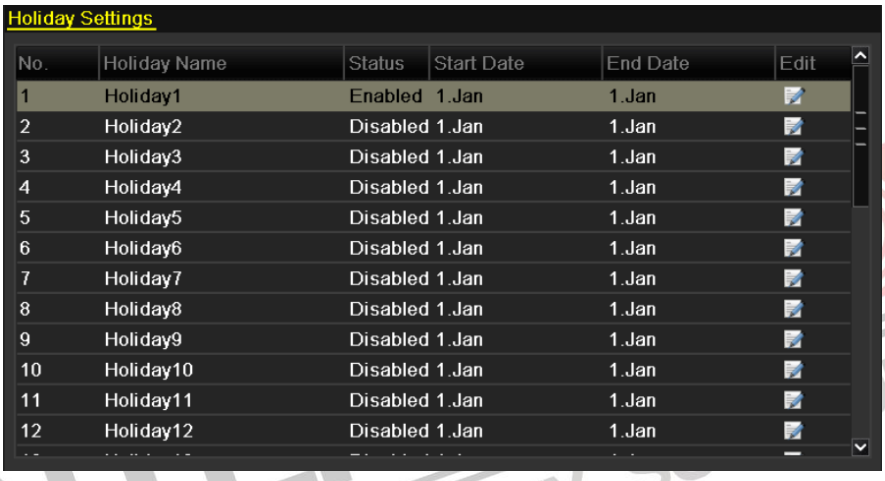

Figure 5. 26 Holiday Settings

3. Enable editing holiday schedule.

   1) Click  to enter the Edit interface.

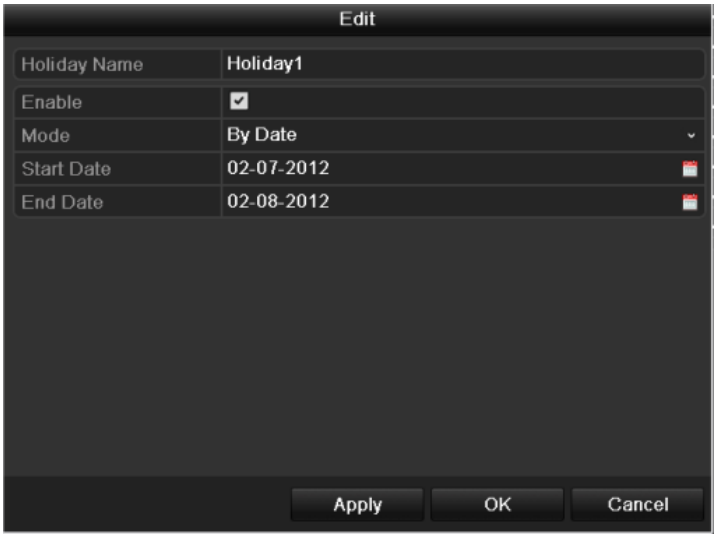

Figure 5. 27 Edit Holiday Settings

   2) Check  checkbox to enable the holiday schedule.

   3) Select Mode from the dropdown list.

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

4) Set the start and end date.

5) Click Apply to save settings.

6) Click OK to exit the Edit interface.

4. Enter Record Schedule settings interface (Menu> Record> Schedule>Record). For detailed information about record schedule settings, refer to step 2 in *Chapter 5.2 Configuring Record Schedule.*

Note: You need to select schedule type as Holiday or draw the schedule for the Holiday.

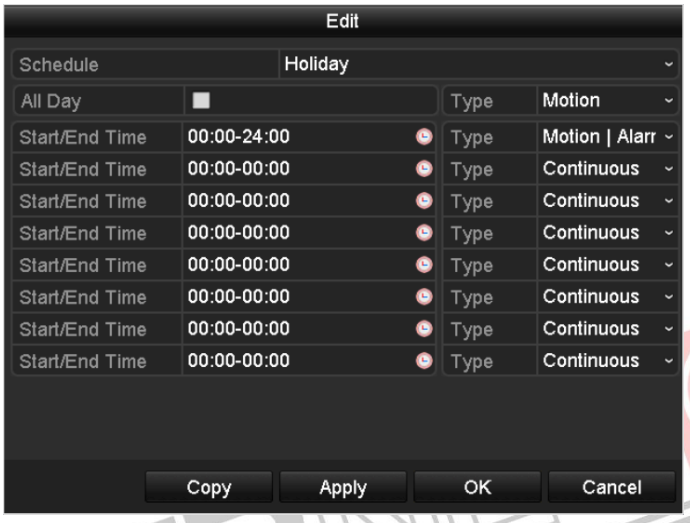

Figure 5. 28 Edit Schedule- Holiday

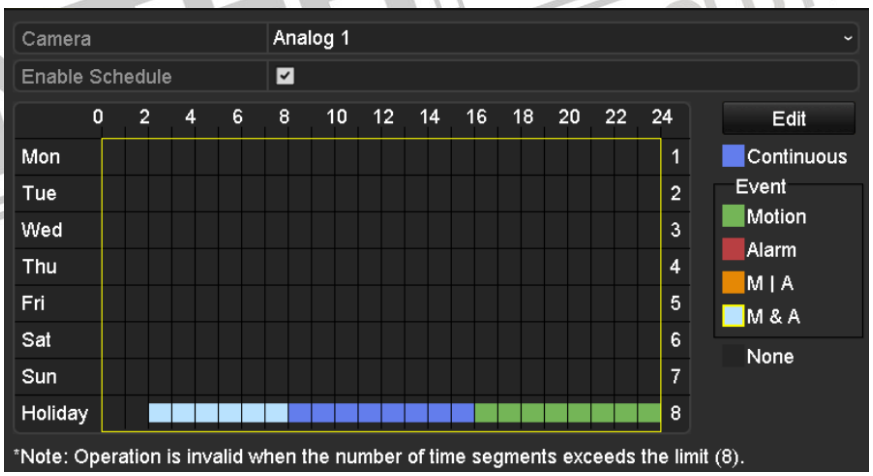

Figure 5. 29 Draw Schedule- Holiday

5.7 Configuring Redundant Recording

Purpose:

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

Note: 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 10.3 Managing HDD Group*. There should be at least another HDD or network disk which is in R/W mode.

Steps:

1. Enter HDD Information interface.

   Menu> HDD

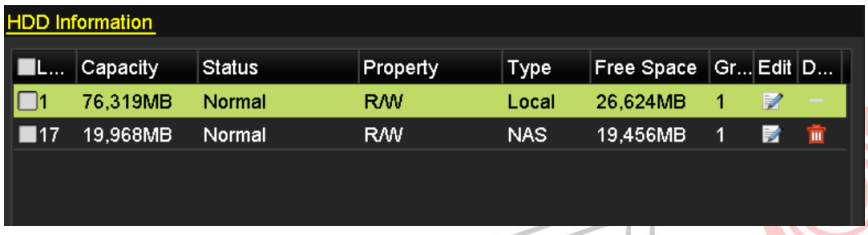

Figure 5. 30 HDD General

2. Select the **HDD** and click to enter the Local HDD Settings interface.

   1) Set the HDD property to Redundancy.

Figure 5. 31 HDD General-Editing

   2) Click Apply to save the settings.

   3) Click OK to back to the upper level menu.

3. Enter the Record setting interface.

   Menu> Record> Parameters

   1) Select **Record.**

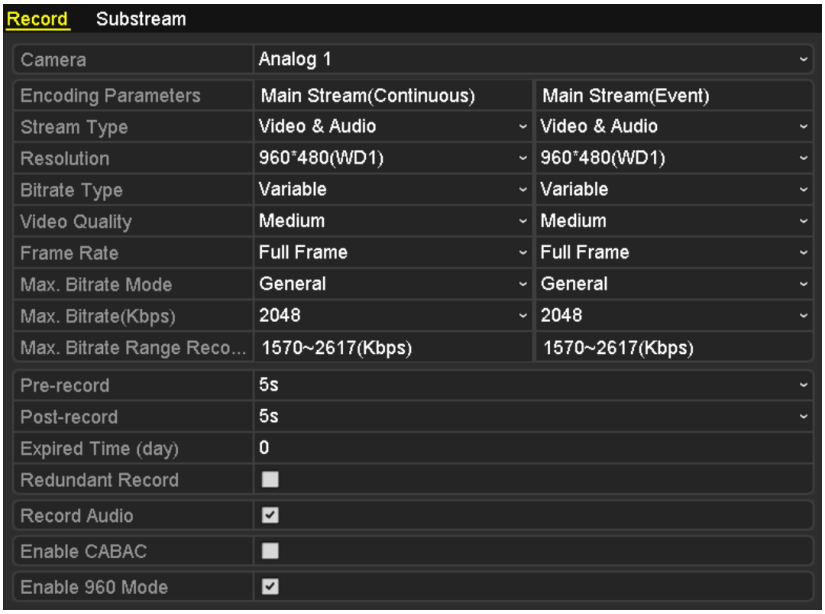

Figure 5. 32 Record Parameters

2) Select Camera you want to configure.
3) Check Redundant Record checkbox to enable redundant recording.
4) Click Apply to save settings.

Repeat the above steps2)-4) for configuring other channels. If the setting can also be applied to other analog channels, click Copy and then choose the channel(s).

5.8 Configuring HDD Group for Recording

Purpose:

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

Steps:

1. Enter HDD setting interface.

   Menu>HDD

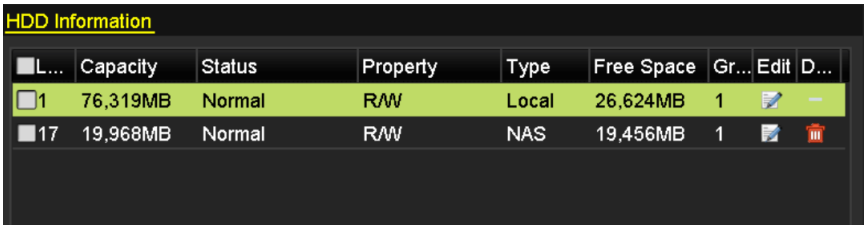

Figure 5. 33 HDD General

2. Select **Advanced** on the left bar.

   Check whether the storage mode of the HDD is Group. If not, set it to Group. For detailed information, please refer to *Chapter 10.3 Managing HDD Group*.

3. Select **General** in the left bar.

   Click  to enter editing interface.

4. Configuring HDD group.

   1) Choose a group number for the HDD group.

   2) Click Apply and then in the pop-up message box, click Yes to save your settings.

   3) Click OK to back to the upper level menu.

Repeat the above steps3-4 to configure more HDD groups.

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

   1) Select **Advanced** on the left bar.

Figure 5. 34 HDD Advanced

   2) Choose Group number in the dropdown list of **Record on HDD Group**

   3) Check the channels you want to save in this group.

   4) Click Apply to save settings.

   Note: After having configured the HDD groups, you can configure the Recording settings following the procedure provided in *Chapter 5.2-5.7*.

5.9 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.

Task 1: Protect file by locking the record files:

Steps:

1. Enter Export setting interface.

   Menu> Export

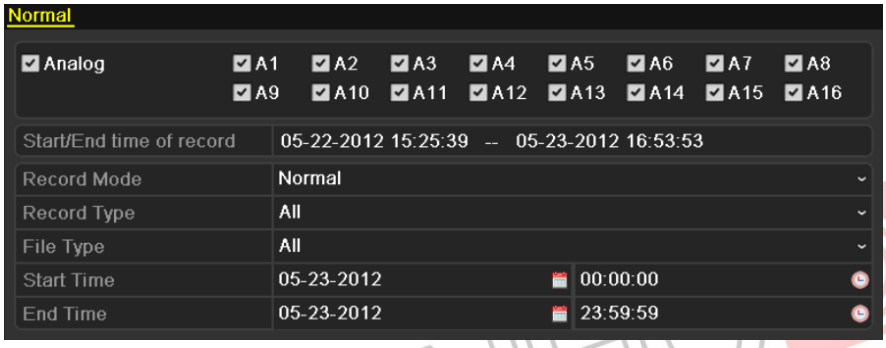

Figure 5. 35 Export Interface

2. Check the checkbox to ☑ for selecting the channels.
3. Configure the record mode, record type, file type and start/end time.
4. Click Search to show the results.

Figure 5. 36 Export- Search Result

5. Protect the record files.

   1) Find the record files you want to protect, and then click 🔓 icon which will turn to 🔒, indicating that the file is locked.

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

Figure 5. 37 Unlocking Attention

Task 2: Protect file by setting HDD property to Read-only

Note: To edit HDD property, you need to set the storage mode of the HDD to Group. See *Chapter 10.3 Managing HDD Group*.

Steps:

1. Enter HDD setting interface.

   Menu> HDD

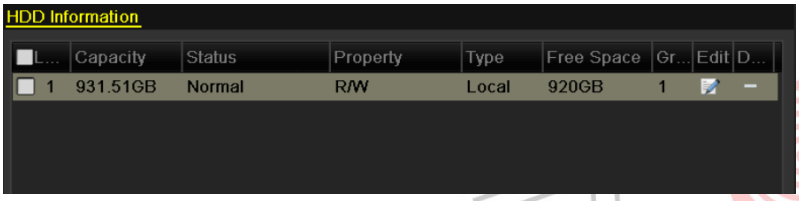

Figure 5. 38 HDD General

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

Figure 5. 39 HDD General- Editing

3. Set the HDD to Read-only.
4. Click OK to save settings and back to the upper level menu.

Notes:

1) You can't save any files in a Read-only HDD. If you want to save files in the HDD, change the property to R/W.
2) If there is only one HDD and is set to Read-only, the device can't record any files. Only live view mode is available.
3) If you set the HDD to Read-only when the device 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.

Chapter 6 Playback

6.1 Playing Back Record Files

6.1.1 Playing Back by Channel

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 using the mouse and click the  button in the quick setting toolbar.

Note: Only record files recorded during the last five minutes on this channel will be played back.

Figure 6. 1 Instant Playback Interface

Playback by channel

Steps:

1. Enter the Playback interface.

   Mouse: Right-click a channel in live view mode and select **Playback** from the menu, as shown in Figure 6.2.

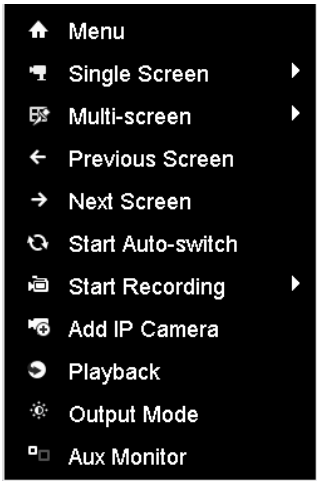

Figure 6. 2 Right-click Menu under Live View

2. Playback management.

The toolbar in the bottom part of Playback interface can be used to control playing progress, as shown in Figure 6.3.

Figure 6. 3 Playback Interface

Click the channel(s) if you want to execute synchronous playback of multiple channels.

Figure 6. 4 Toolbar of Playback

Note: The 11-22-2012 11:42:22 -- 12-19-2012 19:53:25 indicates the start/end time of the record.

Table 6. 1 Detailed Explanation of Playback Interface

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Audio on /Mute		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Smart Search		Pause reverse play/ Reverse play/ Single-frame reverse play
	Pause play/ Play/ Single-frame play		Stop		30s forward		30s reverse
	Slow forward		Fast forward		Previous day		Next day
	Scaling up/down time bar		Process bar		Full Screen		Exit
Normal	Video type						

Note:

Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate specific frames.

6.1.2 Playing Back by Time

Purpose:

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

Steps:

1. Enter Playback interface.
   Menu>Playback
2. Check checkbox of channel(s) in the channel list.
3. Double-click to select a date on the calendar to play back the record file.
   Note: 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.

Figure 6. 5 Playback Calendar

In the Playback interface:

The toolbar in the bottom part of Playback interface can be used to control playing process, as shown in Figure 6.6.

Figure 6. 6 Interface of Playback by Time

Figure 6. 7 Toolbar of Playback by Time

Note: The 11-22-2012 11:42:22 -- 12-19-2012 19:53:25 indicates the start/end time of the record.

Table 6. 2 Detailed Explanation of Playback-by-time Interface

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Audio on /Mute		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Smart Search		Pause reverse play/ Reverse play/ Single-frame reverse play
	Pause play/ Play/ Single-frame play		Stop		30s forward		30s reverse
	Slow forward		Fast forward		Previous day		Next day
	Scaling up/down time bar		Process bar		Full Screen		Exit
Normal	Video type						

Note:

Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate specific 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 (e.g. alarm input and motion detection).

Steps:

1. Enter the playback interface.
   Menu>Playback
2. Click Normal and select Event to enter the Event Playback interface.
3. Select **Alarm Input** as the event type, and edit the Start time and End time.

Figure 6. 8 Event Playback Interface-Alarm Input

4. Click Search to get the search result information listed in the right-side panel.

Figure 6. 9 Result of Video Search by Alarm Input

If you want to play back recorded files associated with motion detection, choose **Motion** as event type, edit the Start time and End time and click Search to search the related record file(s).

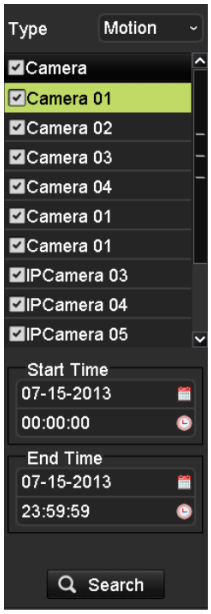

Figure 6. 10 Video Search by Motion

5. Click button to play back the record files.

   You can click Back to return to the search interface.

   Note: Pre-play and post-play can be configured for the alarm input 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.

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

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

   Note: 4-ch, 8-ch, 16-ch devices support 8-ch, 16-ch and 16-ch synchronous playback respectively.

6. Playback interface.

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

Figure 6. 11 Interface of Playback by Event

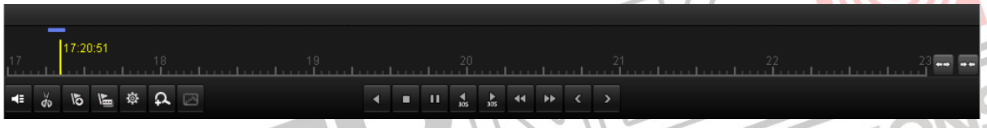

Figure 6. 12 Toolbar of Playback by Event

Table 6. 3 Detailed Explanation of Playback-by-event Interface

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Audio on /Mute		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Smart Search		Pause reverse play/ Reverse play/ Single-frame reverse play
	Pause play/ Play/ Single-frame play		Stop		30s forward		30s reverse
	Slow forward		Fast forward		Previous day		Next day
	Scaling up/down time bar		Process bar		Full Screen		Exit
Normal	Video type						

Notes:

1. Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate specific frames.

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:

1. Enter Playback (Menu>Playback) interface.
2. Search and play back the record file(s). Refer to *Chapter 6.1.2* for the detailed information about searching and playback of the record files.

Figure 6. 13 Interface of Playback by Time

Click to add default tag.

Click to add customized tag and edit tag name.

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

3. Tag management.

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

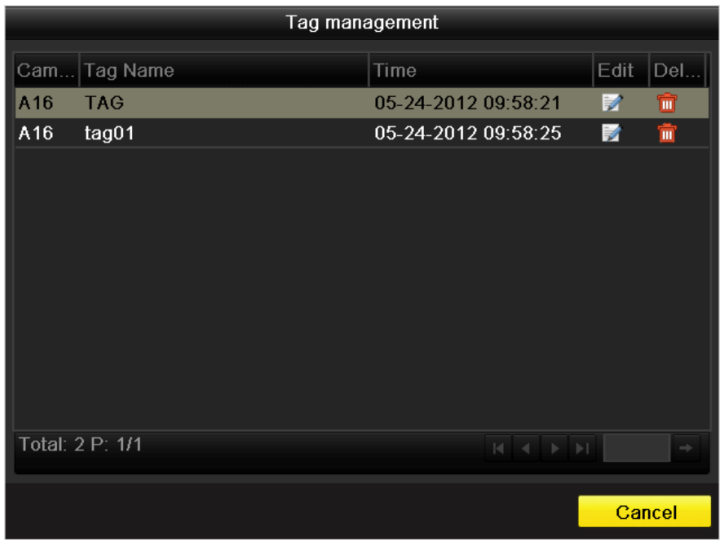

Figure 6. 14 Tag Management Interface

Steps:

1. Enter Playback interface.

   Menu>Playback

2. Click Normal and select Tag to enter the Tag Playback interface.

3. Choose channels, edit the Start and End time, and click Search to enter Search Result interface.

   Note: You can enter keyword in the textbox Keyw... to search the tag on your command.

Figure 6. 15 Video Search by Tag

4. Click button to play back the file.

   You can click the Back button to back to the search interface.

   Pre-play and post-play time can be set according to actual needs.

   Note: Pre-play time and post-play time is added to the time point of the tag.

Figure 6. 16 Interface of Playback by Tag

Figure 6. 17 Toolbar of Playback by Tag

Table 6. 4 Detailed Explanation of Playback-by-tag Interface

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Audio on /Mute		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Smart Search		Pause reverse play/ Reverse play/ Single-frame reverse play
	Pause play/ Play/ Single-frame play		Stop		30s forward		30s reverse
	Slow forward		Fast forward		Previous day		Next day
	Scaling up/down time bar		Process bar		Full Screen		Exit
Normal	Video type						

Note:

Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate specific frames.

6.1.5 Playing Back by Searching System Log

Purpose:

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

Steps:

1. Enter Log Information interface.

   Menu>Maintenance>Log Information>Log Search

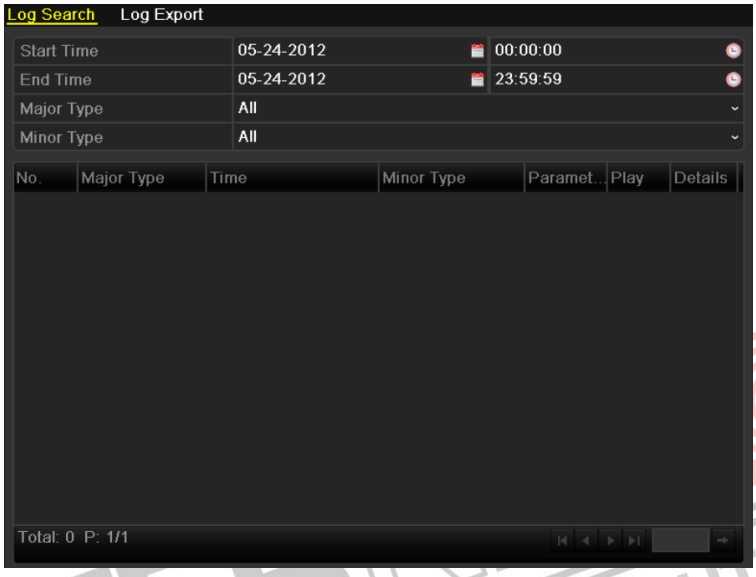

Figure 6. 18 Log Search Interface

2. Set search time and type, and click Search.
3. Choose a log with record file and click button to enter Playback interface.

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

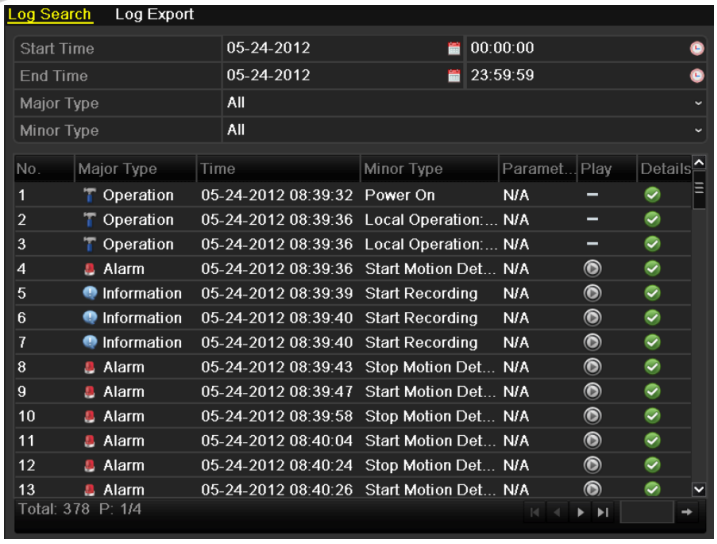

Figure 6. 19 Result of System Log Search

4. Playback interface.

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

Figure 6. 20 Interface of Playback by Log

6.1.6 Playing Back External Files

Purpose:

Perform the following steps to search and play back record files stored in the external storage devices, e.g., USB flash drives, USB HDDs.

Before you start:

Please insert the external device(s) with record files into the device.

Steps:

1. Enter the Playback interface.
   Menu>Playback
2. Click Normal and select External File to enter the External File Playback interface.
   The files stored in the extrenal device are listed in the right-side list.
   You can click the Refresh button to refresh the file list.
3. Select a record file and click to play back it.

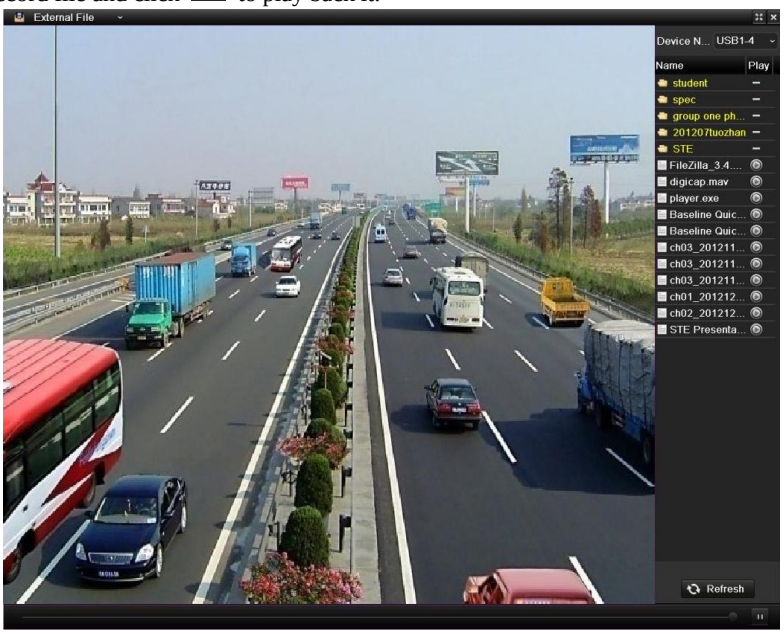

Figure 6. 21 Interface of External File Playback

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.

Steps:

Go to Playback interface. If you choose playback of the record file: click button and until the speed changes to *Single* frame and one click on the playback screen represents playback of one frame. If you choose reverse playback of the record file: click button and until the speed changes to *Single* frame and one click on the playback screen represents reverse playback of one frame. It is also feasible to use button in toolbar.

6.2.2 Smart Search

Purpose:

In order to locate motion detection event easily and accurately in the playback progress bar, you are allowed to analyze a certain area (scene) dynamically, and to get all of the related motion detection events that occurred in this area.

Note: For network cameras, the smart search function should be supported by the cameras.

Before you start (for network cameras only):

1. Log into the network camera via the web browser. Enter the motion detection configuration interface by Configuration> Advanced Configuration> Events> Motion Detection, and enable the Dynamic Analysis for Motion by checking the checkbox of it.

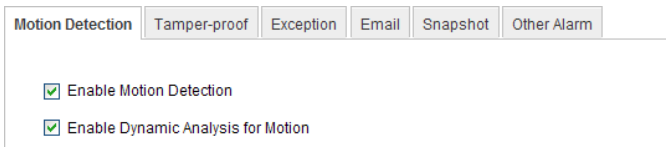

Figure 6. 22 Motion Detection Settings

2. Enable the motion detection function and set the arming area to the full-screen in the device local menu. Please refer to *chapter 8.1* for details.

Steps:

1. Enter the Playback interface and play a record file. Refer to *Chapter 6.1.2* for the detailed information about searching and playback of the record files.

Figure 6. 23 Interface of Playback by Time

2. Click the on the playback control toolbar to enter Smart Search mode.
3. Click and drag the mouse to draw area(s). You can click button to set the full screen as target searching area. After drawing area(s), click button to execute smart search in this area.

Note: Multi-area and full-screen searching modes are supported.

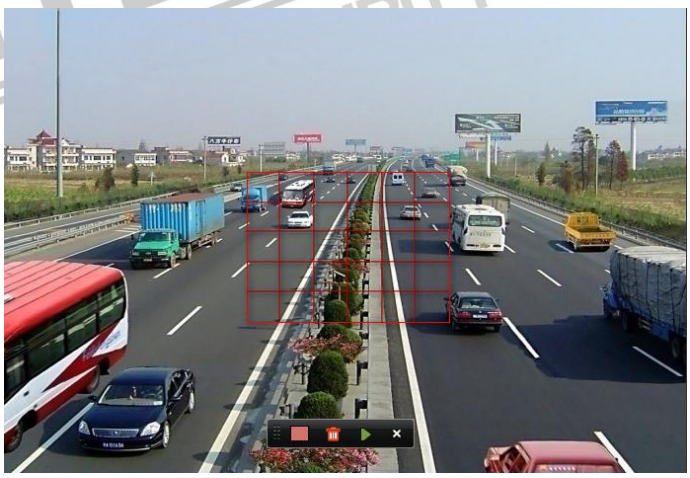

Figure 6. 24 Draw Area of Smart Search

The results of smart search will be marked as in the progress bar.

The hidden list of record files display when moving the mouse to the right of the playback interface.

Figure 6. 25 Smart Search Result

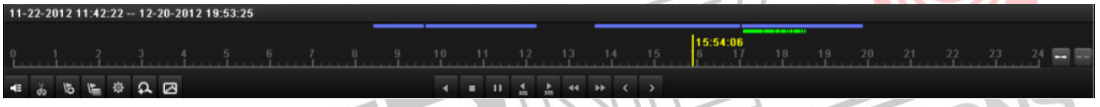

Figure 6. 26 Toolbar of Smart Search Playback

Note: The 11-22-2012 11:42:22 -- 12-19-2012 19:53:25 indicates the start/end time of the record.

Table 6. 5 Detailed Explanation of Smart-search-playback Toolbar

Button	Operation	Button	Operation	Button	Operation	Button	Operation
	Audio on /Mute		Start/Stop clipping		Add default tag		Add customized tag
	Tag management		Digital Zoom		Smart Search		Pause reverse play/ Reverse play/ Single-frame reverse play
	Pause play/ Play/ Single-frame play		Stop		30s forward		30s reverse
	Slow forward		Fast forward		Previous day		Next day
	Scaling up/down time bar		Process bar		Full Screen		Exit
Normal	Video type		Smart search result				

Note:

Playback progress bar: use the mouse to click any point of the progress bar or drag the progress bar to locate specific frames.

6.2.3 Digital Zoom

Steps:

1. Enter the Playback interface and play a record file. Refer to *Chapter 6.1.2* for the detailed information about searching and playback of the record files.
2. Click the  on the playback control toolbar to enter Digital Zoom mode.
3. Use the mouse to draw a red rectangle and the image within it will be enlarged up to 16 times.
4. You can right-click to exit the Digital Zoom mode.

Figure 6. 27 Draw Area for Digital Zoom

6.2.4 Reverse Playback of Multi-channel

Purpose:

You can play back record files of multi-channel reversely.

Steps:

1. Enter the Playback interface.
   Menu>Playback
2. Check  checkbox to select the channel(s) and double-click to select a date on the calendar.
   Note: If more than one channel is optional, the simultaneous playback will be activated.

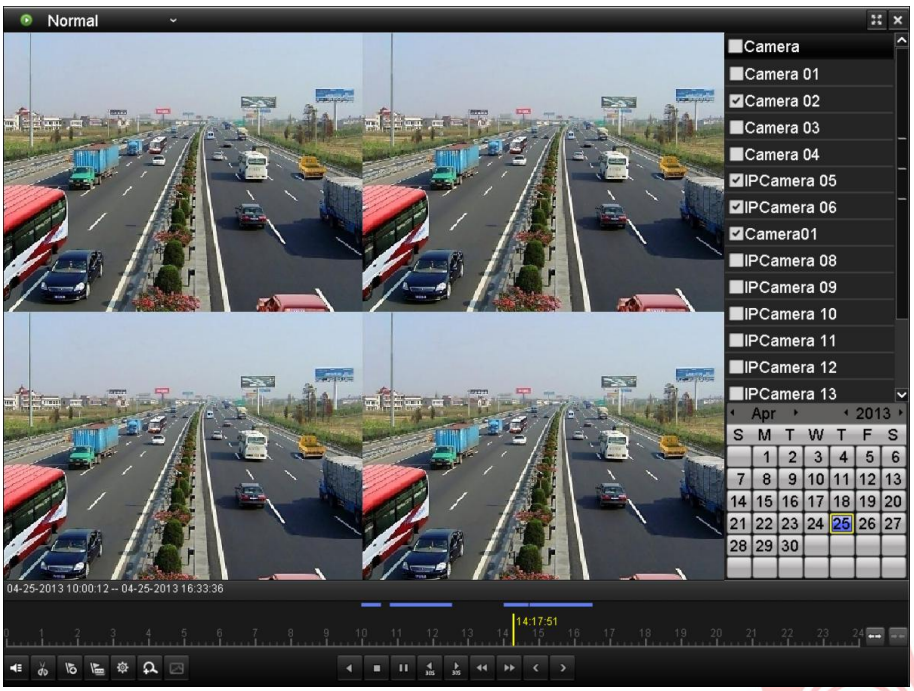

Figure 6. 28 4-ch Synchronous Playback Interface

3. Click  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 Quick Export

Purpose:

Export record files to backup device(s) quickly.

Steps:

1. Enter Video Export interface.

   Menu>Export>Normal

   Choose the channel(s) you want to back up and click Quick Export.

   Note: The time duration of record files on a specified channel cannot exceed one day. Otherwise, the message box "Max. 24 hours are allowed for quick export." will pop up.

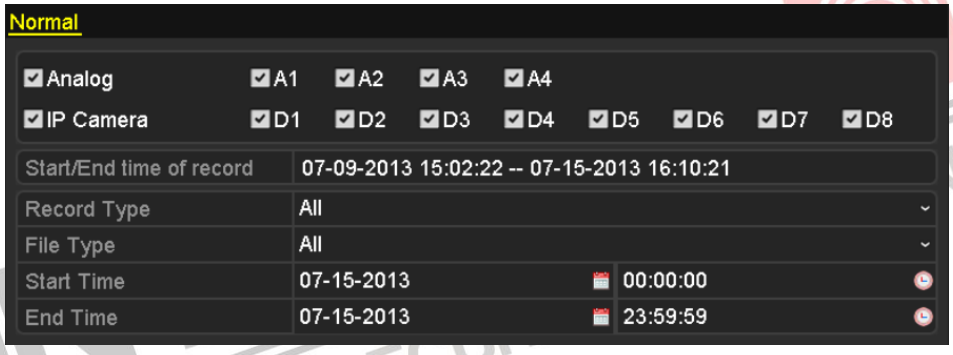

Figure 7. 1 Quick Export Interface

2. Export.

   Go to Export interface, choose backup device and click Export to start exporting.

   Note: Here we use USB Flash Drive and please refer to *Chapter 7.1.2 Backing up by Normal Video Search* for more backup devices supported by the device.

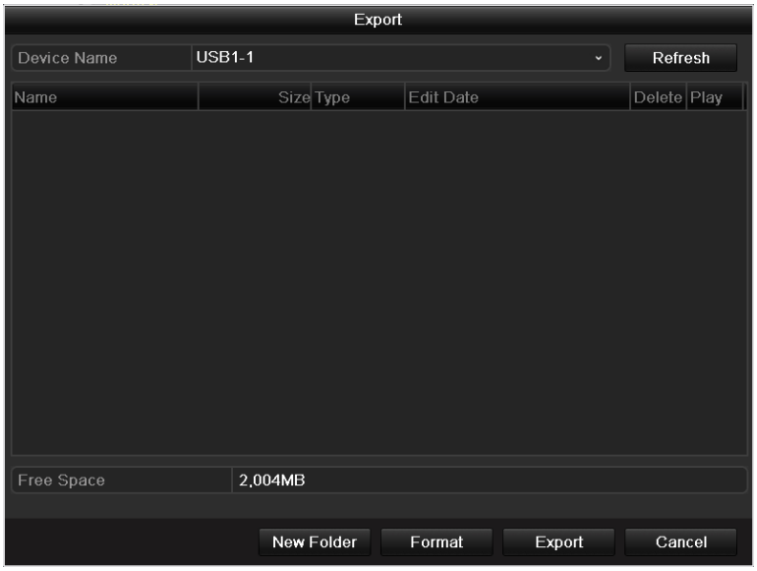

Figure 7. 2 Quick Export using USB1-1

Stay in the Exporting interface until all record files are exported.

Figure 7. 3 Export Finished

3. Check backup result.

Choose the record file in Export interface and click button to check it.

Note: The Player player.exe will be exported automatically during record file export.

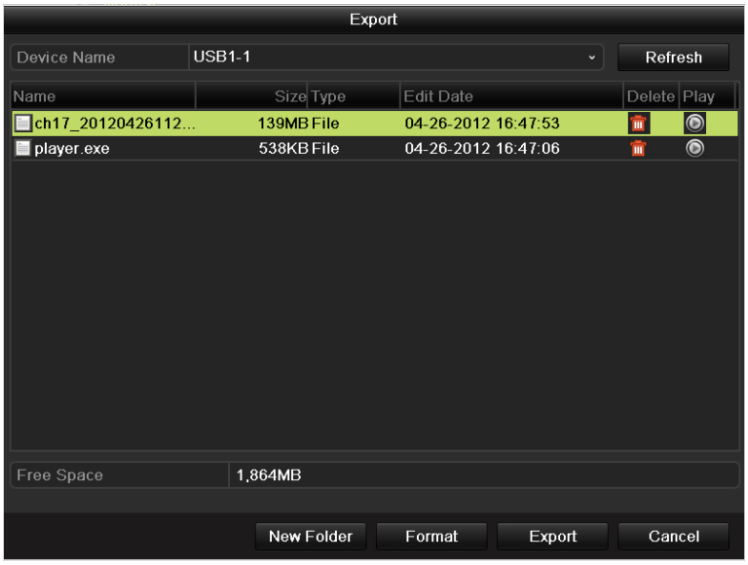

Figure 7. 4 Checkup of Quick Export Result Using USB1-1

7.1.2 Backing up by Normal Video Search

Purpose:

The record files can be backup to various devices, such as USB devices (USB flash drives, USB HDDs, USB writer) and DVD-R/W.

Backup using USB flash drives, USB HDDs, USB writer and DVD-R/W

Steps:

1. Enter Export interface.
   Menu>Export>Normal
2. Set search condition and click Search to enter the search result interface.

   Notes:

   1) Six different Record types are selectable: Continuous, Motion, Alarm, Motion | Alarm, Motion & Alarm, Command Triggered and Manual. The command triggered record is configured by the platform when the device accessed via the platform.

   2) Two different File types are selectable: Unlocked and Locked.

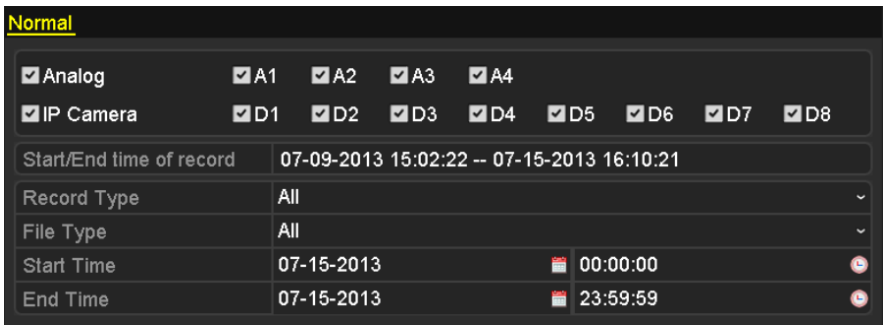

Figure 7. 5 Normal Video Search for Backup

3. Select record files you want to back up.

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

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

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

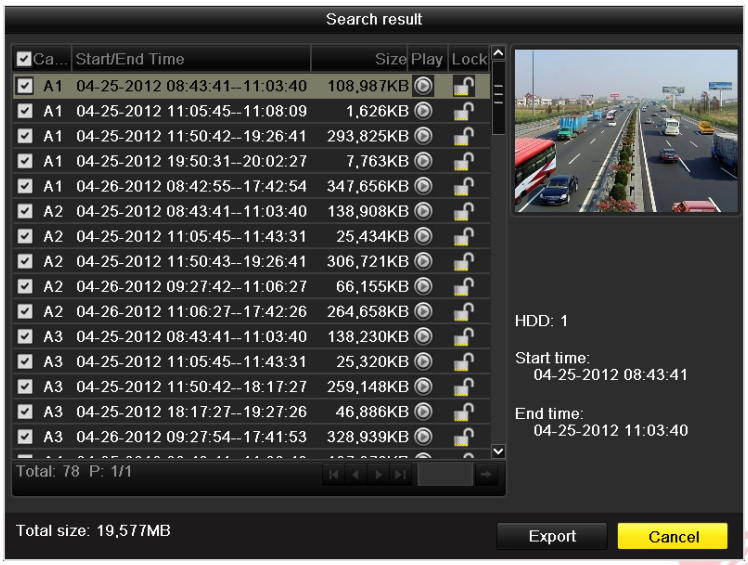

Figure 7. 6 Result of Normal Video Search for Backup

4. Export.

Click Export and start backup.

Note: If the inserted device is not recognized:

- Click Refresh.
- Reconnect device.
- Check for compatibility from vendor.

You can also format USB flash drives or USB HDDs via the device. USB writer and DVD-R/W cannot be formatted.

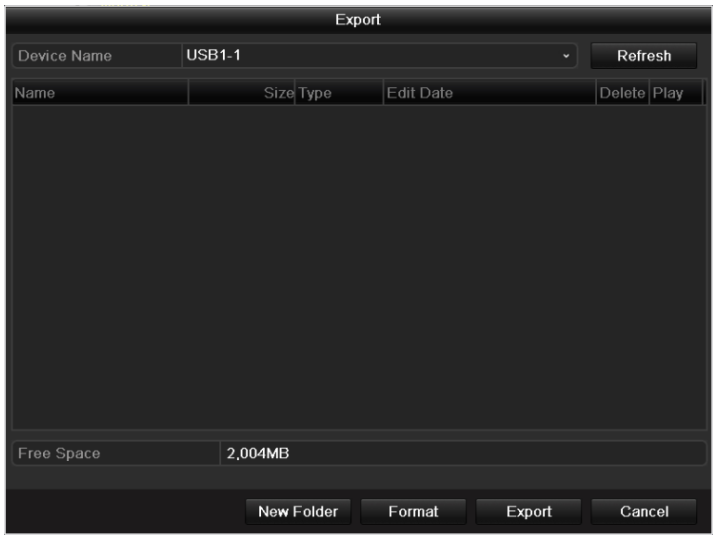

Figure 7. 7 Export by Normal Video Search using USB Flash Drive

Figure 7. 8 Export by Normal Video Search using USB Writer

Stay in the Exporting interface until all record files are exported with pop-up message box "Export finished".

Figure 7. 9 Export Finished

5. Check backup result.

Choose the record file in Export interface and click button to check it.

Note: The Player player.exe will be exported automatically during record file export.

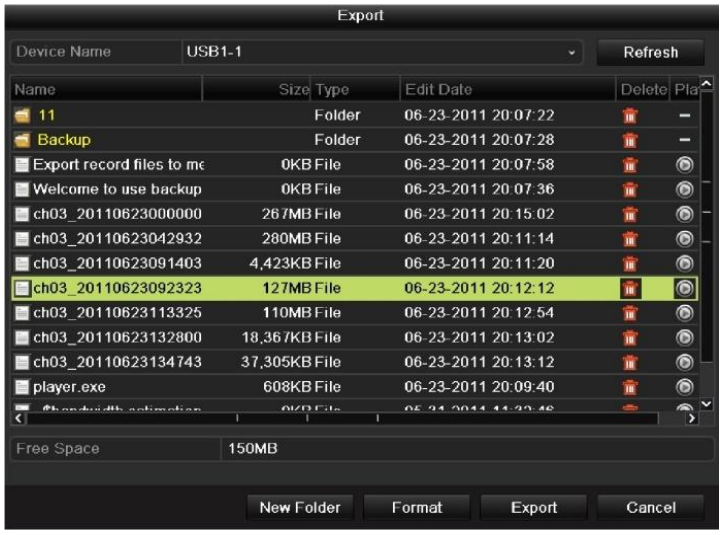

Figure 7. 10 Checkup of Export Result using USB Flash Drive

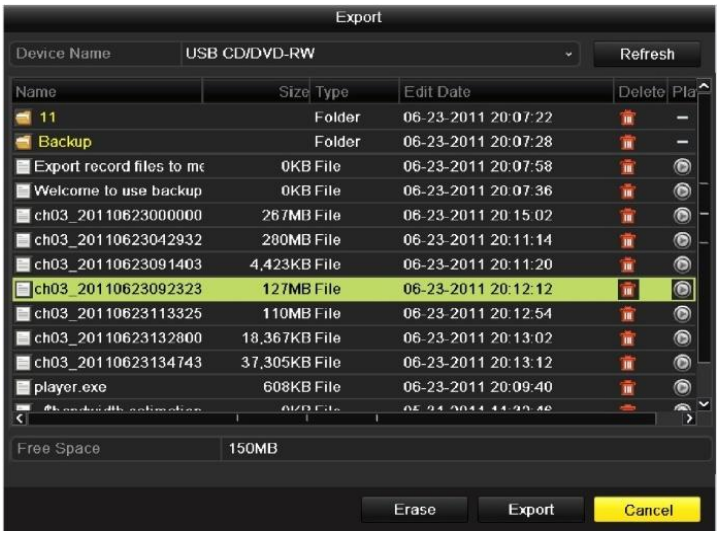

Figure 7. 11 Checkup of Export Result using USB Writer

7.1.3 Backing up by Event Search

Purpose:

Back up event-related record files using USB devices (USB flash drives, USB HDDs, USB writer), or DVD-R/W. Quick Backup and Normal Backup are supported.

Steps:

1. Enter Export interface.

   Menu>Export>Event

   1) Select Alarm Input/Motion from the dropdown list of Event Type.

   Note: Here we take Alarm Input as an example.

   2) Select the alarm input No. and time.

   3) Click Search to enter the Search Result interface.

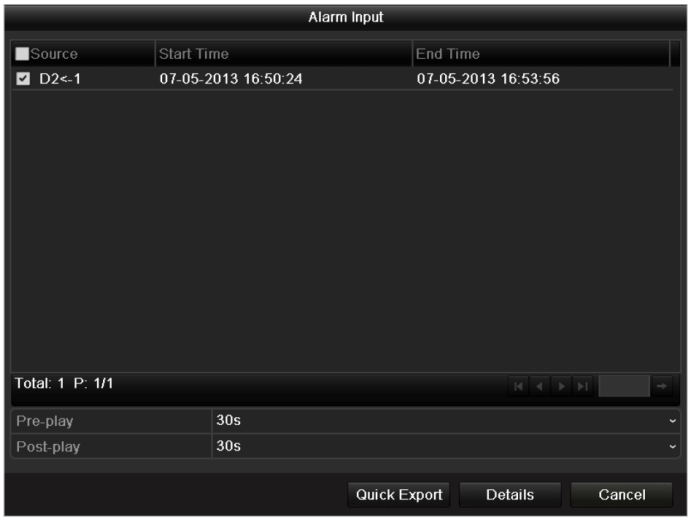

Figure 7. 12 Event Search for Backup

2. Select record files to export.

1) Select an alarm input in the list and click Quick Export to enter Export interface.

2) Clicking Details will take you to the interface with detailed information of all channels triggered by the selected alarm input. You can view detailed information of the record file, e.g. start time, end time and file size.

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

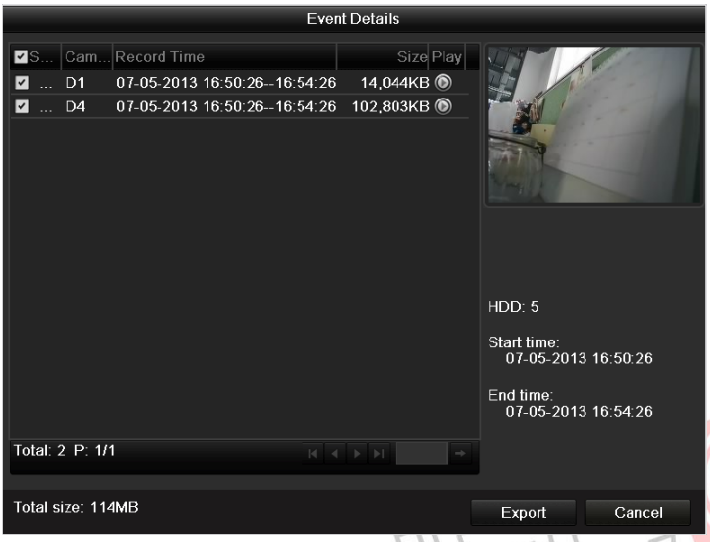

Figure 7. 13 Event Details Interface

3. Export.

Click Export and start backup.

Note: If the inserted USB device is not recognized:

- Click Refresh.
- Reconnect device.
- Check for compatibility from vendor.

You can also format USB flash drive or USB HDDs via the device.

Figure 7. 14 Export by Event Using USB Flash Drive

Stay in the Exporting interface until all record files are exported with pop-up message “Export finished”.

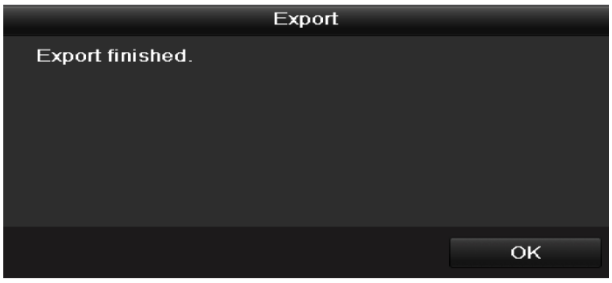

Figure 7. 15 Export Finished

4. Check backup result.

   Note: The Player player.exe will be exported automatically during record file export.

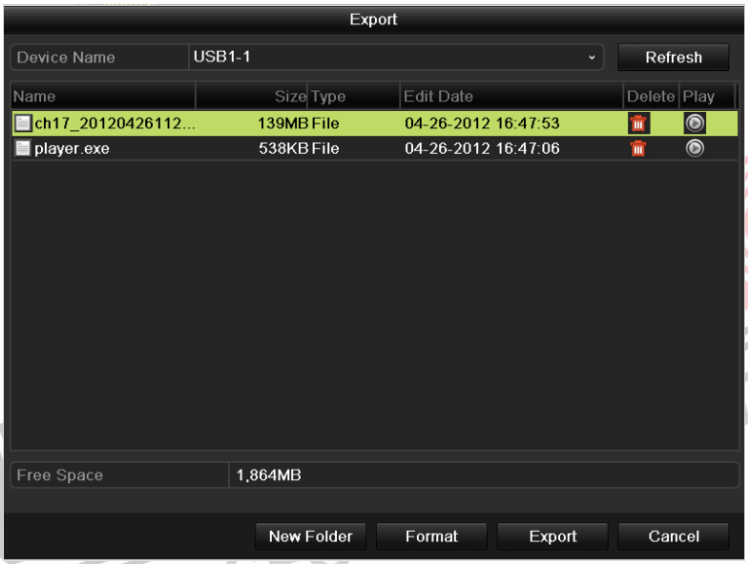

Figure 7. 16 Checkup of Event Export Result Using USB Flash Drive

7.1.4 Backing up Video Clips

Purpose:

You may also select video clips to export directly during Playback, using USB devices (USB flash drives, USB HDDs, USB writer), or DVD-R/W.

Steps:

1. Enter Playback interface and play back the record file you want to set video clips.

   Please refer to *Chapter 6.1 Playing Back Record Files*.
2. During playback, use buttons and in the playback toolbar to start or stop clipping record file(s).
3. Quit Playback interface after finishing clipping and you will then be prompted to save the clips.

   Note: A maximum of 30 clips can be selected for each channel.

Figure 7. 17 Interface of Playback by Time

4. Click Yes to save video clips and enter Export interface, or click **No** to quit and do not save video clips.

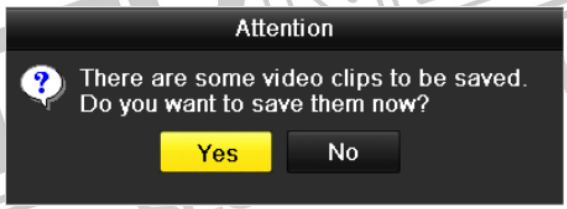

Figure 7. 18 Attention to Video Clip Saving

5. Export.

   Click Export and start backup.

   Note: If the inserted USB device is not recognized:

   - Click Refresh.
   - Reconnect device.
   - Check for compatibility from vendor.

   You can also format USB flash drive or USB HDDs via the device.

Figure 7. 19 Export Video Clips Using USB Flash Drive

Stay in the Exporting interface until all record files are exported with pop-up message "Export finished".

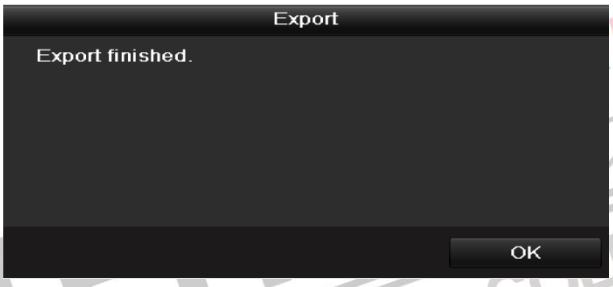

Figure 7. 20 Export Finished

6. Check backup result.

Note: The Player player.exe will be exported automatically during record file export.

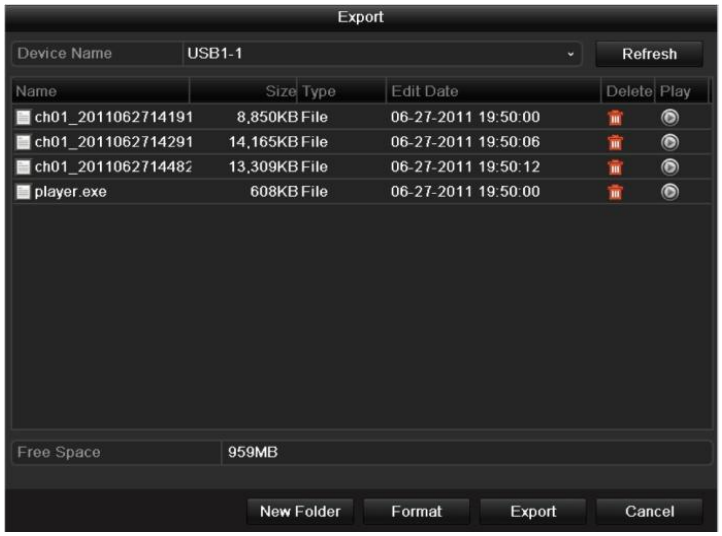

Figure 7. 21 Checkup of Video Clips Export Result Using USB Flash Drive

7.2 Managing Backup Devices

Management of USB flash drives and USB HDDs.

Steps:

1. Enter Search Result interface of record files.

   Menu>Export>Normal

   Set search condition and click Search to enter Search Result interface.

   Note: At least one channel shall be selected.

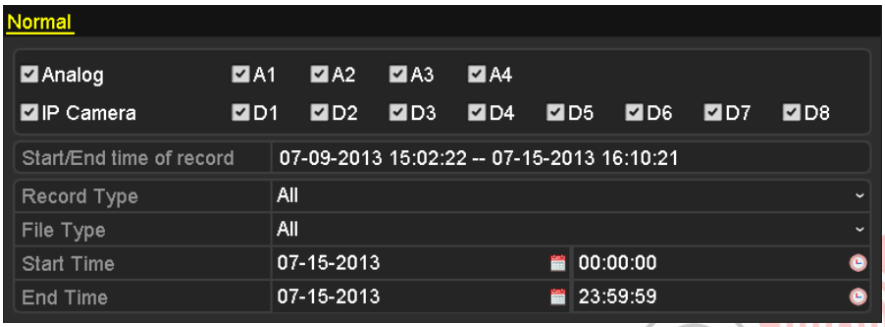

Figure 7. 22 Normal Video Search for Backup

2. Select record files you want to back up.

   Click Export to enter Export interface.

   Note: At least one record file shall be selected.

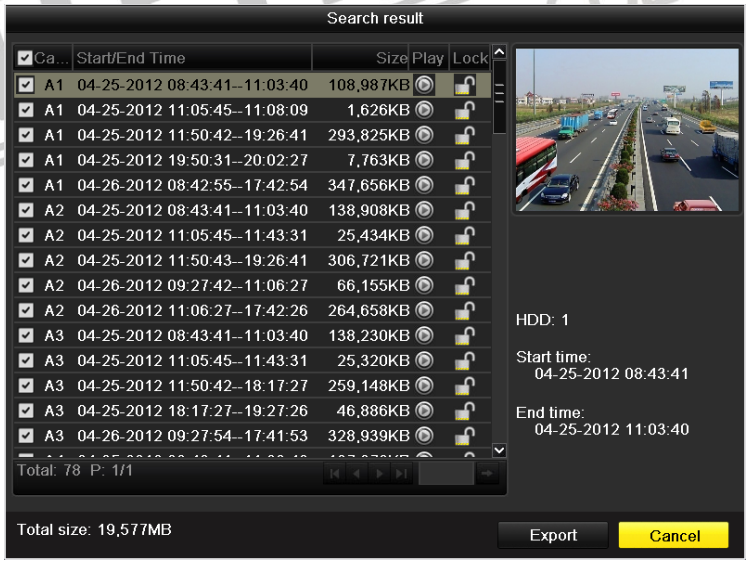

Figure 7. 23 Result of Normal Video Search for Backup

3. Backup device management.

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

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

   Select a record file in the backup device and click to play it.

   Click Format to format the backup device. Two kinds of file system can be configurable, including FAT32 and NTFS.

Note: If the inserted USB device is not recognized:

- Click Refresh.
- Reconnect device.
- Check for compatibility from vendor.

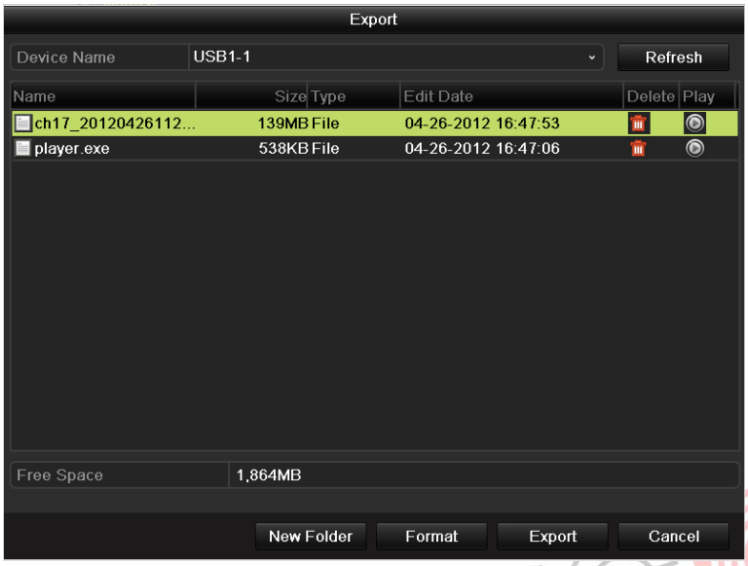

Figure 7. 24 USB Flash Drive Management

Management of USB writers and DVD-R/W

1. Enter Search Result interface of record files.

Menu>Export>Normal

Set search condition and click Search to enter Search Result interface.

Note: At least one channel shall be selected.

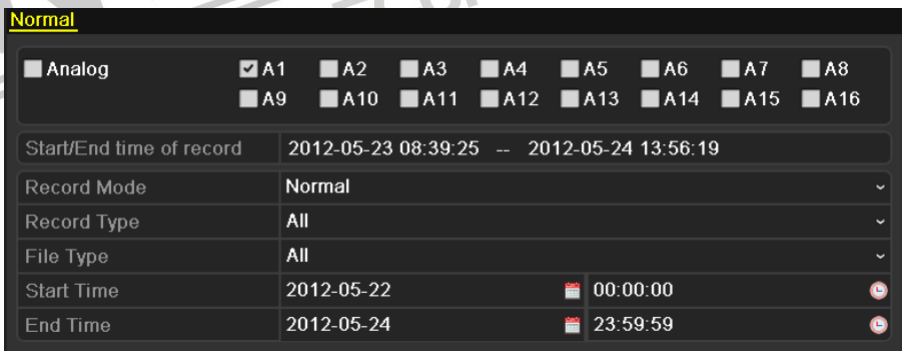

Figure 7. 25 Normal Video Search for Backup

2. Select record files you want to back up.

Click Export to enter Export interface.

Note: At least one record file shall be selected.

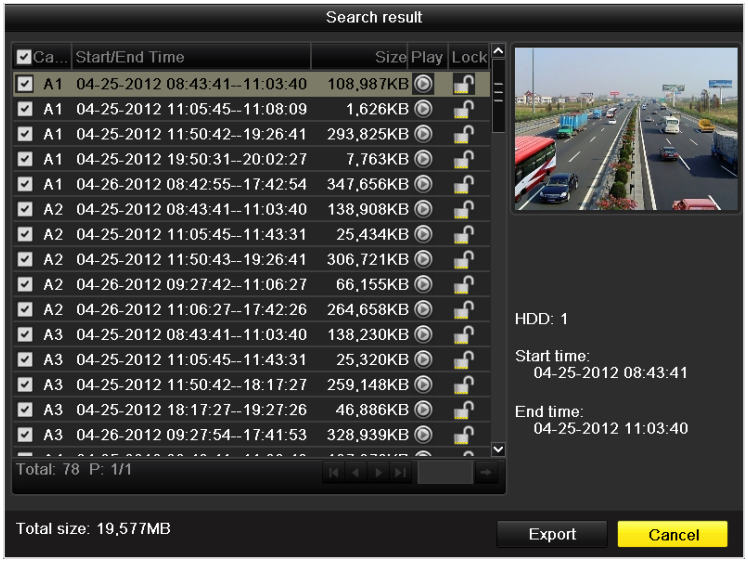

Figure 7. 26 Result of Normal Video Search for Backup

3. Backup device management.

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

Note: There must be a re-writable CD/DVD when you make this operation.

Note: If the inserted USB writer or DVD-R/W is not recognized:

- Click Refresh.
- Reconnect device.
- Check for compatibility from vendor.

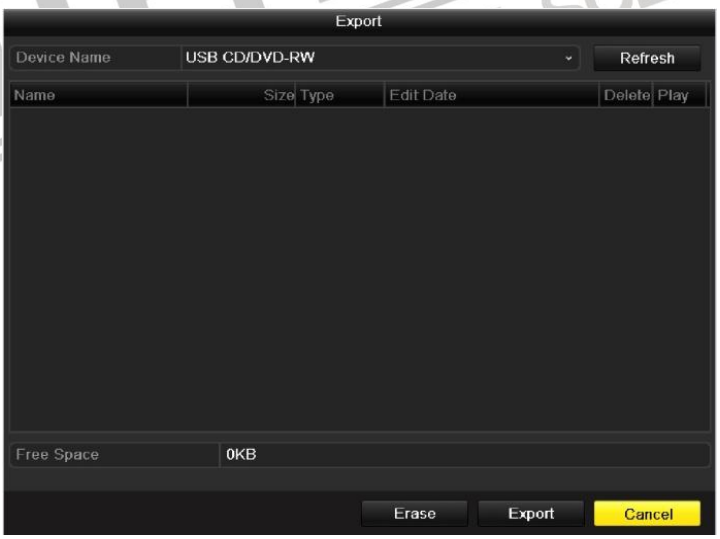

Figure 7. 27 USB Writer Management

Chapter 8 Alarm Settings

8.1 Setting Motion Detection

Steps:

1. Enter Motion Detection interface and choose a camera you want to set motion detection.

   Menu> Camera> Motion

Figure 8. 1 Motion Detection Settings Interface

2. Set detection area and sensitivity.

   Check ☑ checkbox to enable motion detection, use the mouse to draw detection area(s) and drag the sensitivity bar to set sensitivity.

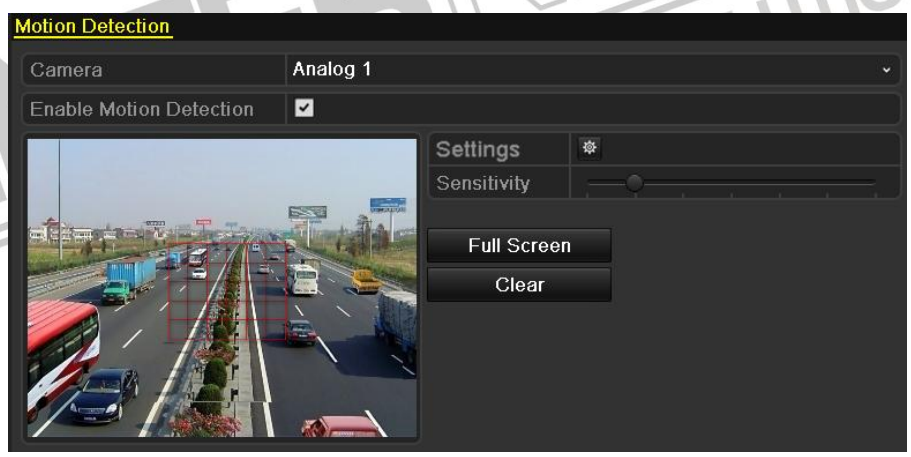

Figure 8. 2 Set Detection Area and Sensitivity

3. Click ⚙ to configure the motion detection settings. 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. Click Apply to save the settings.

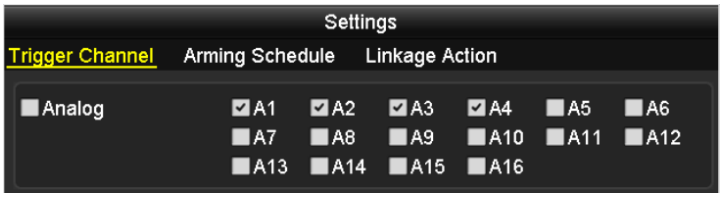

Figure 8. 3 Set Trigger Camera of Motion Detection

4. Set arming schedule of the channel.

   Select **Arming Schedule** tab and set arming schedule of the channel.

   Choose one day of a week and up to eight time periods can be set within each day. Set up arming schedule of other days of a week. You can also use Copy to copy an arming schedule to other days. Click Apply to save the settings.

   Note: Time periods shall not be repeated or overlapped.

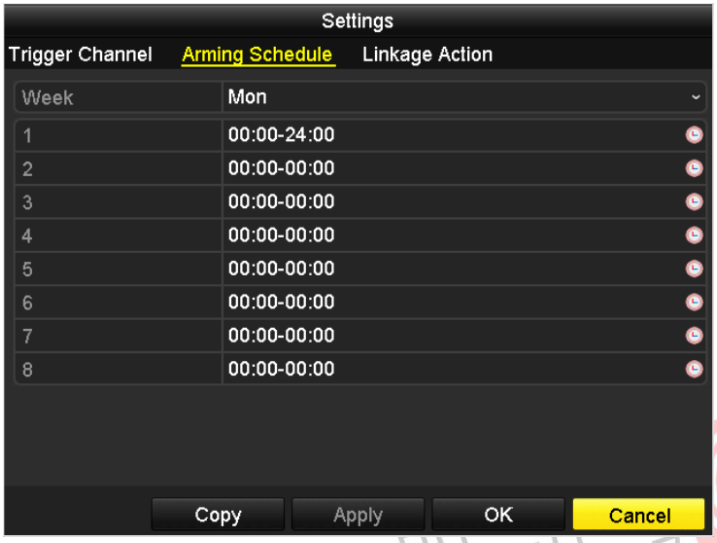

Figure 8. 4 Set Arming Schedule of Motion Detection

5. Click **Linkage Action** tab to set alarm response actions of motion detection (please refer to *Chapter 8.6*).

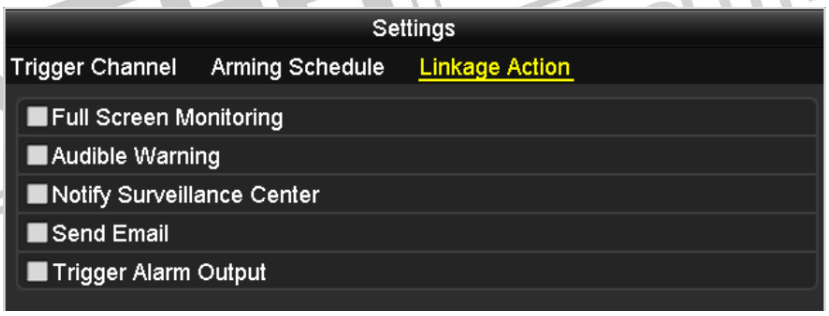

Figure 8. 5 Set Alarm Response Actions of Motion Detection

   Click Apply to save the settings. Click OK to complete the motion detection settings of the channel.

6. If you want to set motion detection for another channel, repeat the above steps or just click Copy in the Motion Detection interface to copy the above settings to it.

   Note: You are not allowed to copy the "Trigger Channel" action and motion detection settings to IP camera.

Figure 8. 6 Copy Settings of Motion Detection

8.2 Setting Sensor Alarms

Purpose:

You can set handling method of an external sensor alarm.

Note: I7-H07xxVH series HDVR only supports the sensor alarm of the IPC that connected to it.

Steps:

1. Enter Alarm Settings interface and select an alarm input.

   Menu> Configuration> Alarm

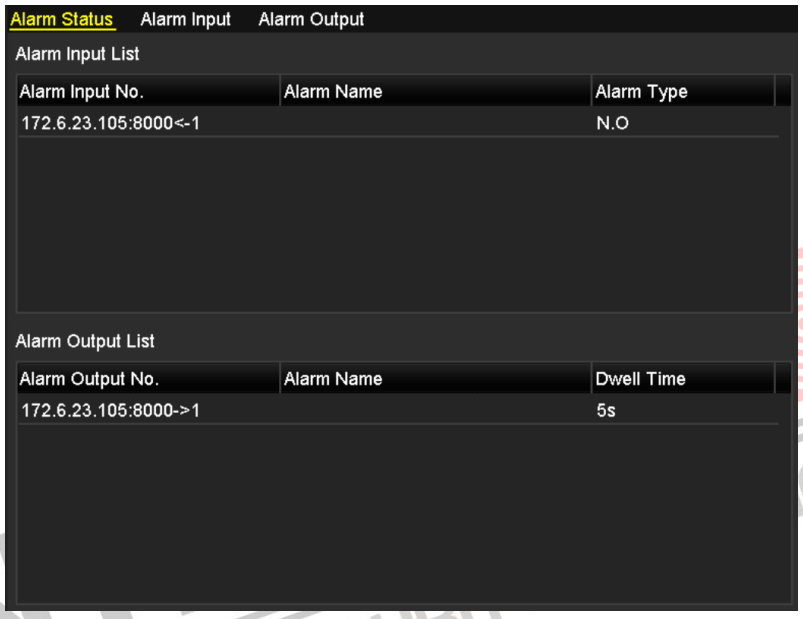

Figure 8. 7 Alarm Status Interface

2. Select **Alarm Input** tab to enter Alarm Input Settings interface, edit the name for the alarm input and set the handling method of the selected alarm input.

   Check ☑ checkbox to enable the alarm input and click ⚙ to configure the alarm settings..

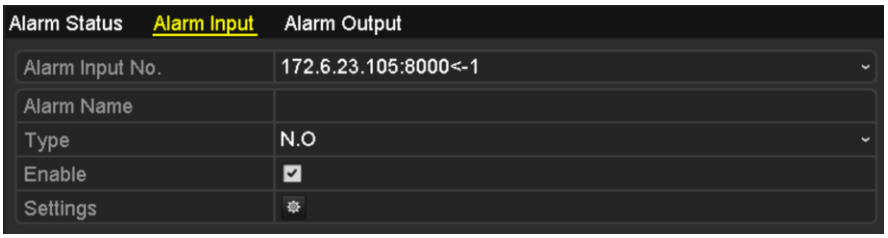

Figure 8. 8 Alarm Input Settings Interface

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 is input. Click Apply to save the settings.
4. 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. Set up arming schedule of other days of a week. You can also use Copy to copy an arming schedule to other days. Click Apply to save the settings.

   Note: Time periods shall not be repeated or overlapped.

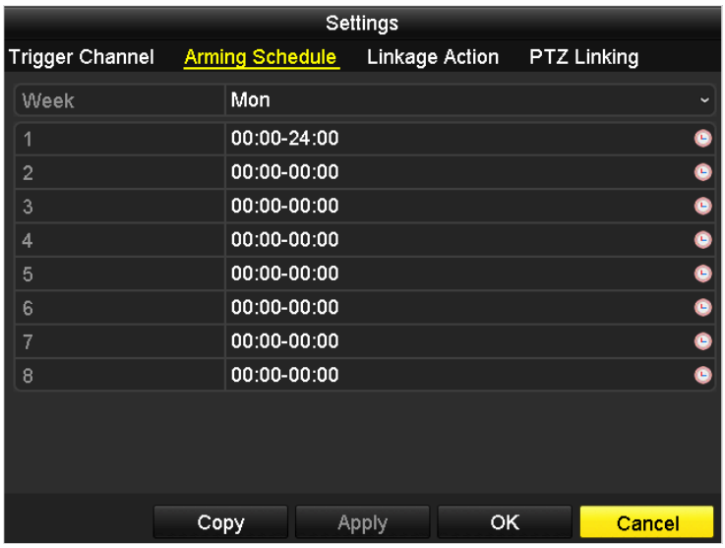

Figure 8. 9 Set Arming Schedule of Alarm Input

5. Select **Linkage Action** tab to set alarm response actions of the alarm input (please refer to *Chapter 8.6*).
6. If necessary, select **PTZ Linking** tab and set PTZ linkage of the alarm input.

   Set PTZ linking parameters and click Apply to save the settings. Click OK to complete the settings of the alarm input.

   Note: 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.

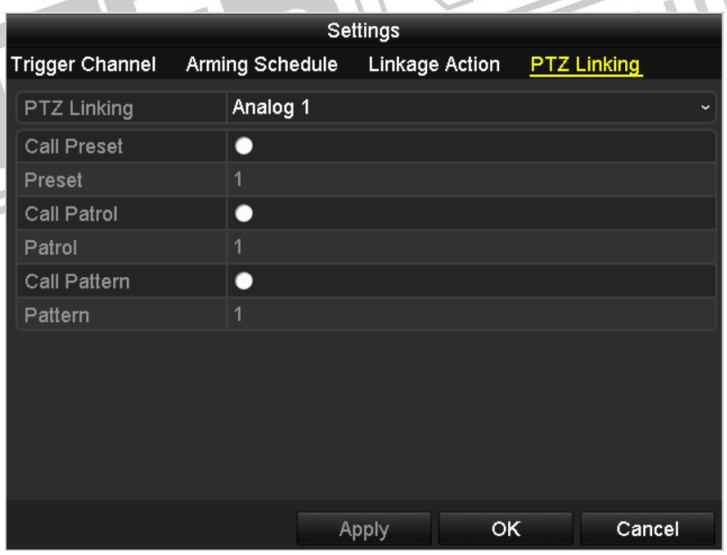

Figure 8. 10 Set PTZ Linking of Alarm Input

7. If you want to set alarm settings of another alarm input, repeat the above steps or just copy the above settings to it by clicking Copy in Alarm Input Settings interface.

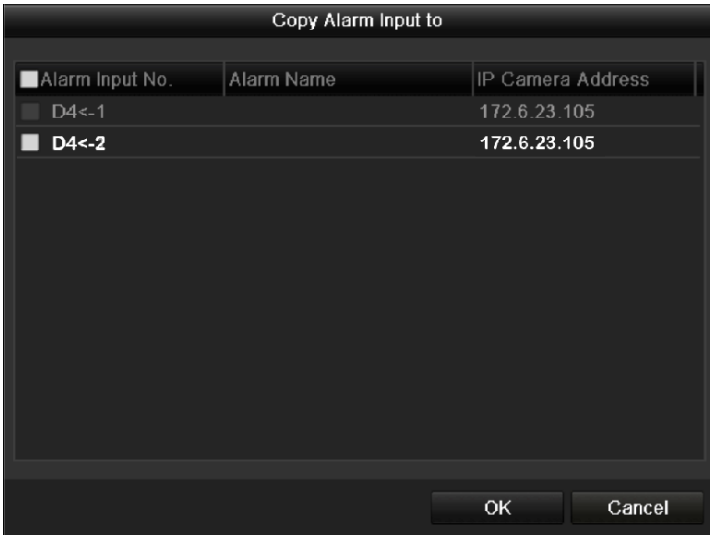

Figure 8. 11 Copy Settings of Alarm Input

8.3 Detecting Video Loss

Purpose:

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

Steps:

1. Enter Video Loss interface and select a channel you want to detect.

   Menu> Camera> Video Loss

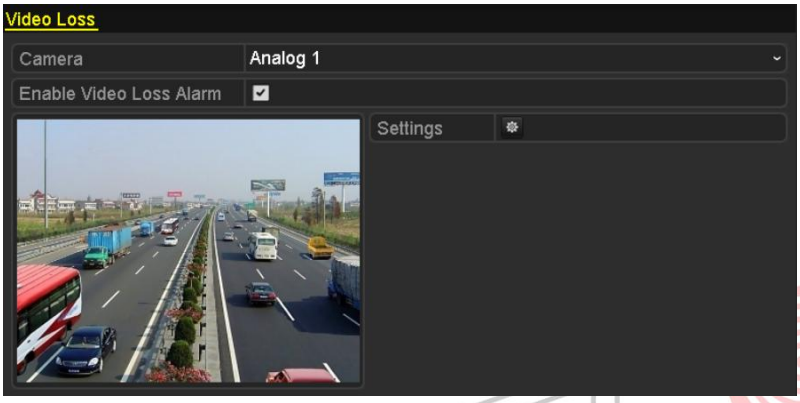

Figure 8. 12 Video Loss Settings Interface

2. Set handling method of video loss.

   Check ☑ checkbox to enable video loss alarm, and click ⚙ to set handling method of video loss.

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. Set up arming schedule of other days of a week. You can also use Copy to copy an arming schedule to other days. Click Apply to save the settings.

   Note: Time periods shall not be repeated or overlapped.

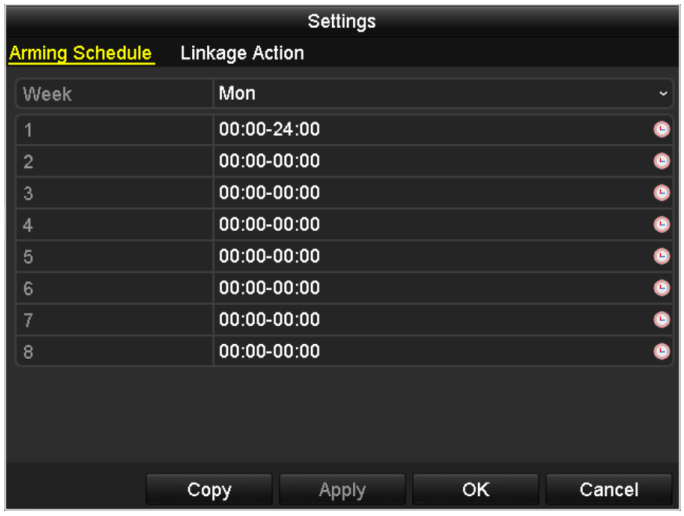

Figure 8. 13 Set Arming Schedule of Video Loss

4. Select **Linkage Action** tab to set up alarm response action of video loss (please refer to *Chapter 8.6*).

Click Apply to save the settings and click OK to complete the video loss settings of the channel.

5. If you want to set video loss handling method for another channel, repeat the above steps or just click Copy in Video Loss interface to copy the above settings to it.

   Note: Copying video loss settings to IP camera is not supported.

Figure 8. 14 Copy Settings of Video Loss

8.4 Detecting Video Tampering

Purpose:

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

Steps:

1. Enter Video Tampering interface and select a channel you want to detect video tampering.
   Menu> Camera> Video Tampering Detection

Figure 8. 15 Video Tampering Detection Settings Interface

2. Set the video tampering handling method of the channel.
   Check ☑ checkbox to enable detecting video tampering.
   Drag the sensitivity bar and choose a proper sensitivity level. Use the mouse to draw an area you want to detect video tampering.
3. Click ⚙ to configure the video tampering settings. Set arming schedule and alarm response actions of the channel.
   1) Click **Arming Schedule** tab to set the channel's arming schedule.
   2) Choose one day of a week and up to eight time periods can be set within each day. Set up arming schedule of other days of a week. You can also use Copy to copy an arming schedule to other days. Click Apply to save the settings.

   Note: Time periods shall not be repeated or overlapped.

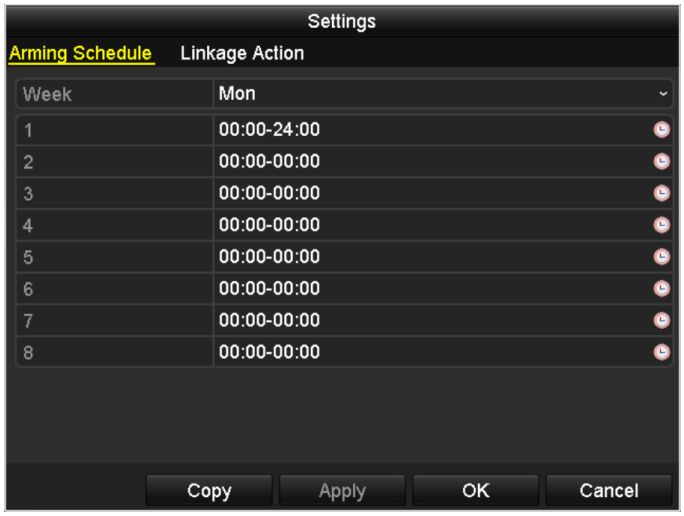

Figure 8. 16 Set Arming Schedule of Video Tampering

4. Select **Linkage Action** tab to set alarm response actions of video tampering alarm (please refer to *Chapter 8.6*).

   Click Apply to save the settings and click OK to complete the video tampering settings of the channel.

5. If you want to set up video loss handling method for another channel, repeat step two and three, or just click Copy in Video Tamper interface to copy the above settings to it.

   Note: Copying video tampering settings to IP camera is not supported.

Figure 8. 17 Copy Settings of Video Tampering

8.5 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.
- **Video Signal Exception:** Unstable video signal.
- **Input / Output Video Standard Mismatch:** I/O video standards do not match.
- **Record Exception:** No space for saving recorded files.

Note:

Input / Output Video Standard Mismatch and Video Signal Exception are not supported by IP camera.

Steps:

Enter Exceptions interface and handle various exceptions.

Menu> Configuration> Exceptions

Please refer to *Chapter 8.6* for detailed alarm response actions.

Figure 8. 18 Exceptions Settings Interface

8.6 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/VGA or BNC monitor) display 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> Full Screen Monitoring Dwell Time.

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

Note: You must select during "Trigger Channel" settings the channel(s) you want to make full screen monitoring.

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.

Note: The alarm signal will be transmitted automatically at detection mode when remote alarm host is configured. Please refer to *Chapter 9.2.6* 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 9.2.12* for details of Email configuration.

Trigger Alarm Output

Trigger an alarm output when an alarm is triggered.

Steps:

1. Enter Alarm Output interface.

   Menu> Configuration> Alarm> Alarm Output

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

   Note: If "Manually Clear" is selected in the dropdown list of Dwell Time, you can clear it only by going to Menu> Manual> Alarm and clicking Clear All.

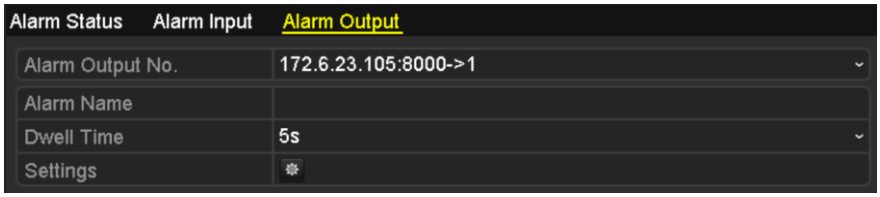

Figure 8. 19 Alarm Output Settings Interface

2. Set arming schedule of the alarm output.

Click 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.

Note: Time periods shall not be repeated or overlapped.

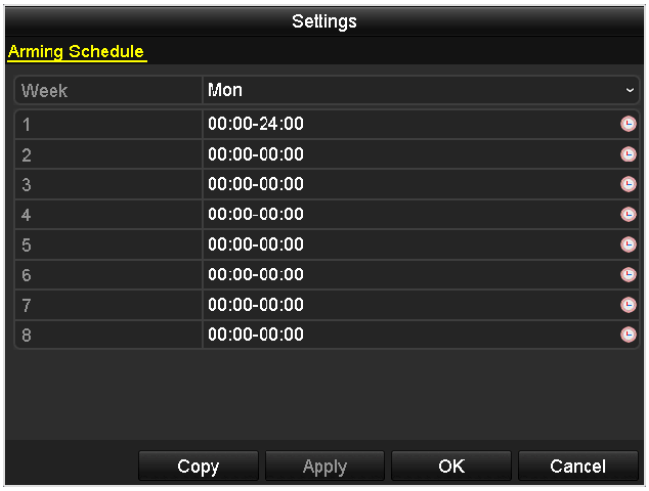

Figure 8. 20 Set Arming Schedule of Alarm Output

3. Repeat the above steps to set up arming schedule of other days of a week. You can also click Copy to copy an arming schedule to other days. Click OK to complete the settings of the alarm output.
4. You can also click Copy in Alarm Output interface to copy the above settings to another channel.

Figure 8. 21 Copy Settings of Alarm Output

8.7 Triggering or Clearing Alarm Output Manually

Purpose:

Sensor alarm can be triggered or cleared manually. If "Manually Clear" is selected in the dropdown list of dwell time of an alarm output, the alarm can be cleared only by clicking Clear button in the following interface.

Steps:

Select the alarm output you want to trigger or clear and make related operations.

Menu> Manual> Alarm

Click Trigger / Clear button if you want to trigger or clear an alarm output.

Click Trigger All button if you want to trigger all alarm outputs.

Click Clear All button if you want to clear all alarm output.

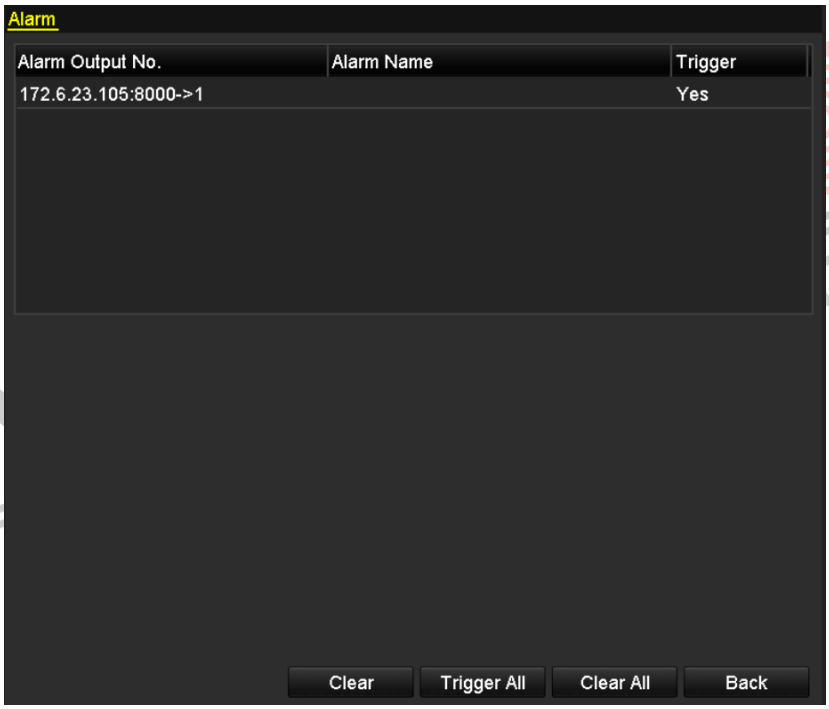

Figure 8. 22 Clear or Trigger Alarm Output Manually

Chapter 9 Network Settings

9.1 Configuring General Settings

Purpose:

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

Steps:

1. Enter the Network Settings interface.

   Menu > Configuration > Network

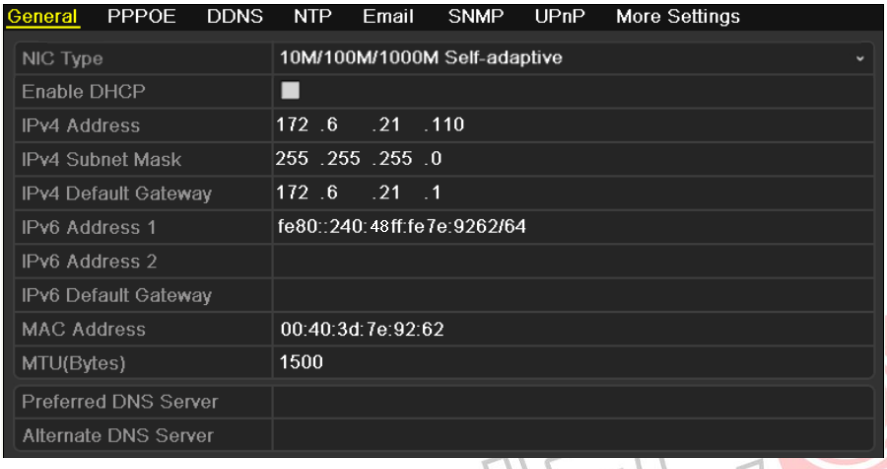

Figure 9. 1 Network Settings Interface

Note: I7-H0704VH only supports 10M/100Mbps NIC type.

2. Select General tab.
3. In the **General Settings** interface: you can configure the following settings: NIC Type, IPv4 Address, IPv4 Subnet Mask, IPv4 Gateway, MTU and DNS Server.

   If the DHCP server is available, you can check the checkbox of **DHCP** to automatically obtain an IP address and other network settings from that server.

   Note: The valid value range of MTU is 500 ~ 9676.
4. After having configured the general settings, click Apply to save the settings.

9.2 Configuring Advanced Settings

9.2.1 Configuring PPPoE Settings

Purpose:

Your device also allows access by Point-to-Point Protocol over Ethernet (PPPoE).

Steps:

1. Enter the **Network Settings** interface.
   Menu > Configuration > Network
2. Select the **PPPoE** tab to enter the PPPoE Settings interface.

Figure 9. 2 PPPoE Settings Interface

3. Check ☑ checkbox to enable PPPoE.
4. Enter **User Name**, **Password**, and **Confirm Password** for PPPoE access.

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

Figure 9. 3 PPPoE Settings Interface

5. Click Apply to save and exit the interface.
6. After successful settings, the system asks you to reboot the device to activate 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. Please refer to *Chapter 12.1.5Viewing Network Information* for PPPoE status.

9.2.2 Configuring DDNS Settings

Purpose:

If your device 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.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **DDNS** tab to enter the DDNS Settings interface.

Figure 9. 4 DDNS Settings Interface

3. Check checkbox to enable DDNS.
4. Select **DDNS Type**. Five different DDNS types are selectable: IPServer, DynDNS, PeanutHull, NO-IP and HiDDNS.

- **IPServer:** Enter **Server Address** for IPServer, and other fields are read only.

Note: The **Server Address** should be the IP address of the PC that runs IPServer.

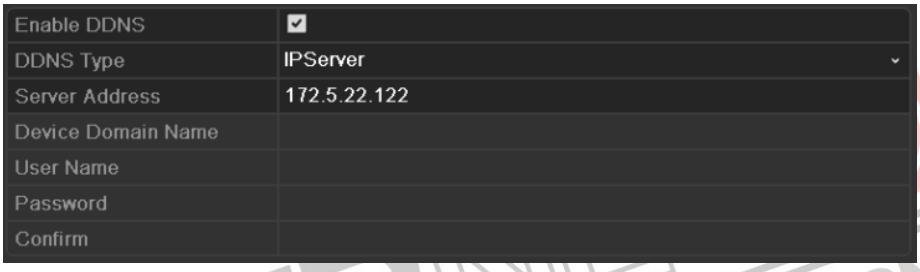

Figure 9. 5 IPServer Settings Interface

- **DynDNS:**

1) Enter **Server Address** for DynDNS (e.g. 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.

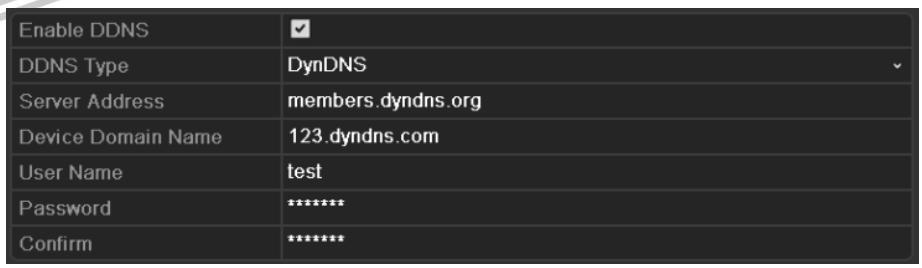

Figure 9. 6 DynDNS Settings Interface

- **PeanutHull:** Enter **User Name** and **Password** obtained from the PeanutHull website, and other fields are read only.

Figure 9. 7 Peanut Hull Settings Interface

- **NO-IP:**

  Enter the account information in the corresponding fields.

  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 9. 8 NO-IP Settings Interface

- **HiDDNS:** You need to enter the **Server Address** and **Device Domain Name** for HiDDNS, and other fields are read only.

1) Edit the **Server Address** of the HiDDNS server. By default, www.hiddns.com will be automatically available in the **Server Address** field when **HiDDNS** is selected.
2) Enter the **Device Domain Name.** You can register the device domain name in the HiDDNS server first and then enter the name to the **Device Domain Name** in the device; you can also enter the domain name directly on the device to create a new one.

   Note: If a new device domain name is defined in the device, it will replace the old one registered on the server.

Figure 9. 9 HiDDNS Settings Interface

Register the device on the HiDDNS server.

1) Go to the HiDDNS website: www.hiddns.com.

2) Click Register new user to register an account if you do not have one and use the account to log in.

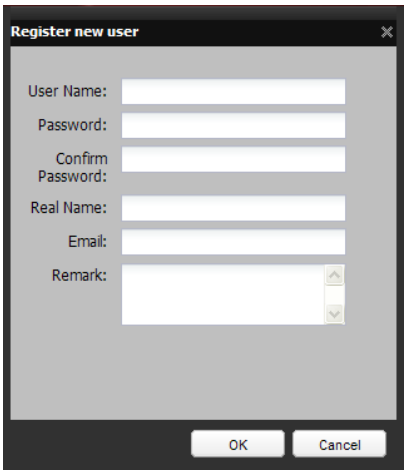

Figure 9. 10 Register an Account

3) In the Device Management interface, click Add to register the device.

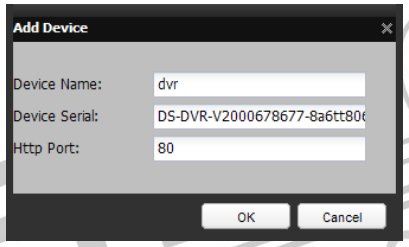

Figure 9. 11 Register the Device

Note: The device name can only contain the lower-case English letter, numeric and '-'; and it must start with the lower-case English letter and cannot end with '-'.

Access the Device via Web Browser or Client Software

After having successfully registered the device on the HiDDNS server, you can access your device via web browser or Client Software with the **Device Domain Name** (**Device Name**).

Task 1: Access the Device via Web Browser

Open a web browser, and enter *http://www.hiddns.com/alias* in the address bar. Alias refers to the **Device Domain Name** on the device or the **Device Name** on the HiDDNS server**.**

Example: *http://www.hiddns.com/dvr*

Note: If you mapped the HTTP port on your router and changed it to port No. except 80, you have to enter *http://www.hiddns.com/alias:HTTP port* in the address bar to access the device. You can refer to *Chapter 9.2.5* for the mapped HTTP port No.

Task 2: Access the Devices via iVMS-4200

For iVMS-4200, in the Add Device window, select HiDDNS and then edit the device information.

Nickname: Edit a name for the device as you want.

Server Address: www.hiddns.com

Device Domain Name: It refers to the **Device Domain Name** on the device or the **Device Name** on the HiDDNS server you created**.**

User Name: Enter the user name of the device. By default it is admin.

Password: Enter the password of the device. By default it is 12345.

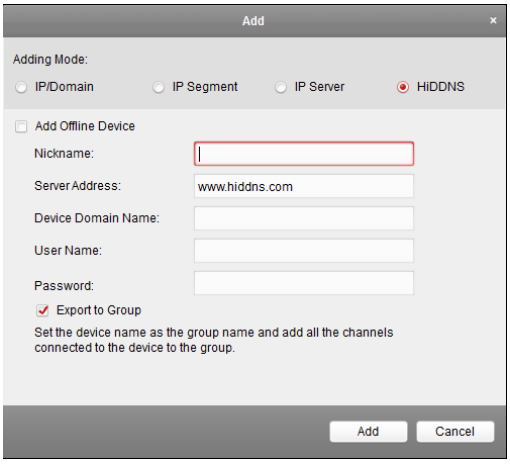

Figure 9. 12 Access Device via iVMS4200

5. Click Apply to save and exit the interface.

9.2.3 Configuring NTP Server Settings

Purpose:

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

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **NTP** tab to enter the NTP Settings interface.

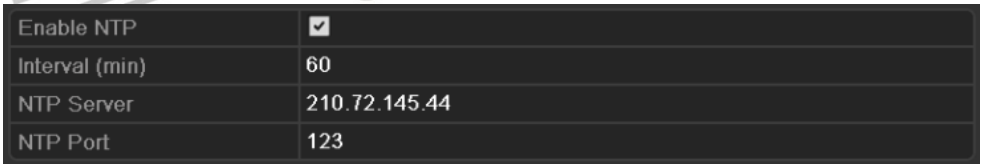

Figure 9. 13 NTP Settings Interface

3. Check checkbox to enable NTP.
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.
5. Click Apply to save and exit the interface.

Note: The time synchronization interval can be set from 1 to 10080min, and the default value is 60min. If the device 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 device is setup in a more customized network, NTP software can be used to establish a NTP server used for time synchronization.

9.2.4 Configuring SNMP Settings

Purpose:

You can use SNMP protocol to get device status and parameters related information.

Steps:

1. Enter the Network Settings interface.

   Menu > Configuration > Network

2. Select the **SNMP** tab to enter the SNMP Settings interface.

Figure 9. 14 SNMP Settings Interface

3. Check ☑ checkbox to enable SNMP.
4. Configure the SNMP settings.

Figure 9. 15 Configure SNMP Settings

5. Click Apply to save and exit the interface.

Note: Before setting the SNMP, please download the SNMP software and manage to receive the device information via SNMP port. By setting the Trap Address, the device is allowed to send the alarm event and exception message to the surveillance center.

9.2.5 Configuring UPnP™ Settings

Purpose:

Universal Plug and Play (UPnP™) can permits 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.

Steps:

1. Enter the Network Settings interface.

   Menu > Configuration > Network

2. Select the **UPnP** tab to enter the UPnP™ interface.

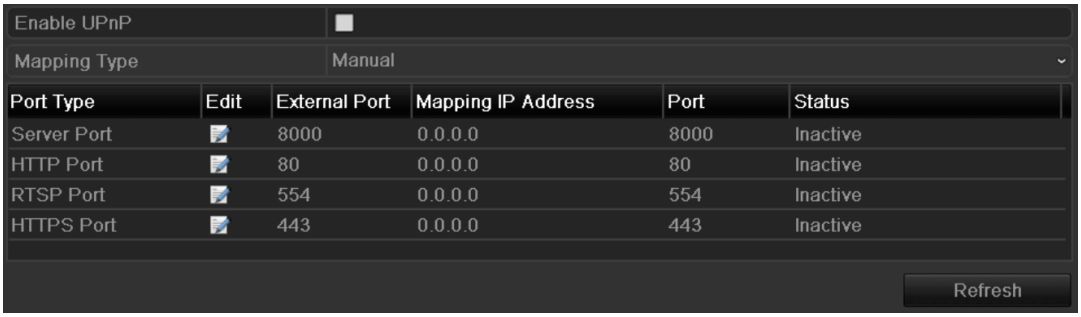

Figure 9. 16 UPnP™ Settings Interface

3. Check checkbox to enable UPnP™.
4. Select the Mapped Type as Manual or Auto in the drop-down list.

   Task1: Auto

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

   Steps:

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

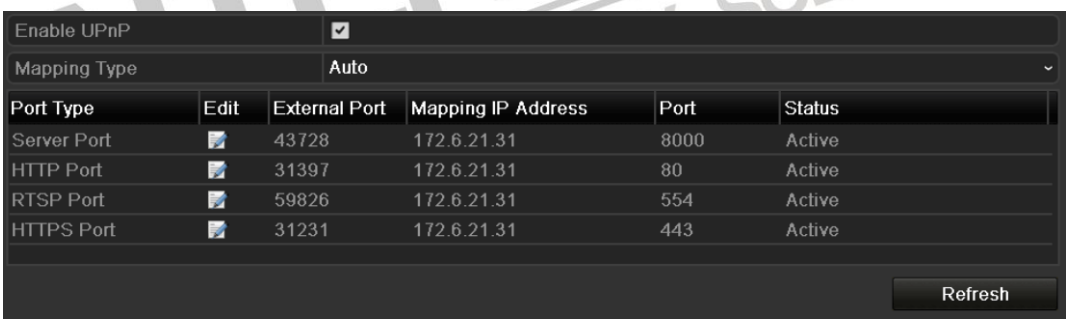

Figure 9. 17 UPnP™ Settings Finished-Auto

Task2: 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.

Steps:

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

Notes:

- 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 port No. 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.

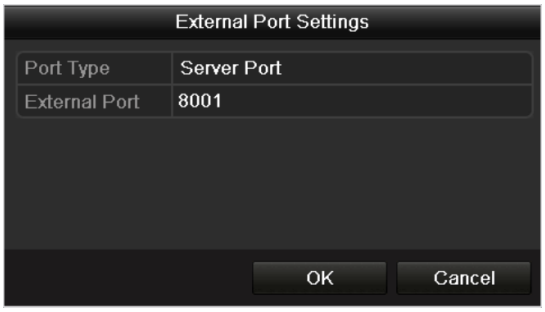

Figure 9. 18 External Port Settings Dialog Box

2) Click Apply to save the settings.

3) You can click Refresh to get the latest status of the port mapping.

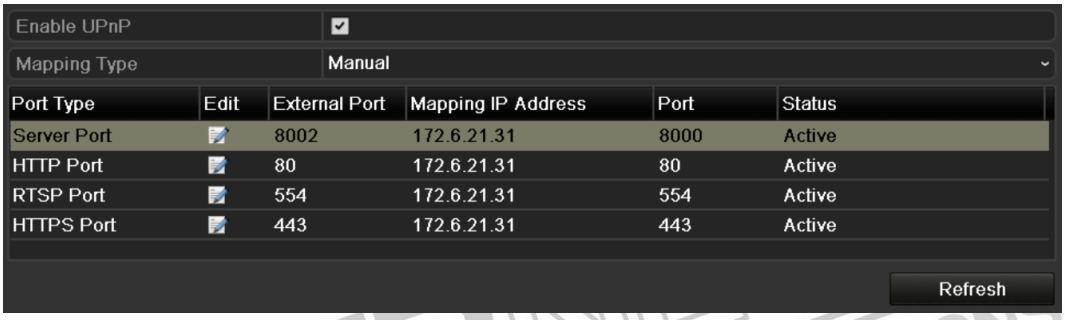

Figure 9. 19 UPnP™ Settings Finished-Manual

9.2.6 Configuring Remote Alarm Host Settings

Purpose:

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.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **More Settings** tab to enter the More Settings interface.

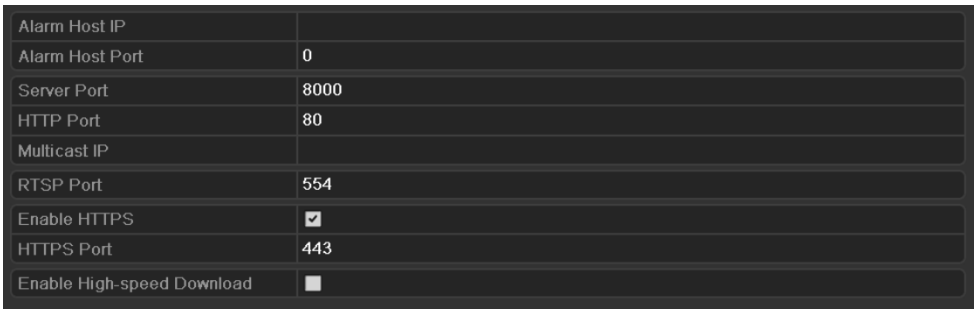

Figure 9. 20 More Settings Interface

3. Enter **Alarm Host IP** and **Alarm Host Port** in the text fields.
   The **Alarm Host IP** refers to the IP address of the remote PC on which the CMS (Client Management System) software (e.g., iVMS-4200) is installed, and the **Alarm Host Port** must be the same as the alarm monitoring port configured in the software.

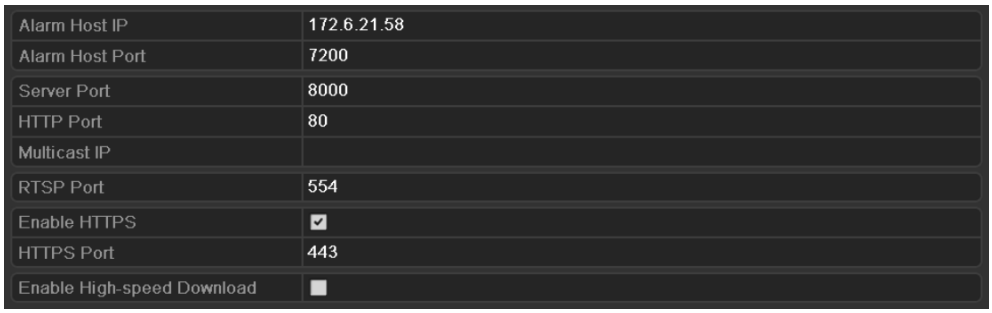

Figure 9. 21 Configure Alarm Host

4. Click Apply to save and exit the interface.

9.2.7 Configuring Multicast Settings

Purpose:

The multicast can be configured to realize live view for more than 128 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.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **More Settings** tab to enter the More Settings interface.
3. Set **Multicast IP**, as shown in figure below. When adding a device to the CMS (Client Management System) software, the multicast address must be the same as the device's multicast IP.

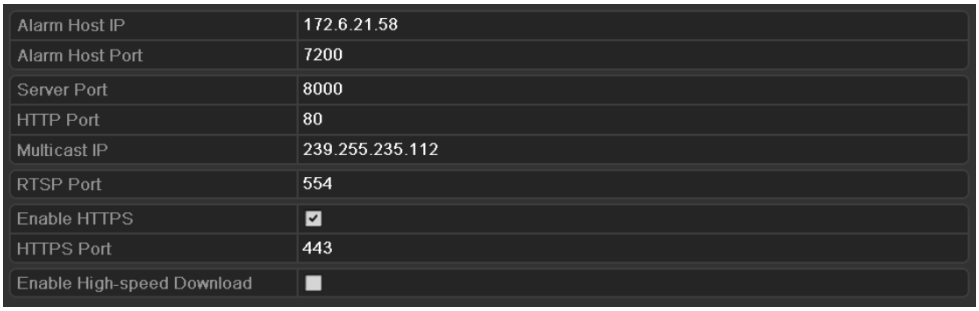

Figure 9. 22 Configure Multicast

4. Click Apply to save and exit the interface.

9.2.8 Configuring RTSP Settings

Purpose:

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

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **More Settings** tab to enter the More Settings menu.

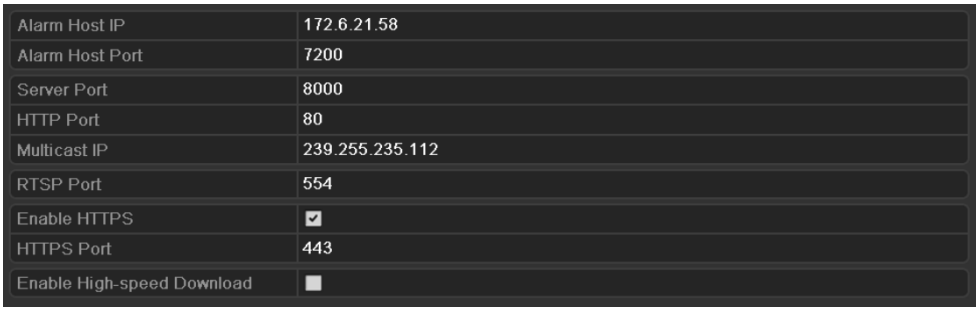

Figure 9. 23 RTSP Settings Interface

3. Enter the RTSP port in the text field of **RTSP Service Port**. The default RTSP port is 554, and you can change it according to different requirements.
4. Click Apply to save and exit the menu.

9.2.9 Configuring Server and HTTP Ports Settings

Purpose:

You can change the server and HTTP ports in the Network Settings menu. The default server port is 8000 and the default HTTP port is 80.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **More Settings** tab to enter the More Settings interface.
3. Enter new **Server Port** and **HTTP Port**.

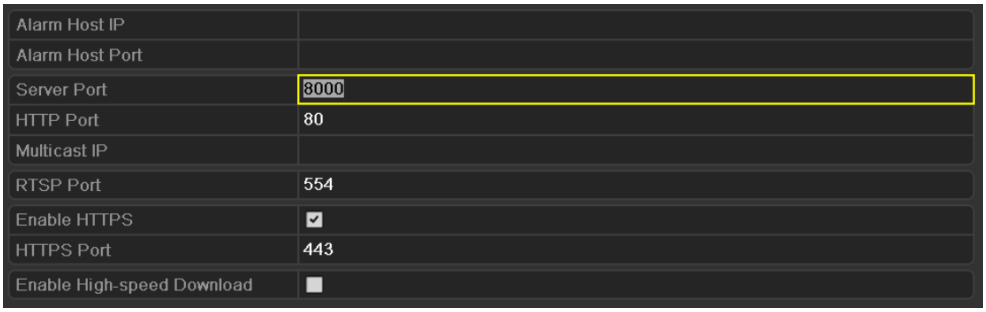

Figure 9. 24 HTTP & Server Port Settings Interface

4. 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.
5. Click Apply to save and exit the interface.

Note: 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.

9.2.10 Configuring HTTPS Settings

Purpose:

HTTPS (Hyper Text Transfer Protocol Secure) ensures the data transferred is encrypted using Secure Socket Layer (SSL) or Transport Layer Security (TLS). HTTPS provides authentication of the web site and associated web server that one is communicating with and create a secure channel over an insecure network.

HTTPS URLs begin with *https://* and use port 443 by default. You can modify the port No. as desired.

Example:

If you set the port No. as 445 and the IP address of the device is 192.0.0.64, you can access the device by inputting *https://192.0.0.64:445* in the web browser.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **More Settings** tab to enter the More Settings interface.
3. Check ☑ checkbox to enable the HTTPS.

Figure 9. 25 HTTPS Settings

4. Enter the **HTTPS Port** in the text fields. The default HTTPS Port is 443, and you can change it according to different requirements.
5. Click Apply to save and exit the interface.

Note: The HTTPS Port should be set to the range of 1-65535.

9.2.11 Configuring High-speed Download Settings

Purpose:

You can enable the High-speed Download function to widen the outgoing bandwidth of the device. In this way you can speed up the download of record files through web browser or CMS software.

Note: If you enable the high-speed download function, the local menu operation will be affected. It is recommended to disable this function after finishing the remote download of record files.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Select the **More Settings** tab to enter the More Settings interface.

Figure 9. 26 High-speed Download Settings

3. Check checkbox to enable the High-speed Download and the following message box pops up. Click OK to confirm the settings

   Note: If you enable the high-speed download function, the local menu operation will be affected. It is recommended to disable this function after finishing the remote download of record files.

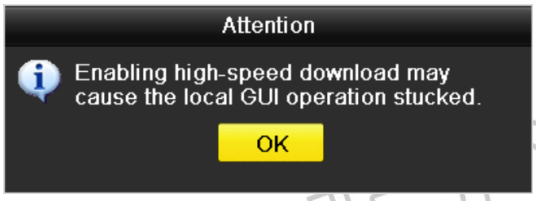

Figure 9. 27 Message Box for High-speed Download

4. Click Apply to save the settings.

9.2.12 Configuring Email Settings

Purpose:

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

Before you start:

The device 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 email accounts to which you want to send notification.

Steps:

1. Enter the Network Settings interface.
   Menu > Configuration > Network
2. Set the IPv4 Address, IPv4 Subnet Mask, IPv4 Gateway and the Preferred DNS Server in the Network Settings interface.

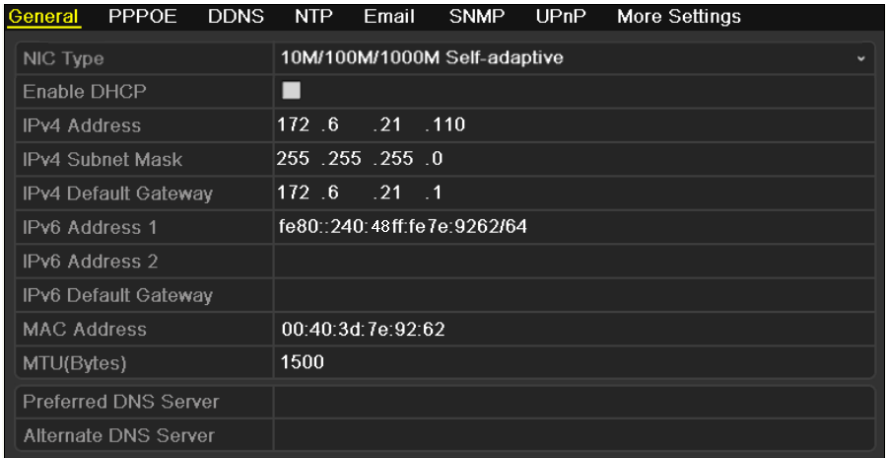

Figure 9. 28 Network Settings Interface

3. Click Apply to save the settings.
4. Select the **Email** tab to enter the Email Settings interface.

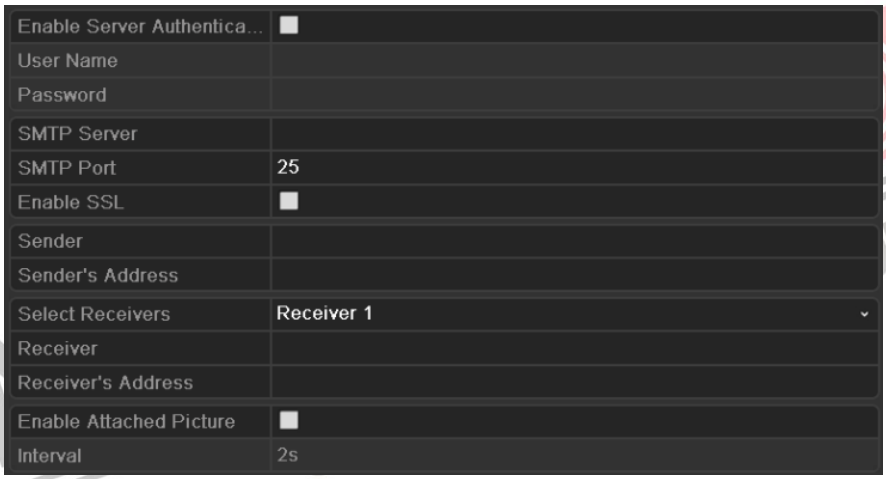

Figure 9. 29 Email Settings Interface

5. Configure the following Email settings:

Enable Server Authentication (optional): If your mail server requires authentication, check this checkbox to use authentication to log in to this server and enter the login User Name and Password.

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): Check 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 user to be notified.

Receiver's Address: The Email address of user to be notified.

Enable Attached Pictures: Check the checkbox of **Enable Attached Picture** if you want to send email with attached alarm images.

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

Figure 9. 30 Configure Email Settings

6. Click Apply to save the Email settings.
7. You can click Test to test whether your Email settings work. The corresponding Attention message box will pop up.

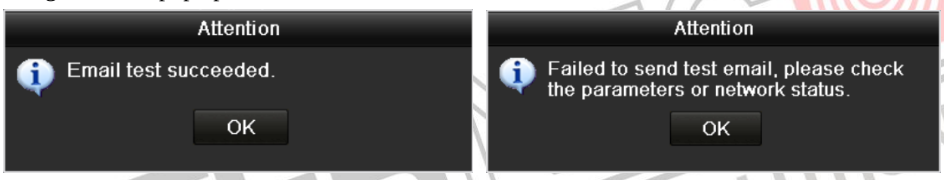

Figure 9. 31 Email Testing Attention

9.3 Checking Network Traffic

Purpose:

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

Steps:

1. Enter the Network Traffic interface.

   Menu > Maintenance > Net Detect

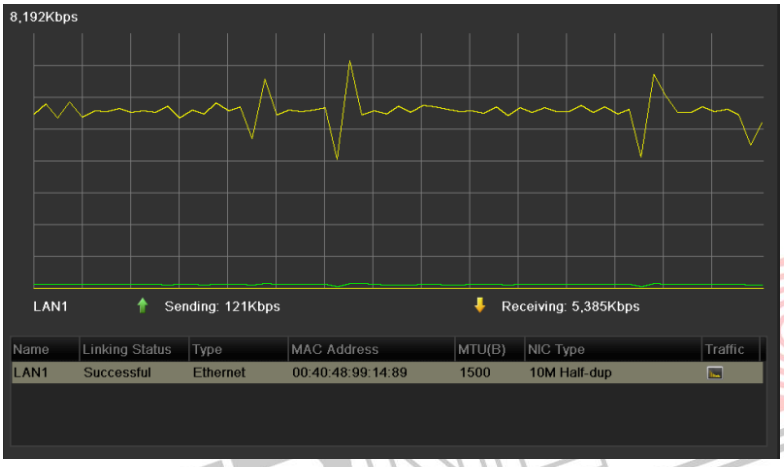

Figure 9. 32 Network Traffic Interface

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

9.4 Network Detection

Purpose:

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

9.4.1 Testing Network Delay and Packet Loss

Steps:

1. Enter the Network Detection interface.
   Menu > Maintenance > Net Detect
2. Click the **Network Detection** tab to enter the Network Detection menu.

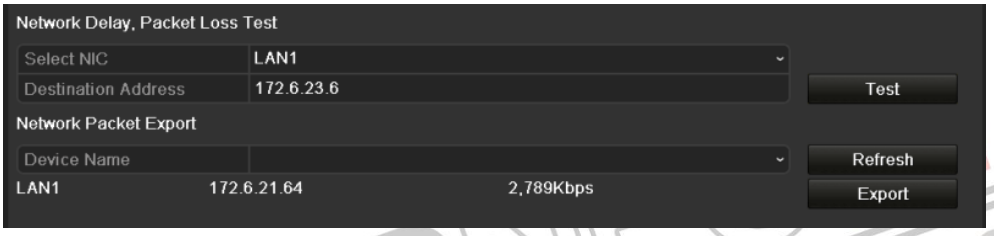

Figure 9. 33 Network Detection Interface

3. Select a NIC to test network delay and packet loss.
4. Enter the destination address in the text field of **Destination Address**.
5. Click Test to start testing network delay and packet loss. The testing result pops up on the window. If the testing is failed, the error message box will pop up as well.

Figure 9. 34 Testing Result of Network Delay and Packet Loss

9.4.2 Exporting Network Packet

Purpose:

By connecting the device to network, the captured network data packet can be exported to USB-flash disk, SATA disk, DVD-R/W and other local backup devices.

Steps:

1. Enter the Network Traffic interface.
   Menu > Maintenance > Net Detect
2. Click the **Network Detection** tab to enter the Network Detection interface.

3. Select the backup device from the dropdown list of Device Name.

   Note: Click Refresh 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 device. You can format the backup device if the format is incorrect.

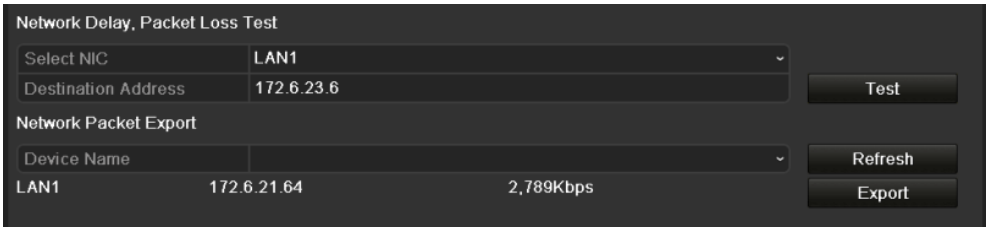

Figure 9. 35 Export Network Packet

4. Click Export to start exporting.
5. After the exporting is complete, click OK to finish the packet export, as shown in Figure 9.41.

Figure 9. 36 Packet Export Attention

Note: Up to 1M data can be exported each time.

9.4.3 Checking Network Status

Purpose:

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

Steps:

1. Enter the Network Traffic interface.

   Menu > Maintenance > Net Detect

2. Click the **Network Detection** tab to enter the Network Detection interface.
3. Click Status to get the network status.

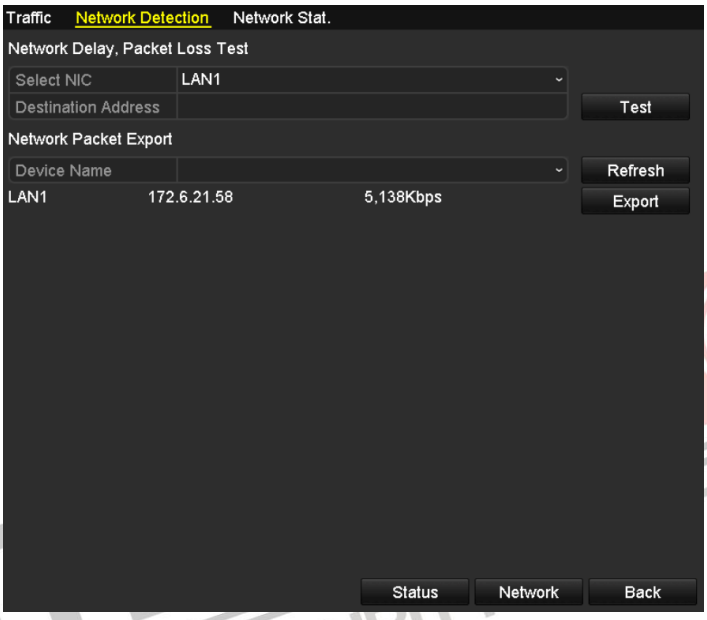

Figure 9. 37 Checking Network Status

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

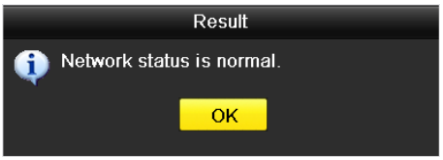

Figure 9. 38 Network Status Checking Result

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

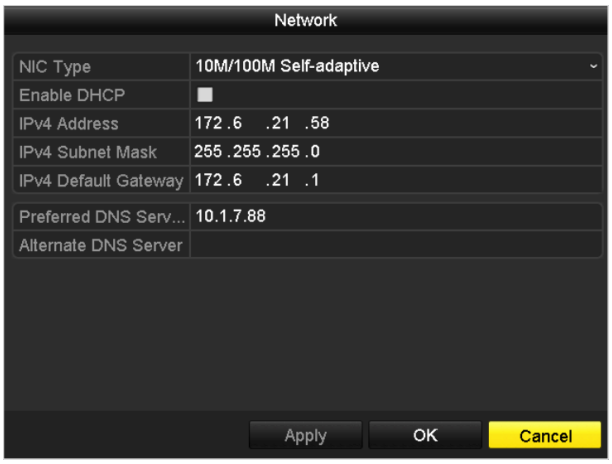

Figure 9. 39 Network Parameters Configuration

9.4.4 Checking Network Statistics

Purpose:

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

Steps:

1. Enter the Network Statistics interface.

   Menu > Maintenance> Net Detect

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

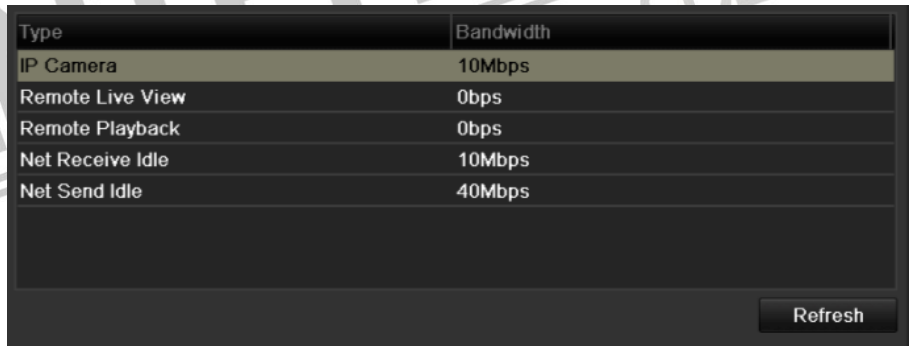

Figure 9. 40 Network Stat. Interface

3. View the bandwidth of IP Camera, bandwidth of Remote Live View, bandwidth of Remote Playback, bandwidth of Net Receive Idle and bandwidth of Net Send Idle.

   Note: And the value of the bandwidth is subject to the actual model.

4. Click Refresh to get the latest bandwidth statistics.

Chapter 10 HDD Management

10.1 Initializing HDDs

Purpose:

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

Note: If there is uninitialized HDD existed in the device, the following message box pops up when the device starts up.

Figure 10. 1 Message Box of Uninitialized HDD

Click Yes to initialize it immediately or you can perform the following steps to initialize the HDD(s).

Steps:

1. Enter the HDD Information interface.

   Menu > HDD>General

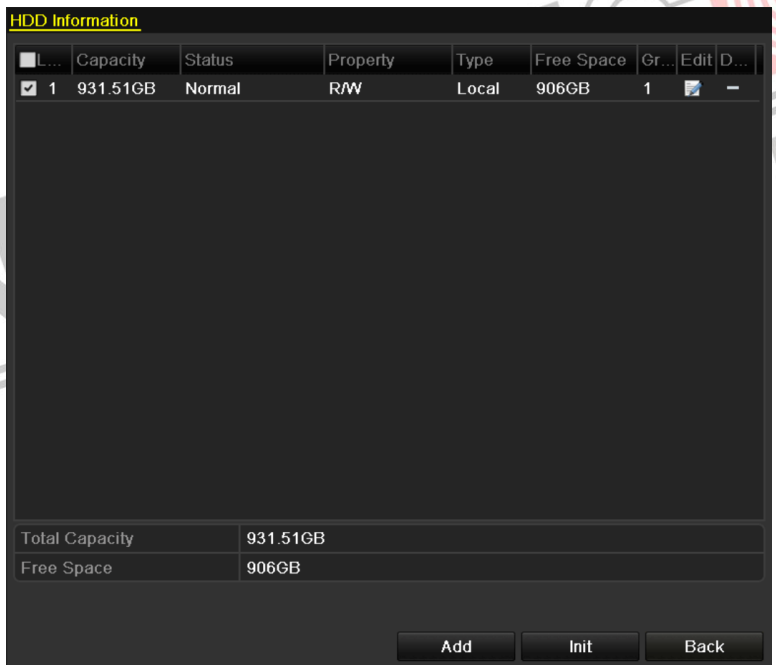

Figure 10. 2 HDD Information Interface

2. Select HDD to be initialized.
3. Click Init.

Figure 10. 3 Confirm Initialization

4. Select OK to start initialization.

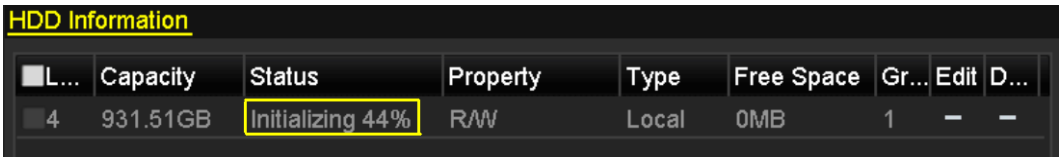

Figure 10. 4 Start Initialization

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

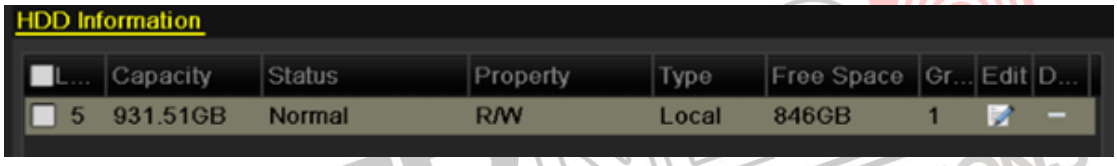

Figure 10. 5 HDD Status Changes to Normal

Note: Initializing the HDD will erase all data on it.

10.2 Managing Network HDD

Purpose:

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

Steps:

1. Enter the HDD Information interface.

   Menu > HDD > General

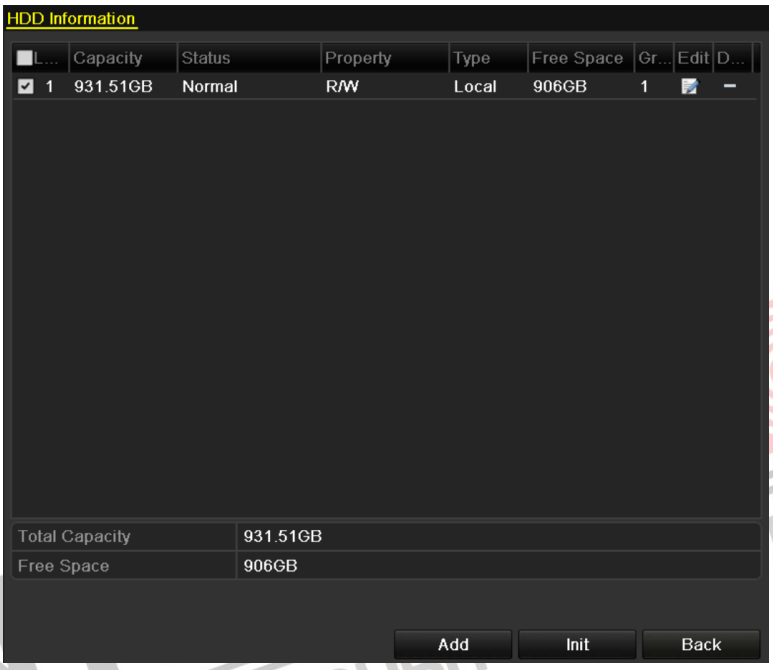

Figure 10. 6 HDD Information Interface

2. Click **Add** to enter the Add NetHDD interface, as shown in Figure 10.7.

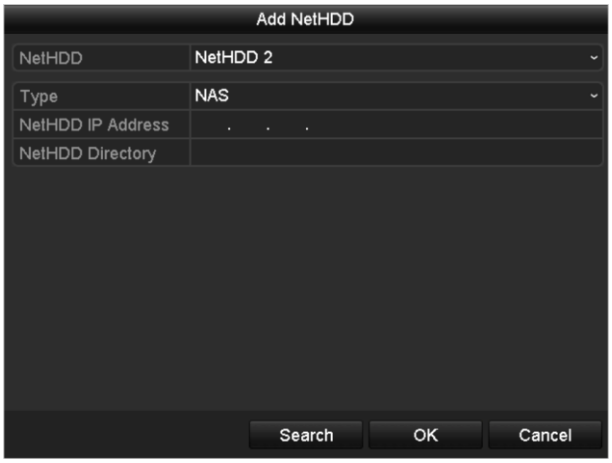

Figure 10. 7 Adding NetHDD Interface

3. Add the allocated NetHDD.
4. Select the type to NAS or IP SAN.
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.
3) 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.

Note: Up to 8 NAS disks can be added.

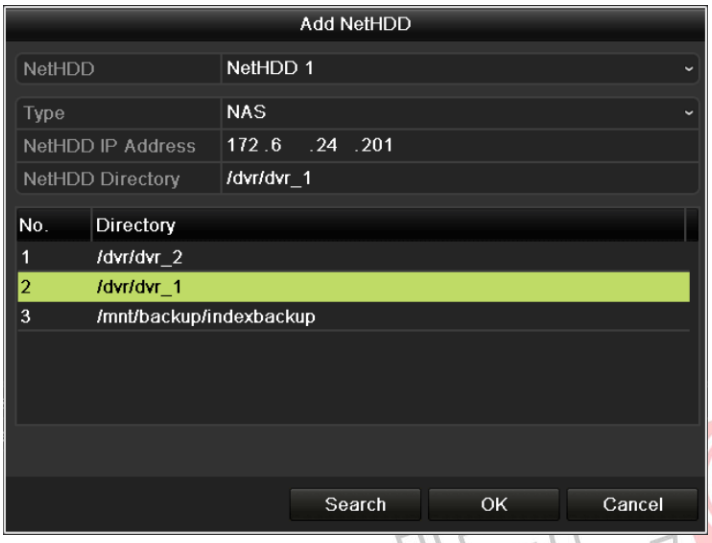

Figure 10. 8 Add NAS Disk

- **Add IP SAN:**

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

Note: Up to 1 IP SAN disk can be added.

Figure 10. 9 Add IP SAN Disk

6. 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.

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

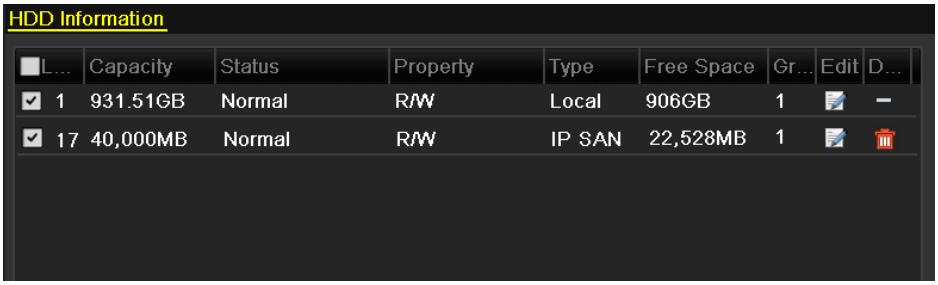

Figure 10. 10 Initialize Added NetHDD

10.3 Managing HDD Group

10.3.1 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.

Steps:

1. Enter the Storage Mode interface.

   Menu > HDD > Advanced

2. Set the **Mode** to Group, as shown below.

   Note: The device must be rebooted to activate the changes.

Figure 10. 11 Storage Mode Interface

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

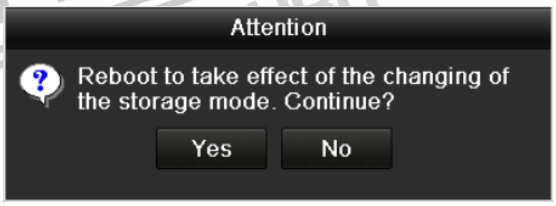

Figure 10. 12 Attention for Reboot

4. Click Yes to reboot the device to activate the changes.
5. After reboot of device, enter the HDD Information interface.

   Menu > HDD > General

6. Select a HDD from the list and click to enter the Local HDD Settings interface.

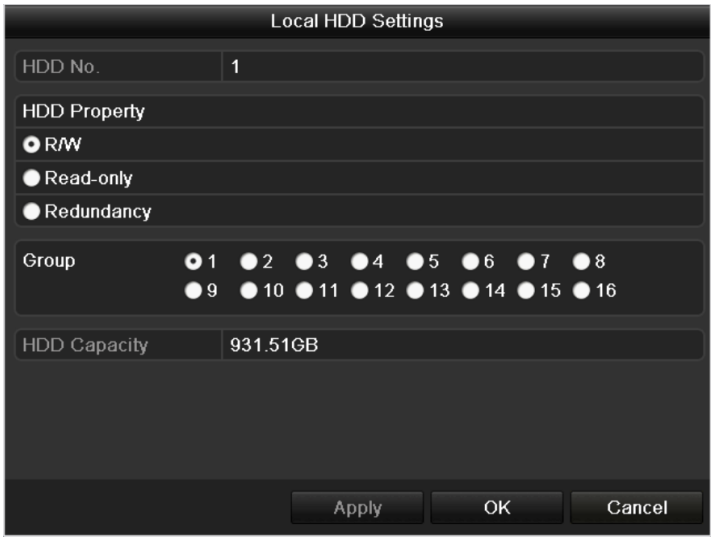

Figure 10. 13 Local HDD Settings Interface

7. Select the Group number for the current HDD.

   Note: The default group No. for each HDD is 1.

8. Click OK to confirm the settings.

Figure 10. 14 Confirm HDD Group Settings

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

10.3.2 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 10.3.1 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.

Steps:

1. Enter the HDD Information interface.

   Menu > HDD > General

2. Select a HDD from the list and click to enter the Local HDD Settings interface, as shown in Figure 10.16.

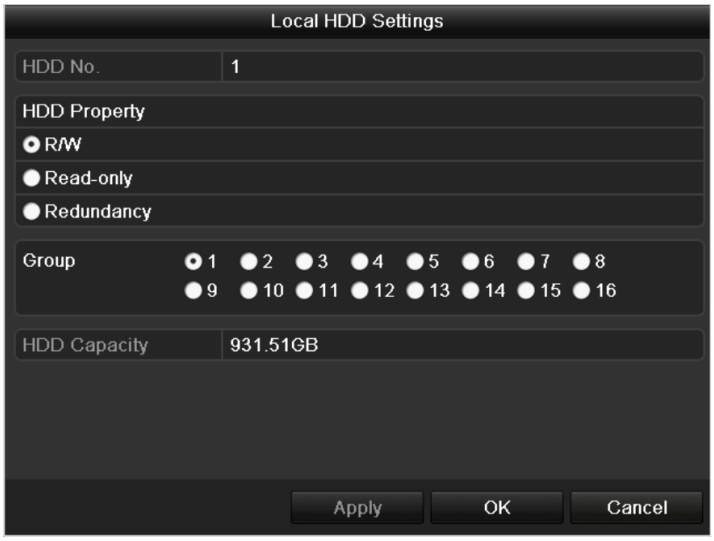

Figure 10. 15 Set HDD Property

3. Set the HDD property to R/W, Read-only or Redundancy.
4. Click OK to save the settings and exit the interface.
5. In the HDD Information menu, the HDD property will be displayed in the list.

Note: At least 2 disks must be installed on your device when you want to set a HDD to Redundancy, and there is one HDD or network disk with R/W property.

10.4 Configuring Quota Mode

Purpose

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

Steps

1. Enter the Storage Mode interface.

   Menu > HDD > Advanced

2. Set the **Mode** to Quota, as shown in Figure 10.17.

   Note: The device must be rebooted to activate the changes.

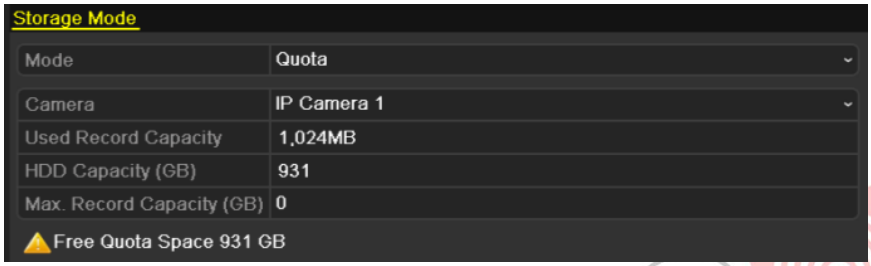

Figure 10. 16 Storage Mode Settings Interface

3. Select a camera for which you want to configure quota.
4. Enter the storage capacity in the text fields of **Max. Record Capacity (GB)**, as shown in Figure 10.18.

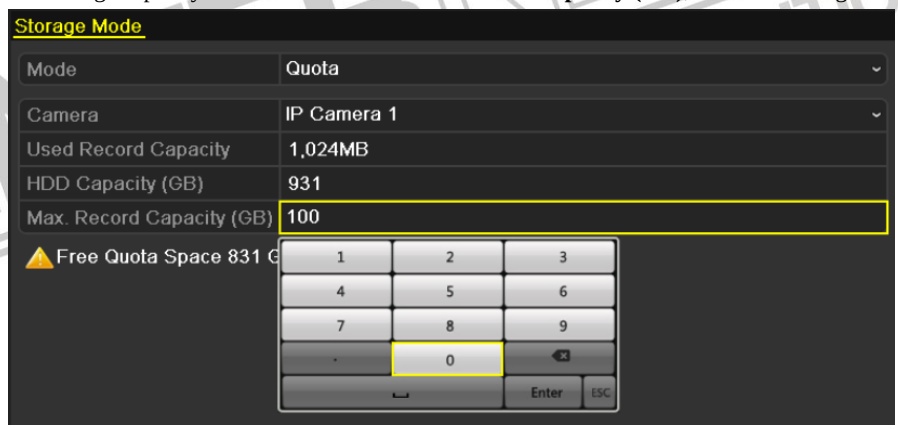

Figure 10. 17 Configure Record Quota

5. You can copy the quota settings of the current camera to other cameras if required. Click Copy to enter the Copy Camera menu, as shown below.

Figure 10. 18 Copy Settings to Other Camera(s)

6. Select the camera (s) to be configured with the same quota settings. You can also click the checkbox of **Analog** or **IP Camera** to select all cameras.
7. Click OK to finish the Copy settings and back to the Storage Mode interface.
8. Click Apply to save the settings.

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

10.5 Checking HDD Status

Purpose:

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

Checking HDD Status in HDD Information Interface

Steps:

1. Enter the HDD Information interface.

   Menu > HDD>General

2. Check the status of each HDD which is displayed on the list.

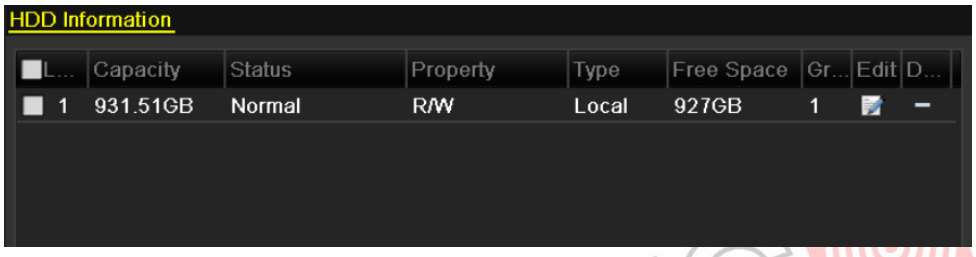

Figure 10. 19 View HDD Status (1)

Note: 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 HDD Information Interface

Steps:

1. Enter the System Information interface.

   Menu > Maintenance > System Info

2. Click the **HDD** tab to view the status of each HDD displayed on the list.

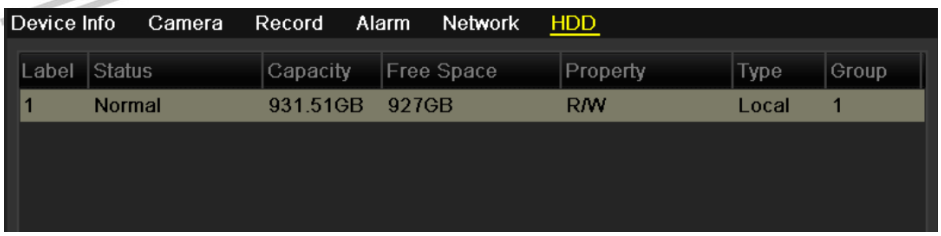

Figure 10. 20 View HDD Status (2)

10.6 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 and report on various indicators of reliability in the hopes of anticipating failures.

Steps:

1. Enter the S.M.A.R.T. Settings interface.
   Menu > Maintenance > HDD Detect >S.M.A.R.T. Settings
2. Select a HDD to view its S.M.A.R.T. information list.
   Note: 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.
3. Three self-tests of S.M.A.R.T are provided, including Short Test, Expanded Test and Conveyance Test. You can select a self-test type and click  to start self-test.

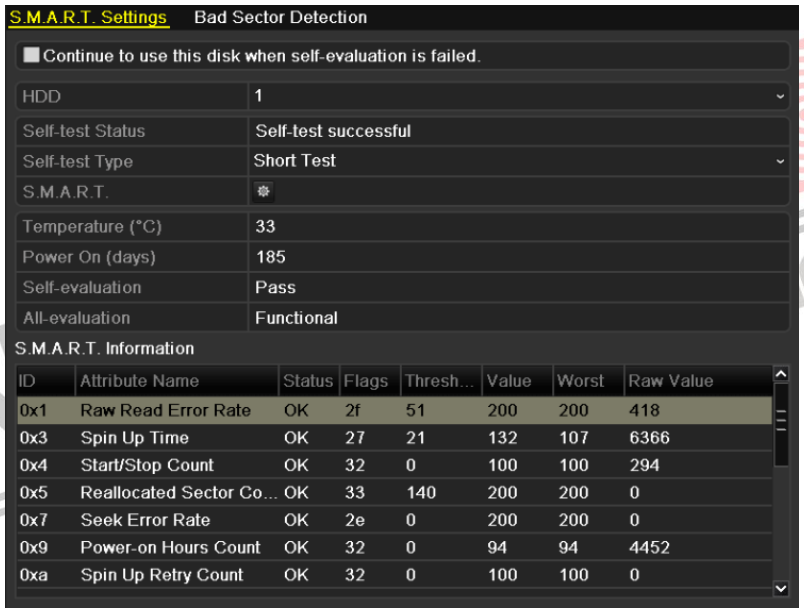

Figure 10. 21 S.M.A.R.T. Settings Interface

10.7 Detecting Bad Sector

Purpose:

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

Steps:

1. Enter the Bad Sector Detection interface.

   Menu>Maintenance>HDD Detect>Bad Sector Detection

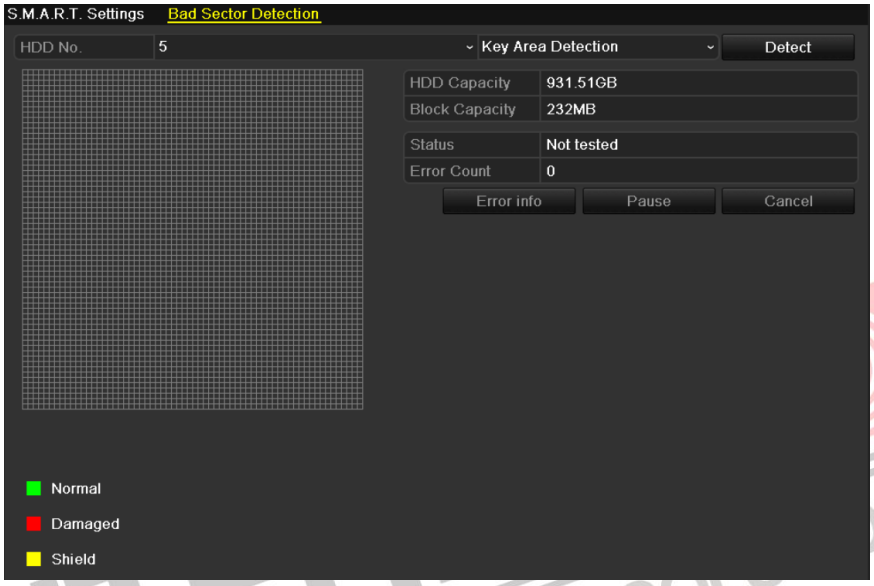

Figure 10. 22 Bad Sector Detection

2. Select a HDD and choose Full Detection or Key Area Detection as the detection type.
3. Click Detect to start detecting.

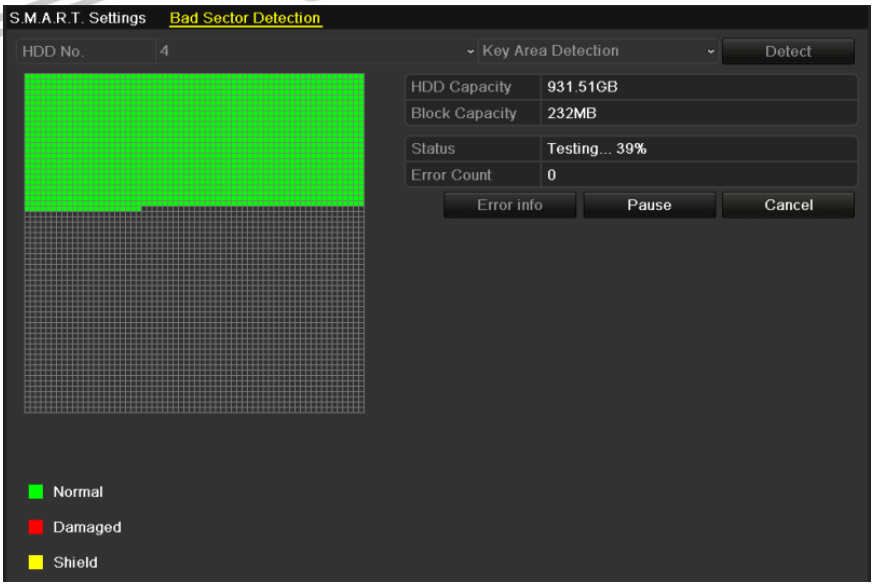

Figure 10. 23 Bad Sector Detecting

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

10.8 Configuring HDD Error Alarms

Purpose:

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

Steps:

1. Enter the Exception interface.

   Menu > Configuration > Exceptions

2. Select the Exception Type to **HDD Error** from the dropdown list.
3. Click the checkbox(s) below to select the HDD error alarm type (s).

Note: The alarm type can be selected to: Audible Warning, Notify Surveillance Center, Send Email and Trigger Alarm Output. Please refer to *Chapter 8.6 Setting Alarm Response Actions*.

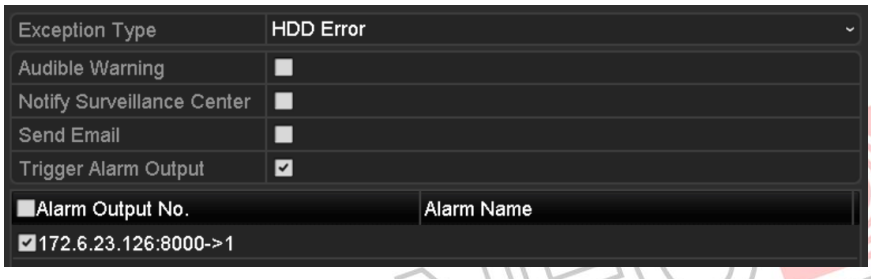

Figure 10. 24 Configure HDD Error Alarm

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

Chapter 11 Camera Settings

11.1 Configuring OSD Settings

Purpose:

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

Steps:

1. Enter the OSD Configuration interface.
   Menu > Camera > OSD
2. Select the camera to configure OSD settings.
3. Edit the Camera Name in the text field.
4. Configure the Display Name, Display Date and Display Week by checking the checkbox.
5. Select the Date Format, Time Format and Display Mode.

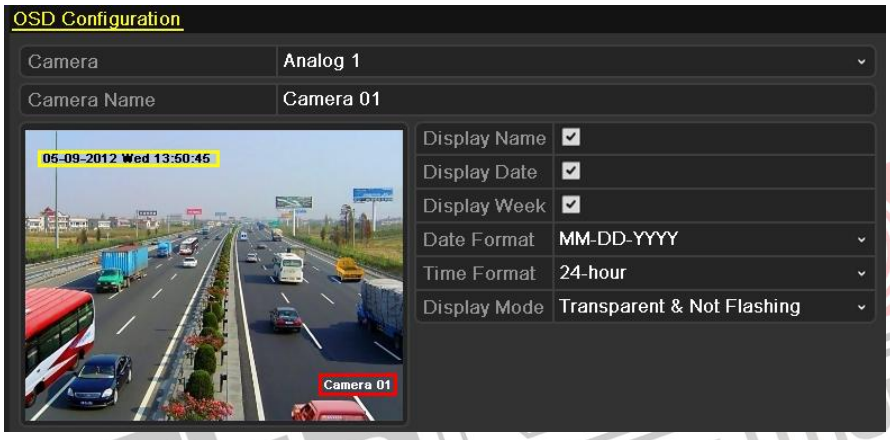

Figure 11. 1 OSD Configuration Interface

6. You can use the mouse to click and drag the text frame on the preview window to adjust the OSD position.
7. Copy Camera Settings
   1) If you want to copy the OSD settings of the current camera to other cameras, click Copy to enter the Copy Camera interface.

Figure 11. 2 Copy Settings to Other Cameras

Note: Copying the OSD settings to network cameras is not available.

   2) Select the camera (s) to be configured with the same OSD settings. You can also check Analog

checkbox to select all cameras.

3) Click OK to finish the Copy settings and back to the OSD Configuration interface.

8. Click Apply to apply the settings.

11.2 Configuring Privacy Mask

Purpose:

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

Steps:

1. Enter the Privacy Mask Settings interface.
   Menu > Camera > Privacy Mask
2. Select the camera to set privacy mask.
3. Check ☑ checkbox to enable privacy mask.

Figure 11. 3 Privacy Mask Settings Interface

4. Use the mouse to draw a zone on the window. The zones will be marked with different frame colors.
   Note: Up to 4 privacy mask zones can be configured, and the size of each area can be adjusted.
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 11. 4 Set Privacy Mask Area

6. You can click Copy to copy the privacy mask settings of the current camera to other cameras. Please refer to step 7 of *Chapter 11.1 Configuring OSD Settings*.
   Note: Copying the privacy mask settings to network cameras is not available.
7. Click Apply to save the settings.

11.3 Configuring Video Parameters

Steps:

1. Enter the Image Settings interface.

   Menu > Camera > Image

Figure 11. 5 Image Settings Interface for Analog Camera

Figure 11. 6 Image Settings Interface for IPC

2. Select the camera to set image parameters.
3. Select the mode from the dropdown list of **Mode**. For analog cameras, four modes are selectable: Standard, Indoor, Dim Light and Outdoor. While for network cameras, only Customize is supported.
4. Adjust the image parameters according to actual needs. The parameters are including Brightness, Contrast, Saturation, Hue, Sharpness and Denoising. You can also click Default to restore the default settings.

   Note: Sharpness, Denoising and restoring default settings are not supported by network cameras.
5. You can click Copy to copy the image settings of the current camera to other analog cameras. Please refer to step 7 of *Chapter 11.1 Configuring OSD Settings*.

   Note: Copying the image settings to network cameras is not available.
6. Click Apply to save the settings.

Chapter 12 Device Management and Maintenance

12.1 Viewing System Information

12.1.1 Viewing Device Information

Steps:

1. Enter the System Information interface.
   Menu > Maintenance > System Info
2. Click the **Device Info** tab to enter the Device Information interface to view the device name, model, serial No. , firmware version and encoding version.

Figure 12. 1 Device Information Interface

12.1.2 Viewing Camera Information

Steps:

1. Enter the System Information interface.
   Menu > Maintenance > System Info
2. Click the **Camera** tab to enter the Camera Information interface to view the status of each camera.

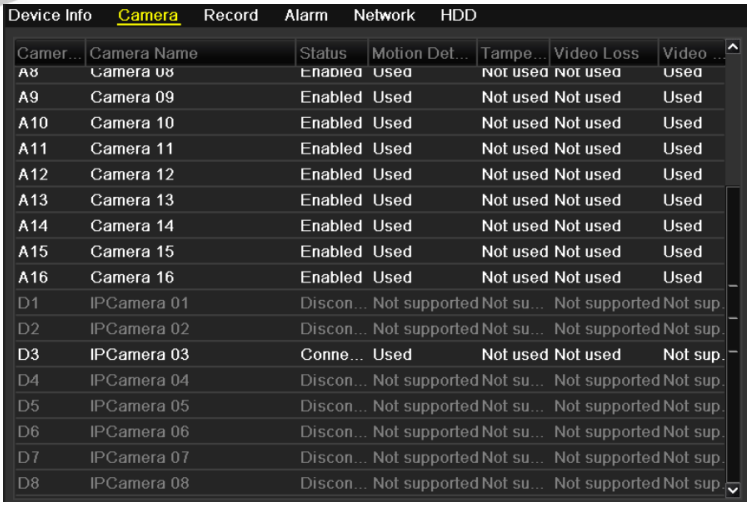

Figure 12. 2 Camera Information Interface

12.1.3 Viewing Record Information

Steps:

1. Enter the System Information interface.
   Menu > Maintenance > System Info
2. Click the **Record** tab to enter the Record Information interface to view the recording status and encoding parameters of each camera.

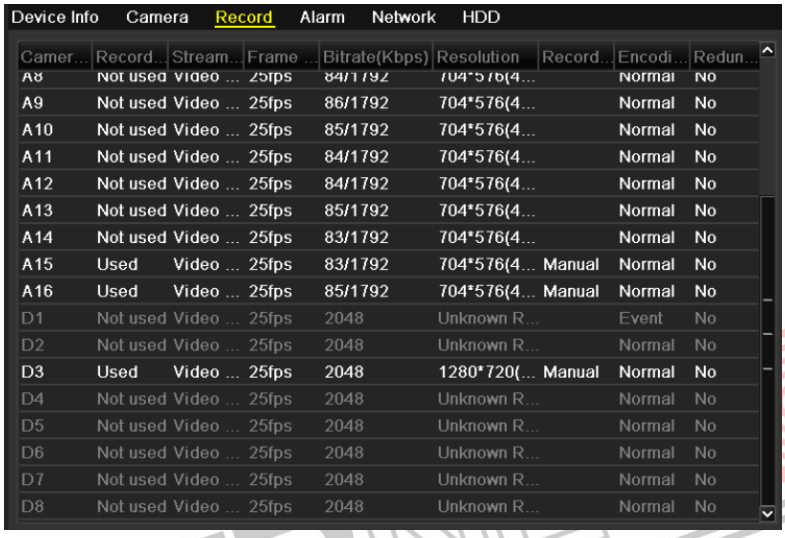

Figure 12. 3 Record Information Interface

12.1.4 Viewing Alarm Information

Steps:

1. Enter the System Information interface.
   Menu > Maintenance > System Info
2. Click the **Alarm** tab to enter the Alarm Information interface to view the alarm information.

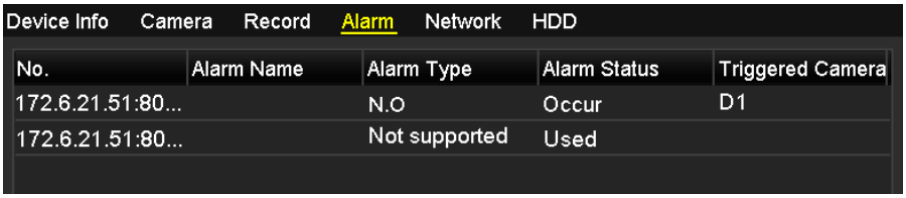

Figure 12. 4 Alarm Information Interface

12.1.5 Viewing Network Information

Steps:

1. Enter the System Information interface.
   Menu > Maintenance > System Info

2. Click the **Network** tab to enter the Network Information interface to view the network information.

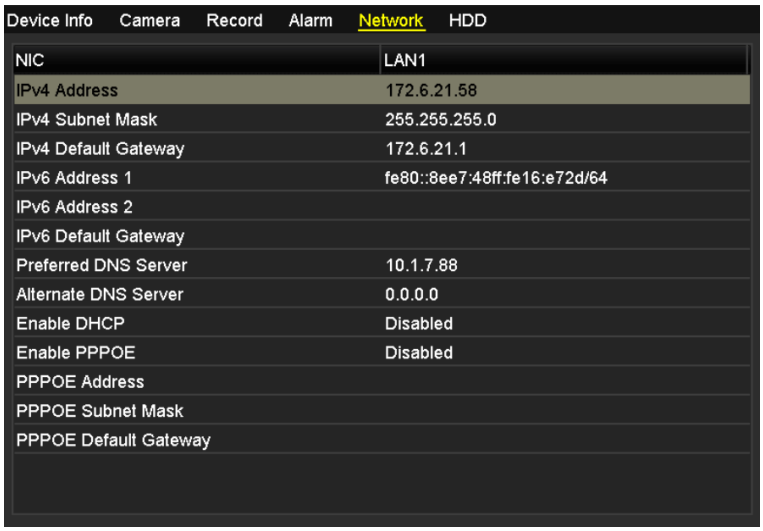

Figure 12. 5 Network Information Interface

12.1.6 Viewing HDD Information

Steps:

1. Enter the System Information interface.

   Menu > Maintenance > System Info

2. Click the **HDD** tab to enter the HDD Information menu to view the HDD status, free space, property, etc.

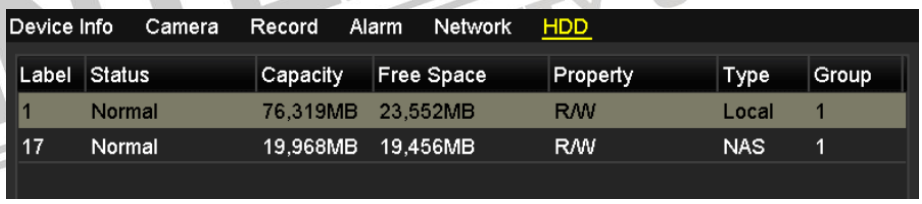

Figure 12. 6 HDD Information Interface

12.2 Searching & Exporting Log Files

Purpose:

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

Steps:

1. Enter the Log Search interface.

   Menu > Maintenance > Log Information>Log Search

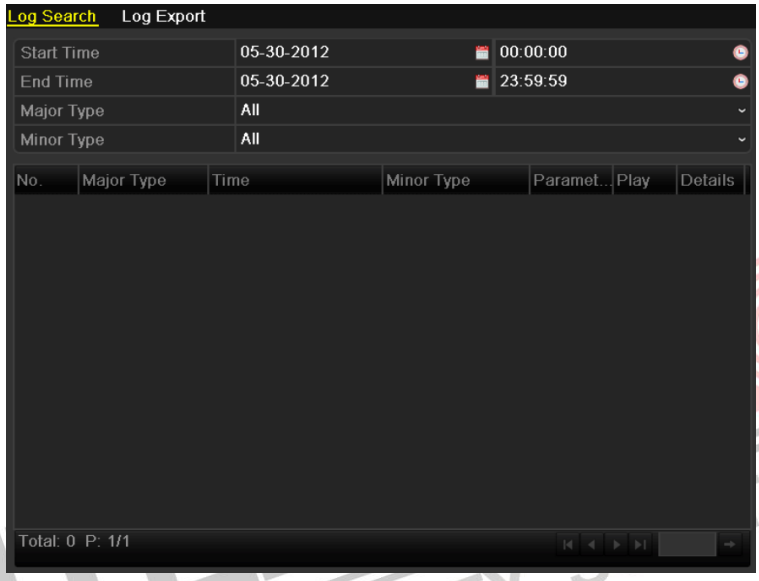

Figure 12. 7 Log Search Interface

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

Note: Up to 2000 log files can be displayed each time.

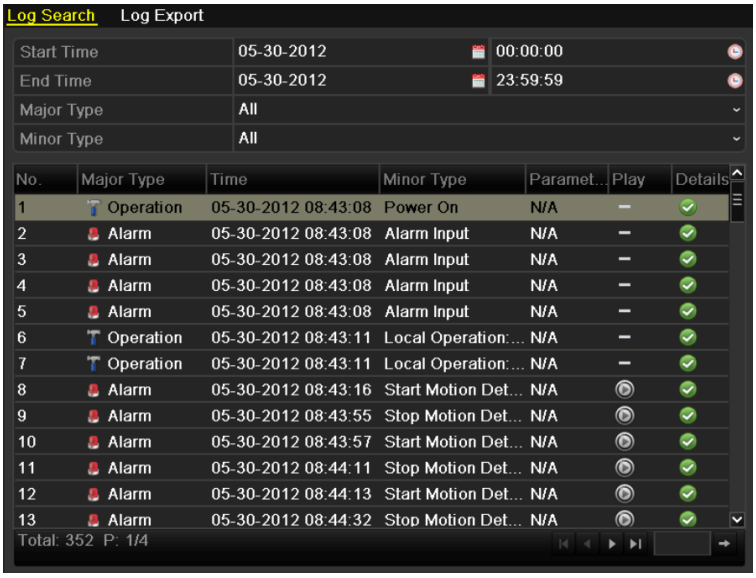

Figure 12. 8 Log Search Results

5. You can click of each log or double-click the log to view its detailed information. And you can also click the button to view the related video files if available.

Figure 12. 9 Log Details

6. If you want to export the log files, select the log and click Export to enter the Export interface.
7. You can also export all the log files stored in the HDD. Enter the Log Export interface.

   Menu > Maintenance > Log Information>Log Export

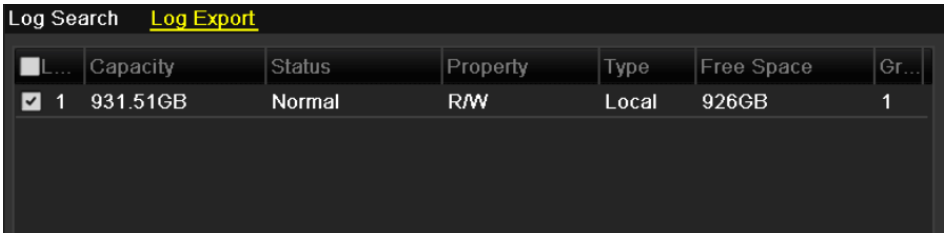

Figure 12. 10 Log Export Interface

Check checkbox to select the HDD and click Export to enter the export interface.

Figure 12. 11 Export Log Files

8. Select the backup device from the dropdown list of **Device Name**.
9. Click Export to export the log files to the selected backup device.
   You can click New Folder to create new folder in the backup device, or click Format to format the backup device before log export.

   Note:

   1) Please connect the backup device to device before operating log export.
   2) The log files exported to the backup device are named by exporting time, e.g., *20120514124841logBack.txt*.

12.3 Importing/Exporting Configuration Files

Purpose:

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

Steps:

1. Enter the Import/Export Configuration File interface.
   Menu > Maintenance > Import/Export

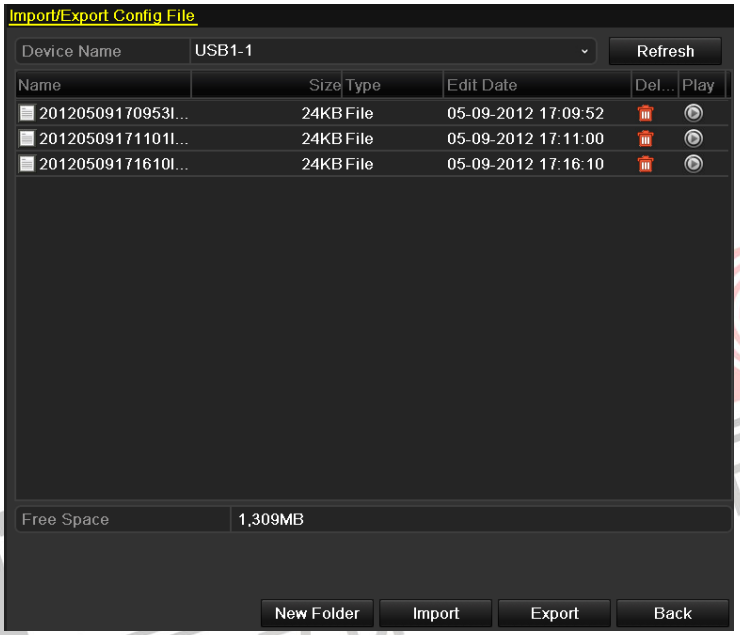

Figure 12. 12 Import/Export Config File

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

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

12.4 Upgrading System

Purpose:

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

12.4.1 Upgrading by Local Backup Device

Steps:

1. Connect your device with a local backup device where the update firmware file is located.
2. Enter the Upgrade interface.

   Menu > Maintenance > Upgrade
3. Click the **Local Upgrade** tab to enter the local upgrade menu.

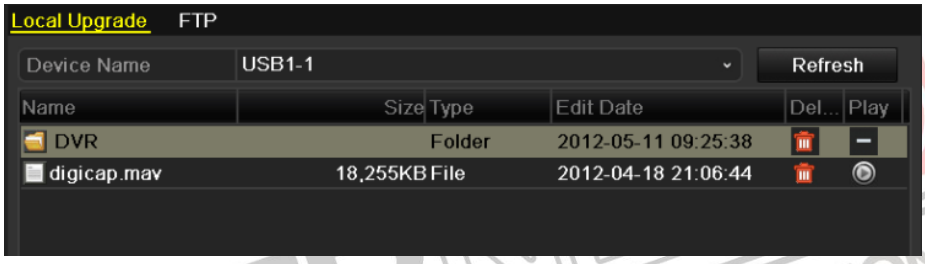

Figure 12. 13 Local Upgrade Interface

4. Select the update file from the backup device.
5. Click Upgrade to start upgrading.
6. After the upgrading is complete, reboot the device to activate the new firmware.

12.4.2 Upgrading by FTP

Before you start:

Ensure the network connection of the PC (running FTP server) and the device is valid and correct. Run the FTP server on the PC and copy the firmware into the corresponding directory of your PC.

Note: Refer to the user manual of the FTP server to set the FTP server on your PC and put the firmware file into the directory as required.

Steps:

1. Enter the Upgrade interface.

   Menu > Maintenance > Upgrade
2. Click the **FTP** tab to enter the local upgrade interface, as shown in Figure 12.14.

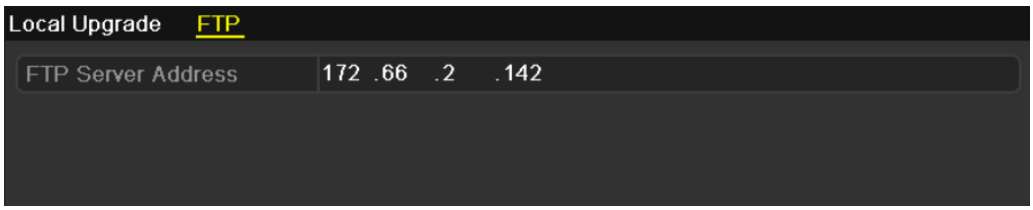

Figure 12. 14 FTP Upgrade Interface

3. Enter the FTP Server Address (the IP address of the PC that runs the FTP server) in the text field.
4. Click Upgrade to start upgrading.
5. After the upgrading is complete, reboot the device to activate the new firmware.

12.5 Restoring Default Settings

Steps:

1. Enter the Default interface.

   Menu > Maintenance > Default

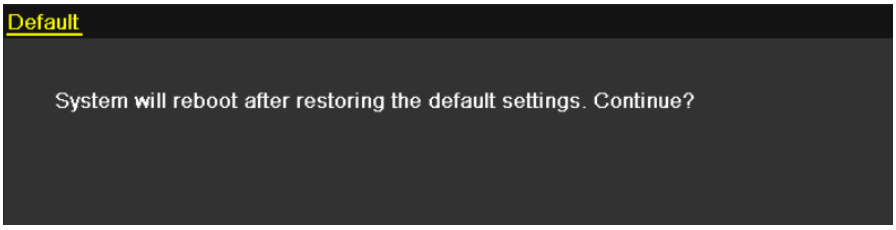

Figure 12. 15 Restore Default Settings

2. Click OK to restore the default settings.

Note: Except the network parameters (including IP address, subnet mask, gateway, MTU, NIC working mode, default route and server port), all other parameters of the device will be restored to factory default settings.

Chapter 13 Others

13.1 Configuring General Settings

Purpose:

You can configure the BNC output standard, HDMI/VGA output resolution, mouse pointer speed, etc.

Steps:

1. Enter the General Settings interface.

   Menu > Configuration > General

2. Select the **General** tab.

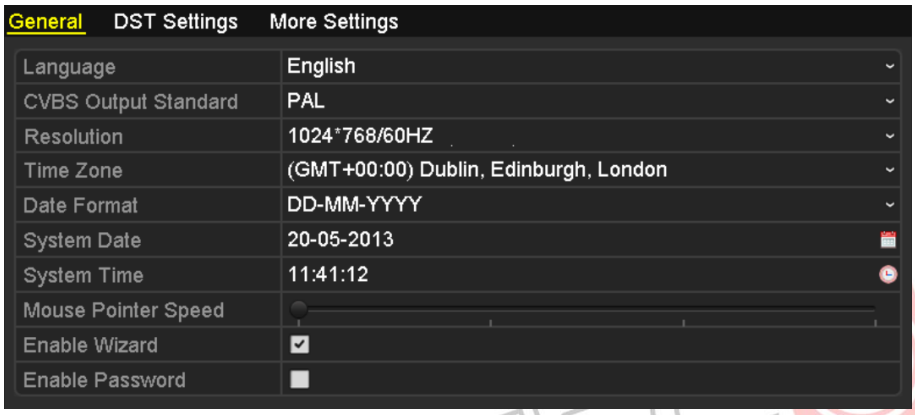

Figure 13. 1 General Settings Interface

3. Configure the following settings:
   - **Language:** The default language used is *English*.
   - **CVBS Output Standard:** Select the CVBS output standard to NTSC or PAL, which must be the same with the video input standard.
   - **Resolution:** Select the resolution for the VGA/HDMI output, which must be the same with the resolution of the monitor screen.
   - **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.
4. Click Apply to save the settings.

13.2 Configuring DST Settings

Steps:

1. Enter the General Settings interface.
   Menu >Configuration>General
2. Choose **DST Settings** tab.

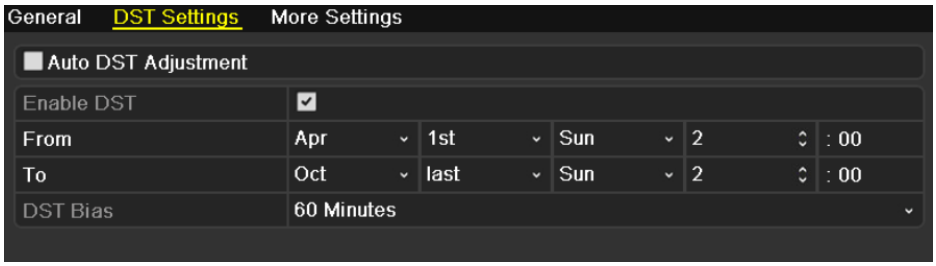

Figure 13. 2 DST Settings Interface

You can check ☑ 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.

13.3 Configuring More Settings

Steps:

1. Enter the General Settings interface.
   Menu > Configuration > General
2. Click the **More Settings** tab to enter the More Settings interface.

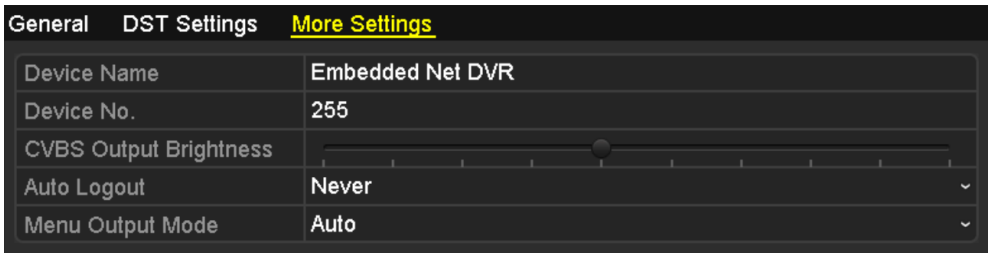

Figure 13. 3 More Settings Interface

3. Configure the following settings:
   - **Device Name:** Edit the name of device.
   - **Device No.:** Edit the serial number of device. The Device No. can be set in the range of 1~255, and the default No. is 255.
   - **CVBS Output Brightness:** Adjust the video output brightness.
   - **Auto Logout:** Set timeout time for menu inactivity. E.g., when the 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:** Set the menu output mode as Auto, HDMI/VGA or Main CVBS. E.g., when HDMI/VGA is selected and HDMI/VGA output interface is connected, then the menu will be displayed on HDMI/VGA monitor.
4. Click Apply to save the settings.

13.4 Managing User Accounts

Purpose:

There is a default account in the device: *Administrator*. The *Administrator* user name is *admin* and the password is *12345*. The *Administrator* has the permission to add and delete user and configure user parameters.

13.4.1 Adding a User

Steps:

1. Enter the User Management interface.

   Menu > Configuration > User

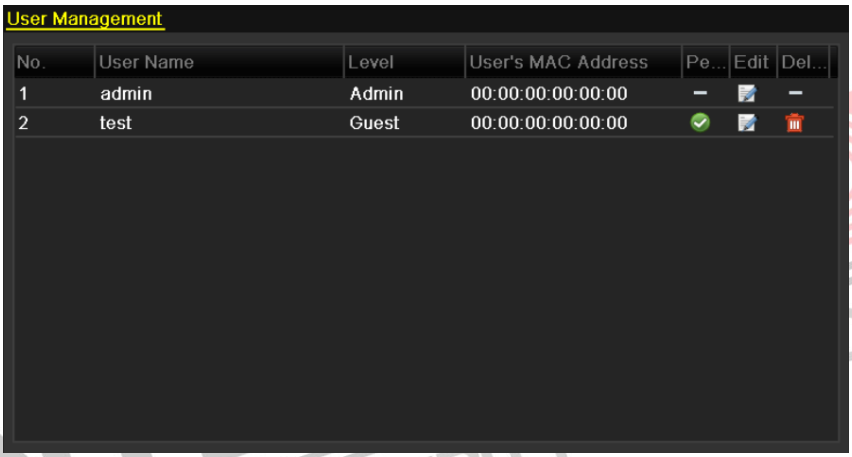

Figure 13. 4 User Management Interface

2. Click Add to enter the Add User interface.

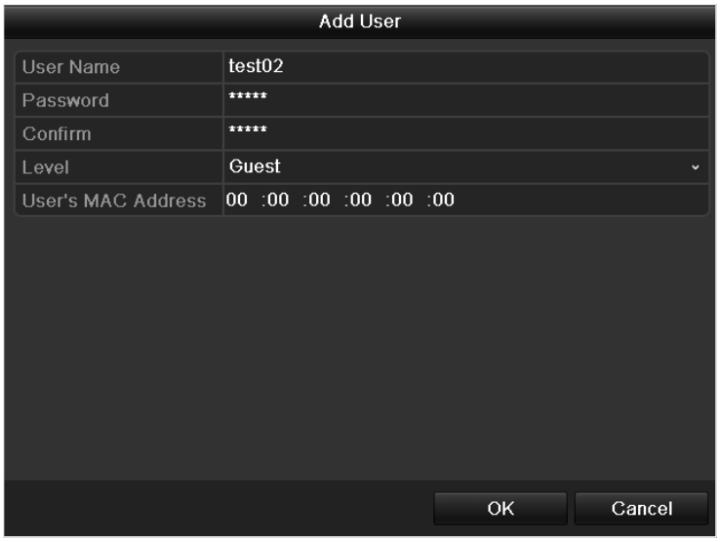

Figure 13. 5 Add User Menu

3. Enter the information for new user, including **User Name**, **Password**, **Level** and **User's MAC Address**.

   Level: Set the user level to Operator or Guest. Different user levels have different operating permission.

- **Operator:** The *Operator* user level has permission of Local Log Search in Local Configuration, Remote Log Search and Two-way Audio in Remote Configuration and all operating permission in Camera Configuration.
- **Guest:** The *Guest* user has permission of Local Log Search in Local Configuration, Remote Log Search in Remote Configuration and only has the local/remote playback in the Camera Configuration.

User's MAC Address: The MAC address of the remote PC which logs onto the device. If it is configured and enabled, it only allows the remote user with this MAC address to access the device.

4. Click OK to save the settings and go back to the User Management interface. The added new user will be displayed on the list.

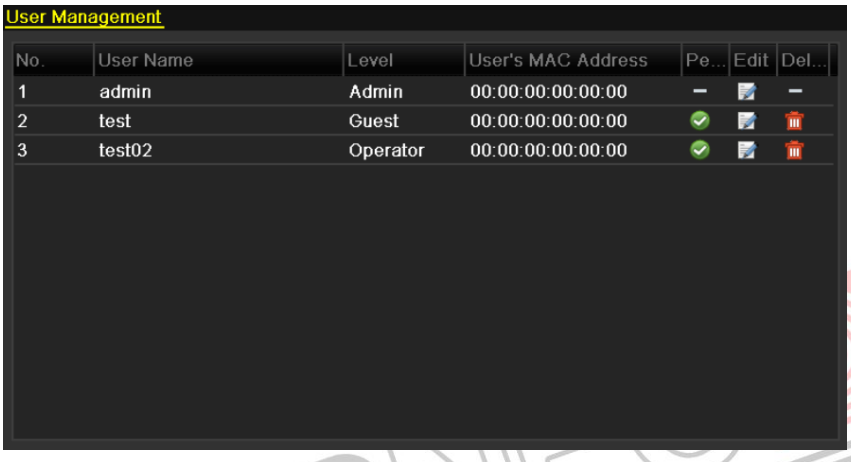

Figure 13. 6 Added User Listed in User Management Interface

5. Select the user from the list and then click the button to enter the Permission Settings interface.

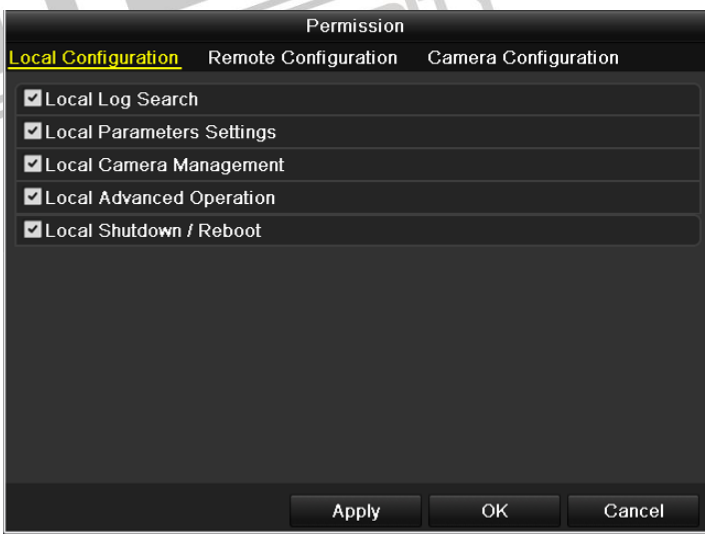

Figure 13. 7 User Permission Settings Interface

6. 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, clearing I/O alarm output.
- 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 ports.
- 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, clearing I/O alarm output.
- 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).

7. Click OK to save the settings and exit interface.

Note: Only the *admin* user account has the permission of restoring factory default parameters.

13.4.2 Deleting a User

Steps:

1. Enter the User Management interface.
   Menu > Configuration > User
2. Select the user to be deleted from the list.

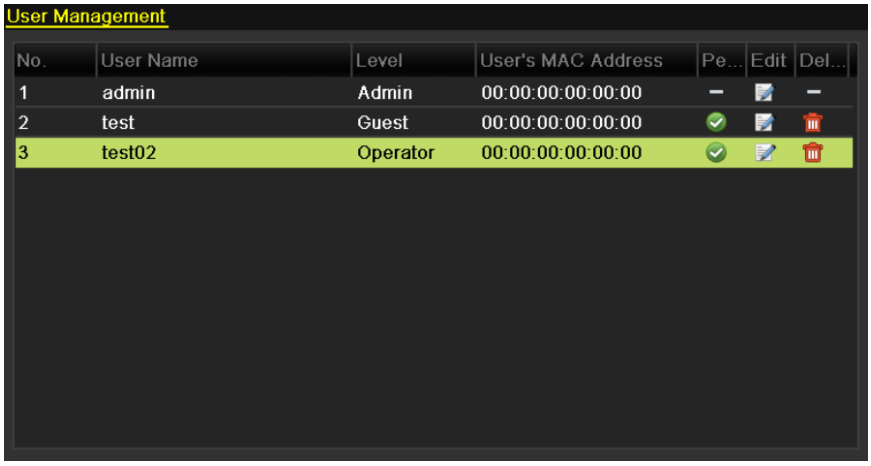

Figure 13. 8 Delete a User

3. Click to delete the selected user.

13.4.3 Editing a User

Steps:

1. Enter the User Management interface.
   Menu > Configuration > User
2. Select the user to be edited from the list.

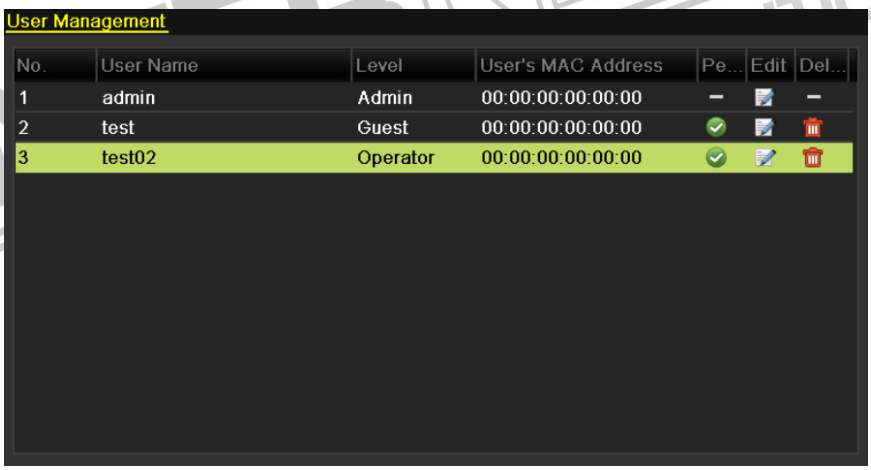

Figure 13. 9 Edit a User

3. Click to enter the Edit User interface.

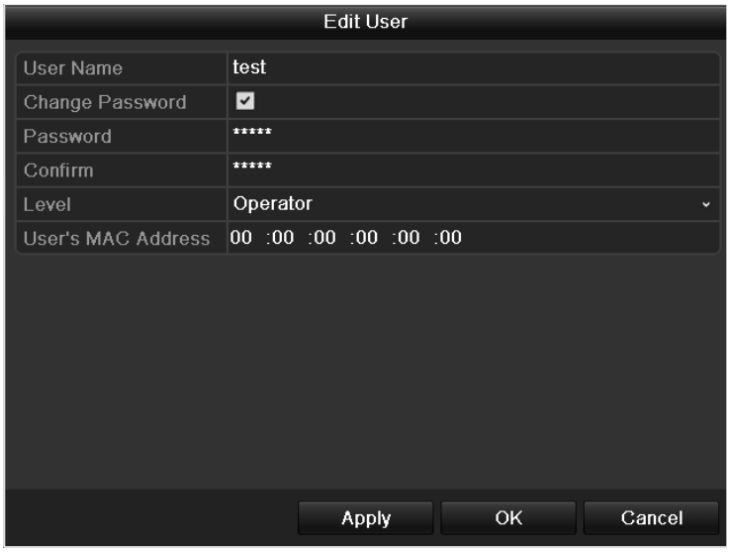

Figure 13. 10 Edit User Interface

4. Edit the user information, including user name, password, level and MAC address.

   Note: If you want to change the password of the user, check checkbox to enable changing the password.

5. Click OK to save the settings and exit the menu.

13.4.4 Changing Password of Admin

Steps:

1. Enter the User Management interface.

   Menu > Configuration > User

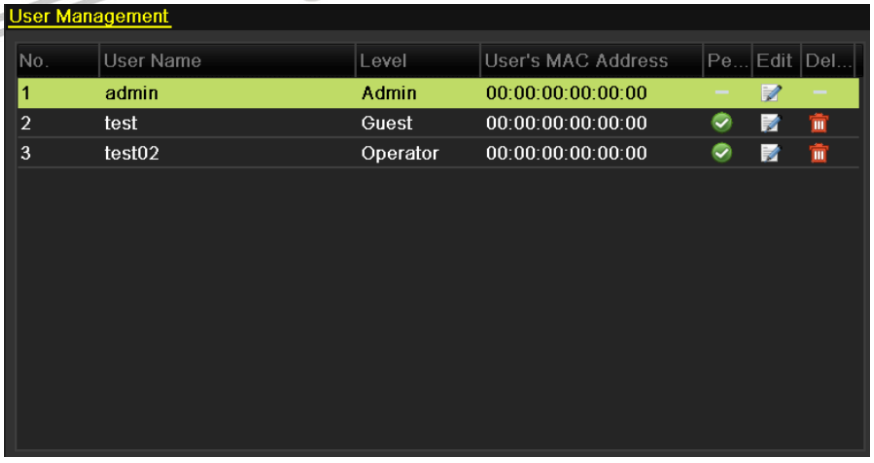

Figure 13. 11 Change Password

2. Select the *admin* user and click to change the password.

Figure 13. 12 Change Password

3. Enter the old password, check checkbox, enter new password and confirm password on the menu.
4. Click OK to save the settings and exit the menu.

13.5 Logging out/Shutting down/Rebooting Device

Steps:

1. Enter the Shutdown interface.

   Menu > Shutdown

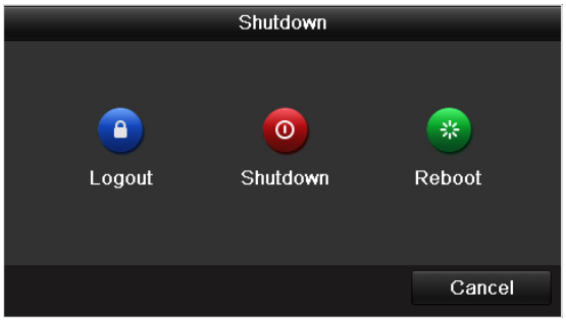

Figure 13. 13 Shutdown Menu

2. Click  to log out, or

   Click  to shut down the device, or

   Click  to reboot the device.

Note: After you have logged out the system, menu operation on the screen is invalid. It is required a user name and password to log in to the system.

Chapter 14 Appendix

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 device, with the main stream having a maximum resolution of 4CIF 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.

Troubleshooting

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

Possible Reasons

a) No VGA or HDMI connections.

b) Connection cable is damaged.

c) Input mode of the monitor is incorrect.

Steps

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.

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.

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.

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 an audible warning sound "Di-Di-Di-Didi" after a new bought device starts up.**

Possible Reasons

a) No HDD is installed in the device.

b) The installed HDD has not been initialized.

c) The installed HDD is not compatible with the device or is broken-down.

Steps

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

   1) If not, please install the compatible HDD.

      Note: Please refer to the "Quick Operation Guide" for the HDD installation steps.

   2) If you don't want to install a HDD, select "Menu>Configuration > Exceptions", and uncheck the Audible Warning checkbox of "HDD Error".

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.

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.

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.

- **The status of the added IPC displays as "Disconnected" when it is connected through the protocol of our company. Select "Menu>Camera>Camera>IP Camera" to get the camera status.**

Possible Reasons

a) Network failure, and the DVR and IPC lost connections.
b) The configured parameters are incorrect when adding the IPC.
c) Insufficient bandwidth.

Steps

1. Verify the configuration parameters are correct.
   1) Select "Menu>Camera>Camera>IP Camera".
   2) Verify the following parameters are the same with those of the connected IP devices, including IP address, protocol, management port, user name and password.
2. Verify the whether the bandwidth is enough.
   1) Select "Menu >Maintenance > Net Detect > Network Stat.".
   2) Check the usage of the access bandwidth, and see if the total bandwidth has reached its limit.
3. 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.

- **The IPC frequently goes online and offline and the status of it displays as "Disconnected".**

Possible Reasons

a) The IPC and the HDVR versions are not compatible.
b) Unstable power supply of IPC.
c) Unstable network between IPC and HDVR.
d) Limited flow by the switch connected with IPC and HDVR.

Steps

1. Verify the IPC and the HDVR versions are compatible.
   1) Enter the IPC Management interface "Menu > Camera > Camera>IP Camera", and view the firmware version of connected IPC.
   2) Enter the System Info interface "Menu>Maintenance>System Info>Device Info", and view the firmware version of HDVR.
2. Verify power supply of IPC is stable.
   1) Verify the power indicator is normal.
   2) When the IPC is offline, please try the ping command on PC to check if the PC connects with the IPC.
3. Verify the switch is not flow control.

   Check the brand, model of the switch connecting IPC and HDVR, and contact with the manufacturer of the switch to check if it has the function of flow control. If so, please turn it down.
4. Check if the fault is solved by the step 1 to step 4.

   If it is solved, finish the process.

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

- **When there is no monitor connected to the HDVR and you add the IPC via web browser, the IPC status**

shows as Connected; and then you connect the HDVR with the monitor via VGA or HDMI interface and reboot the device, there is black screen with the mouse cursor.

Connect the HDVR with the monitor before startup via VGA or HDMI interface, and manage the IPC to connect with the device locally or remotely, the status of IPC displays as Connected. And then connect the device with the CVBS, and there is black screen either.

Possible Reasons:

After connecting the IPC to the HDVR, the image is output via the main spot interface by default.

Steps:

1. Enable the output channel.
2. Select "Menu > Configuration > Live View > View", and select video output interface in the drop-down list and configure the window you want to view.

Notes:

1) The view settings can only be configured by the local operation of HDVR.
2) Different camera orders and window-division modes can be set for different output interfaces separately, and digits like "D1"and "D2" stands for the channel number, and "X" means the selected window has no image output.

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.

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

Possible Reasons:

a) Poor network between device and IPC, and there exists packet loss during the transmission.
b) The frame rate has not reached the real-time frame rate.

Steps:

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).

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

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

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:

a) Cable between the pickup and camera is not connected well; impedance mismatches or incompatible.
b) The stream type is not set as "Video & Audio".
c) The encoding standard is not supported with device.

Steps:

1. Verify the cable between the pickup and camera is connected well; impedance matches and compatible.
2. Verify the setting parameters are correct.

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

3. Verify the audio encoding standard of the camera is supported by the HDVR.

   HDVR supports G722.1 and G711 standards, and if the encoding parameter of the input audio is not one of the previous two standards, you can log in the IPC to configure it to the supported standard.

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.

- **The image gets stuck when HDVR is playing back by single or multi-channel IPC.**

Possible Reasons:

a) Poor network between HDVR and IPC, and there exists packet loss during the transmission.
b) The frame rate is not the real-time frame rate.
c) The HDVR supports up to 16-channel synchronize playback at the resolution of 4CIF, if you want a 16-channel synchronize playback at the resolution of 720p, the frame extracting may occur, which leads to a slight stuck.

Steps:

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

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

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.

3. Reduce the number of local playback channel.

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

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:

a) The time setting of system is incorrect.
b) The search condition is incorrect.
c) The HDD is error or not detected.

Steps:

1. Verify the system time setting is correct.

   Select "Menu > Configuration > General > General", and verify the "Device Time" is correct.

2. Verify the search condition is correct.

   Select "Playback", and verify the channel and time are correct.

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.

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.

List of IP Cameras Compatible

Note:

ONVIF compatibility refers to the camera can be supported both when it uses the ONVIF protocol and its private protocols. **Only ONVIF is supported** refers to the camera can only be supported when it uses the ONVIF protocol. **Only AXIS is supported** refers to the function can only be supported when it uses the AXIS protocol.

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
ACTI	TCM4301-10D-X-00083	A1D-310-V4.12.09-AC	1280×1024	×	√
	TCM5311-11D-X-00023	A1D-310-V4.12.09-AC	1280×960	×	√
	TCM3401-09L-X-00227	A1D-220-V3.13.16-AC	1280×1024	×	×
ARECONT	AV8185DN	65172	1600×1200	×	×
	AV1305M	65175	1280×1024	√	×
	AV2155	65143	1600×1200	√	×
	AV2815	65220	1920×1080	√	×
	AV3105M	65175	1920×1080	√	×
	AV5105	65175	1920×1080	√	×
AXIS	M1114	5.09.1	1024×640	√	×
	M3011(ONVIF compatibility)	5.21	704×576	√(Only AXIS is supported)	×
	M3014(ONVIF compatibility)	5.21.1	1280×800	√	×
	P3301(ONVIF compatibility)	5.11.2	768×576	√	√(Only AXIS is supported)
	P3304(ONVIF compatibility)	5.20	1440×900	√	√(Only AXIS is supported)
	P3343(ONVIF compatibility)	5.20.1	800×600	√	√(Only AXIS is supported)
	P3344(ONVIF compatibility)	5.20.1	1440×900	√	√(Only AXIS is supported)
	P5532	5.15	720×576	√	×
	Q7404	5.02	720×576	√	√
Bosch (ONVIF compatibility)	AutoDome Jr 800 HD	39500450	1920×1080	×	√
	NBC 265 P	07500453	1280×720	×	√
	Dinion NBN-921-P	10500453	1280×720	×	√
Brickcom	FB-130Np (ONVIF compatibility)	V3.1.0.8	1280×1024	×	√

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
	CB-500Ap (ONVIF compatibility)	V3.2.1.3	1280×1024	×	√
	WFB-100Ap	V3.1.0.9	1280×800	×	√
Canon	VB-M400	Ver.+1.0.0	1280×960	×	√
	VB-M6000D	Ver.+1.0.0	1280×960	×	×
	VB-M7000F	Ver.+1.0.0	1280×960	×	√
Hikvision	DS-2CD883F-E	V4.1.0 build 130111	2560×1920	√	√
	DS-2CD783F-E(I)	V4.1.0 build 130111	2560×1920	√	√
	DS-2CD8283F-E(I)	V4.1.0 build 130111	2560×1920	√	√
	DS-2CD886BF-E	V4.0.3 build 120913	2560×1920	√	√
	DS-2CD886MF-E	V4.0.3 build 120913	2560×1920	√	√
	DS-2CD854F-E	V4.1.0 build 130111	2048×1536	√	√
	DS-2CD754F-E(I)	V4.1.0 build 130111	2048×1536	√	√
	DS-2CD8254F-E(I)	V4.1.0 build 130111	2048×1536	√	√
	DS-2CD754FWD-E(I)	V4.1.0 build 130111	1920×1080	√	√
	DS-2CD8254FWD-EIZ	V4.1.0 build 130111	1920×1080	√	√
	DS-2CD753F-E(I)	V4.1.0 build 130111	1600×1200	√	√
	DS-2CD853F-E	V4.1.0 build 130111	1600×1200	√	√
	DS-2CD8153F-E	V4.1.0 build 130111	1600×1200	√	√
	DS-2CD8253F-E(I)	V4.1.0 build 130111	1600×1200	√	√
	DS-2CD7153-E	V4.1.0 build 130111	1600×1200	√	×
	DS-2CD876BF-E	V4.0.3 build 120913	1600×1200	√	√
	DS-2CD876MF-E	V4.0.3 build 120913	1600×1200	√	√
	DS-2CD877BF	V4.0.3 build 120913	1920×1080	√	√
	DS-2CD855F-E	V4.1.0 build 130111	1920×1080	√	√
	DS-2CD752MF-E	V2.0 build 110614	1600×1200	√	√
	DS-2CD852MF-E	V2.0 build 110426			

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
	DS-2CD852F-E	V2.0 build 100521			
	DS-2CD862MF-E	V2.0 build 110614	1280×960	√	√
		V2.0 build 110426			
		V2.0 build 100521			
	DS-2CD8464F-EI	V4.1.0 build 130111	1280×960	√	√
	DS-2CD863PF/NF-E	V4.1.0 build 130111	1280×960	√	√
	DS-2CD864FWD-E	V4.1.0 build 130111	1280×720	√	√
	DS-2CD763PF/NF-E	V4.1.0 build 130111	1280×960	√	√
	DS-2CD763PF/NF-EI	V4.1.0 build 130111	1280×960	√	√
	DS-2CD7164-E	V4.1.0 build 130111	1280×720	√	×
	DS-2CD764FWD-E(I)	V4.1.0 build 130111	1280×720	√	√
	DS-2CD8264FWD-E(I)	V4.1.0 build 130111	1280×720	√	√
	DS-2CD2012-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2112-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2212-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2312-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2032-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2132-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2232-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD2332-I	V4.0.9 build 130106	1280×960	√	×
	DS-2CD7133F-E	V4.1.0 build 130111	640×480	√	×
	DS-2CD733F-E(I)	V4.1.0 build 130111	640×480	√	√
	DS-2CD833F-E	V4.1.0 build 130111	640×480	√	√
	DS-2CD8133F-E	V4.1.0 build 130111	640×480	√	√
	DS-2CD8233F-E(I)	V4.1.0 build 130111	640×480	√	√
	DS-2CD802NF DS-2CD812PF DS-2CD832F DS-2CD892PF/NF	V2.0 build 090522	704×576	√	√
		V2.0 build 090715			
		V2.0 build 110301			
	DS-2CD893PF(WD)-E	V4.1.0 build 130111	704×576	√	√
	DS-2CD793PF(WD)-E(I)	V4.1.0 build 130111	704×576	√	√
	DS-2CD793NF(WD)-E(I)	V4.1.0 build 130111	704×576	√	√
	DS-2CD8313PF-E40	V3.2 build 120528	352×288	√	√
	DS-2CD9121	V3.3.0 build 130129	1600×1200	√	×
	DS-2CD9122	V3.3.0 build 130129	1920×1080	√	×
	DS-2CD9131	V3.3.0 build 130129	2048×1536	√	×
	DS-2CD9151A	V3.3.0 build 130129	2448×2048	√	×
	DS-2CD9152	V3.3.1 build 130301	2560×1920	√	×
	DS-2CD9152-H	V3.3.0 build 130120	2592×2048	√	×
	DS-2CD966(B)	V3.1.0 build120423	1360×1024	×	×

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
	DS-2CD966-V(B)				
	DS-2CD976(B) DS-2CD976-V(B)	V3.1.0 build120423	1600×1200	×	×
	DS-2CD976(C)	V3.1.0 build120423	1600×1200	×	×
	DS-2CD976-V(C)	V3.1.0 build120423	1600×1200	×	×
	DS-2CD977(B) DS-2CD977(C)	V3.1 build 120423	1920×1080	×	×
	DS-2CD986A(B)	V3.1.0 build120423	2448×2048	×	×
	DS-2CD986A(C)	V3.1.0 build120423	2448×2048	×	×
	DS-2CD986C(B)	V2.3.6 build 120401	2560×1920	×	×
	DS-2DF1-572	V4.0.2 build 120813	1280×720	√	√
	DS-2DF1-57A	V4.0.2 build 120813	1280×720	√	√
	DS-2DF1-772 DS-2DM1-772 DS-2DF1-774D	V4.1.4 build 130110	1280×720	√	√
	DS-2DF7284-A DS-2DF7274-A DS-2DF5284-A DS-2DF5274-A	V4.2.4 build 130126	1280×960	√	√
	DS-2DM1-718	V2.0.1 build 110520 V3.1.2 build 121124	704×576	√	√
	DS-2DM1-518	V2.0.1 build 110520 V3.1.2 build 121124	704×576	√	√
	DS-2DF1-402	V3.1.4 build 130204	704×576	√	√
	DS-2DF1-402N	V3.1.4 build 130204	704×576	√	√
	DS-2DF1-618H	V2.0.1 build 110520 V3.1.0 build110811	704×576	√	√
	DS-2DF1-718	V2.0.1 build 110520 V3.1.2 build 121124	704×576	√	√
	DS-2DF1-518	V2.0.1 build 110520 V3.1.2 build 121124	704×576	√	√
	DS-6601HFHI	V1.0.4 build 130115	1920×1080	√	√
	DS-6601HFHI/L	V1.0.4 build 130115	1920×1080	√	√
	DS-6501HCI-SATA DS-6502HCI-SATA DS-6504HCI-SATA DS-6516HCI-SATA	V1.0.1 build 110104	704×576	×	√
	DS-6501HFI-SATA DS-6502HFI-SATA DS-6504HFI-SATA DS-6508HFI-SATA	V1.0.1 build110104	704×576	×	√

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
	DS-6601HCI DS-6602HCI DS-6604HCI	V1.2.0 build 120215	704×576	×	√
	DS-6601HFI DS-6602HFI DS-6604HFI	V1.2.0 build 120215	704×576	×	√
Panasonic	WV-SW152(ONVIF compatibility)	Application:1.66 Image data:1.05	800×600	√	×
	WV-SC386(ONVIF compatibility)	Application:1.66 Image data:1.05	1280×960	√	√
	WV-SW155(ONVIF compatibility)	Application:1.66 Image data:1.05	1280×960	√	×
	WV-SW316(ONVIF compatibility)	Application:1.66 Image data:2.03	1280×960	√	√
	WV-SP105(ONVIF compatibility)	Application:1.66 Image data:1.03	1280×960	√	×
	WV-SF132(ONVIF compatibility)	Application:1.66 Image data:1.03	640×360	√	×
	WV-SP102(ONVIF compatibility)	Application:1.66 Image data:1.03	640×480	√	×
	WV-SP509(ONVIF compatibility)	Application:1.30 Image data:2.21	1280×960	√	√
	WV-SW559(ONVIF compatibility)	Application:1.30 Image data:2.21	1920×1080	√	√
	WV-SW558(ONVIF compatibility)	Application:1.30 Image data:2.21	1920×1080	√	×
	WV-SW355(ONVIF compatibility)	Application:1.66 Image data:1.04	1280×960	√	√
	WV-SW352(ONVIF compatibility)	Application:1.66 Image data:1.04	800×600	√	√
	WV-SF342(ONVIF compatibility)	Application:1.66 Image data:1.06	800×600	√	√
	WV-SF332(ONVIF compatibility)	Application:1.66 Image data:1.06	800×600	√	√
	WV-SF346(ONVIF compatibility)	Application:1.66 Image data:1.06	1280×960	√	√
	WV-SP306H	Application:1.34 Image data:1.06	1280×960	√	√
	WV-SP336H	Application:1.06 Image data:1.06	1280×960	√	√
PELCO	D5118	1.8.2-20120327- 2.9310-A1.7852	1280×960	√	×

IPC Manufacturer or Protocol	Model	Version	Max. Resolution	Sub-stream	Audio
	IXE20DN-AAXVUU2	1.8.2-20120327-2.9081-A1.7852	1920×1080	√	×
	IX30DN-ACFZHB3	1.8.2-20120327-2.9080-A1.7852	2048×1536	√	×
SAMSUNG (ONVIF compatibility)	SNB-5000P	V2.00_110727	1280×1024	√(Only ONVIF is supported)	√
SANYO	VCC-HD2300P	2.03-02(110318-00)	1920×1080	×	×
	VCC-HD2500P	2.02-02(110208-00)	1920×1080	×	√
	VCC-HD4600P	2.03-02(110315-00)	1920×1080	×	√
SONY	SNC-CH220	1.50.00	1920×1080	×	×
	SNC-RH124(ONVIF compatibility)	1.73.00	1280×720	√	√
	SNC-EP580(ONVIF compatibility)	1.53.00	1920×1080	√	√
	SNC-DH220T(Only ONVIF is supported)	1.50.00	2048×1536	×	×
Vivotek	IP7133	0203a	640×480	×	×
	FD8134(ONVIF compatibility)	0107a	1280×800	×	×
	IP8161(ONVIF compatibility)	0104a	1600×1200	×	√
	IP8331(ONVIF compatibility)	0102a	640×480	×	×
	IP8332(ONVIF compatibility)	0105b	1280×800	×	×
ZAVIO	D5110	MG.1.6.03P8	1280×1024	√	×
	F3106	M2.1.6.03P8	1280×1024	√	√
	F3110	M2.1.6.01	1280×720	√	√
	F3206	MG.1.6.02c045	1920×1080	√	√
	F531E	LM.1.6.18P10	640×480	√	√