You Talk, We Listen®
USA
ONIX

Digital Video Recorder

User Manual

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

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 DVR, 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 DVR.
- 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 DVR 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 manufacturer.

Trademarks and Registered Trademarks

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- UPnP™ is a certification mark of the UPnP™ Implementers Corporation.
- Other names of companies and product contained in this manual may be trademarks or registered trademarks of their respective owners.

Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer.
The figures in this manual are for reference only.
This manual is applicable toTurbo HD DVR. Some function is only for certain models, check the specification for whether it supports the function.

Product Key Features

General

- Connectable to HD-TVI and analog cameras;
- Connectable to the Coaxitron camera/dome with long transmission distance;
- Connectable to IP cameras from our company for HDVR series;
- Each channel supports dual-stream. Main stream supports up to 1080P resolution and sub-stream supports up to WD1 resolution;
- Independent configuration for each channel, including resolution, frame rate, bit rate, image quality, etc.
- Encoding for both video stream and video & audio stream; audio and video synchronization during composite stream encoding;
- Watermark technology;

Local Monitoring

- Simultaneous HDMI, VGA and CVBS outputs (no CVBS output for certain models, please refer to the specification for the details);
- HDMI output and VGA output at up to 1920*1080 resolution;
- 1/4/6/8/9/16 screen live view is supported, and the display sequence of screens is adjustable;
- Live view screen can be switched in group and manual switch and automatic cycle live view are also provided, the interval of automatic cycle can be adjusted;
- Quick setting menu is provided for live view;
- The selected live view channel can be shielded;
- Motion detection, video-tampering detection, video exception alarm and video loss alarm functions;
- Privacy mask;
- Several PTZ protocols supported; PTZ preset, patrol and pattern;
- Zooming in/out by clicking the mouse and PTZ tracing by dragging mouse;

HDD Management

- For 4ch/8ch/16ch 720P real time series, up to 2 SATA hard disks can be connected;
  For 4ch/8ch/16ch 1080P real time 1.5U chassis series, up to 4 SATA hard disks and 1 eSATA disk can be connected;
  For 4ch/8ch/16ch 1080P real time 2U chassis series, up to 8 SATA hard disks and 1 eSATA disk 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;
- Support eSATA disks for recording or backup;
- Support S.M.A.R.T. and bad sector detection;
- Support HDD sleeping function;
- HDD property: redundancy, read-only, read/write (R/W);
- HDD group management;
- HDD quota management; different capacity can be assigned to different channels;

Recording and Playback

- Holiday recording schedule configuration;
- Cycle and non-cycle recording modes;

- Normal and event video encoding parameters;
- Multiple recording types: manual, continuous, alarm, motion, motion | alarm, motion & alarm;
- 8 recording time periods with separated recording types;
- Pre-record and post-record for motion detection triggered 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 of record files;
- Local redundant recording;
- Searching and playing back record files by camera number, recording type, start time, end time, etc.;
- Smart playback to go through less effective information;
- Zooming in for any area when playback;
- Reverse playback of multi-channel;
- Supports pause, fast forward, slow forward, skip forward, and skip backward when playback, locating by dragging the mouse on the progress bar;
- Up to 16-ch synchronous playback at 1080P;

Backup

- Export data by a USB, SATA or eSATA device;
- Export video clips when playback;
- Management and maintenance of backup devices;

Alarm and Exception

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

Other Local Functions

- Manual and automatic video quality diagnostics;
- Users can operate by mouse and remote control;
- Three-level user management; admin user can create many operating account and define their operating permission, which includes the permission to access any channel;
- Completeness of operation, alarm, exceptions and log writing and searching;
- Manually triggering and clearing alarms;
- Importing and exporting of configuration file of devices;
- Getting cameras type information automatically.

Network Functions

- 1 self-adaptive 10M/100M network interface for 4ch 720P 1U chassis models; 2 self-adaptive 10M/100M/1000M network interfaces for 2U chassis models; 1 self-adaptive 10M/100M/1000M network interface for other models.
- IPv6 is supported;
- TCP/IP protocol, PPPoE, DHCP, DNS, DDNS, NTP, SADP, SMTP, SNMP, NFS, iSCSI, UPnP™ and HTTPS are supported;

- Extranet access by SIMPLEDDNS.
- TCP, UDP and RTP for unicast;
- Auto/Manual port mapping by UPnP™ ;
- Remote search, playback, download, locking and unlocking the record files, and downloading files broken transfer resume;
- Remote parameters setup; remote import/export of device parameters;
- Remote viewing of the device status, system logs and alarm status;
- Remote keyboard operation;
- Remote locking and unlocking of control panel and mouse;
- Remote HDD formatting and program upgrading;
- Remote system restart and shutdown;
- Support upgrading via remote FTP server;
- RS-232, RS-485 transparent channel transmission;
- Alarm and exception information can be sent to the remote host;
- Remotely start/stop recording;
- Remotely start/stop alarm output;
- Remote PTZ control;
- Remote JPEG capture;
- Two-way audio and voice broadcasting;
- Embedded WEB server.

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Chapter 1 Introduction

1.1 Front Panels

Figure 1. 1 Front Panel of 4ch/8ch/16ch 720P Models

Table 1. 1 Description of Front Panel

No.	Name	Function Description
1	**POWER**	POWER indicator turns green when DVR is powered up.
	STATUS	STATUS indicator lights in red when data is being read from or written to HDD.
	Tx/Rx	Tx/Rx indictor blinks green when network connection is functioning properly.
2	**DIRECTION**	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.
	ENTER	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.
3	**MENU**	Access the main menu interface.
4	**ESC**	Exit and back to the previous menu.
5	**IR Receiver**	Receiver for IR remote.
6	**USB Interface**	Connects USB mouse or USB flash memory devices.

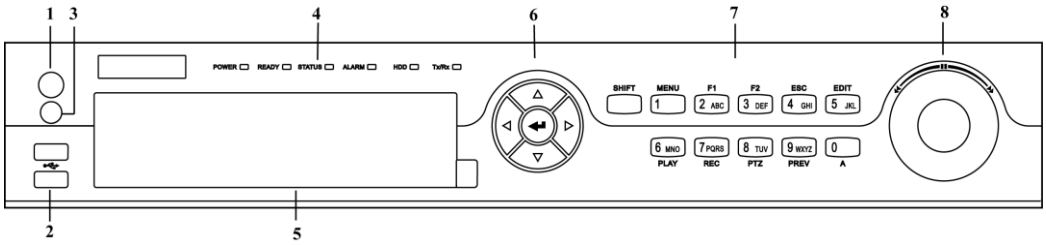


Figure 1. 2 Front Panel of 4ch/8ch/16ch 1080P 1.5U Chassis Models

Table 1. 2 Description of Front Panel

No.	Name	Function Description
1	**POWER ON/OFF**	Power on/off switch.
2	**USB Interface**	Connect to USB mouse or USB flash memory.
3	**IR Receiver**	Receiver for IR remote control. devices.
4	**POWER**	Power indicator lights in green when DVR is powered up.
	READY	Ready indicator is normally green, indicating that the DVR is functioning properly.

	STATUS	Indicator turns green when DVR is controlled by an IR remote control with the address from 1~254; Indicator turns red when the SHIFT button is used; Indicator does not light when the DVR is controlled by a keyboard or by the IR remote control with the address of 255; Indicator turns green when the DVR is controlled by IR remote control (with the address from 1~254) and keyboard at the same time , and the SHIFT button is not used; Indicator turns orange : (a) when the DVR is controlled by IR remote control (with the address from 1~254) and keyboard at the same time and the SHIFT button is used as well; (b) when the DVR is controlled by IR remote control (with the address from 1~254) and the SHIFT button is used.
	ALARM	Alarm indicator turns red when a sensor alarm is detected.
	HDD	HDD indicator blinks in red when data is being read from or written to HDD.
	Tx/Rx	TX/RX indictor blinks in green when network connection is functioning properly.
5	**DVD-ROM**	Slot for DVD-ROM.
6	**DIRECTION**	The DIRECTION buttons are used to navigate between different fields and items in menus. In Playback mode, the Up and Down button is used to speed up and slow down recorded video. In All-day Playback mode, the Left/Right button can be used to select the recorded video of next/previous day; in Playback by Normal Video Search, the Left/Right button can be used to select the next/previous recorded file. In Live View mode, the directional buttons can be used to cycle through channels. In PTZ control mode, it can control the movement of the PTZ camera.
	ENTER	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 ENTER button will advance the video by a single frame. In Auto-switch mode, it can be used to stop /start auto switch.
7	**SHIFT**	Switch of compound keys between the numeric/letter input and functional control.
	1/MENU	Enter numeral “1”; Access the main menu interface.
	2ABC/F1	Enter numeral “2”; Enter letters “ABC”; The F1 button can be used to select all items on the list; In PTZ Control mode, the F1 button can be used to zoom out (zoom-) the PTZ camera; In live view or playback mode, the F1 button can be used to switch between main and spot video output.
	3DEF/F2	Enter numeral “3”; Enter letters “DEF”; In PTZ Control mode, the F1 button can be used to zoom in (zoom+) the PTZ camera; The F2 button can be used to cycle through tab pages.
	4GHI/ESC	Enter numeral “4”; Enter letters “GHI”; Exit and back to the previous menu.
	5JKL/EDIT	Enter numeral “5”; Enter letters “JKL”; Delete characters before cursor; Select the checkbox and ON/OFF switch; Start/stop record clipping in playback.
	6MNO/PLAY	Enter numeral “6”; Enter letters “MNO”; In Playback mode, it is used for direct access to playback interface.
	7PQRS/REC	Enter numeral “7”; Enter letters “PQRS”; Manual record, for direct access to manual record interface; manually enable/disable record.
	8TUV/PTZ	Enter numeral “8”; Enter letters “TUV”;

		Access PTZ control interface.
	9WXYZ/PREV	Enter numeral “9”; Enter letters “WXYZ”; Multi-camera display in live view; In Playback mode or Menu→Playback→Tag playback interface, this button can be used to delete the selected tag.
	0/A	Enter numeral “0”; Switch between input methods (upper and lowercase alphabet, symbols and numeric input). In Playback mode, this button can be used to add the default tag.
8	**JOG SHUTTLE Control**	Move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In Playback mode, the inner ring is used to jump 30s forward/backward in video files. The outer ring can be used to speed up/slow down the video. In Live View mode, it can be used to cycle through different channels. In PTZ control mode, in can control the movement of the PTZ camera.

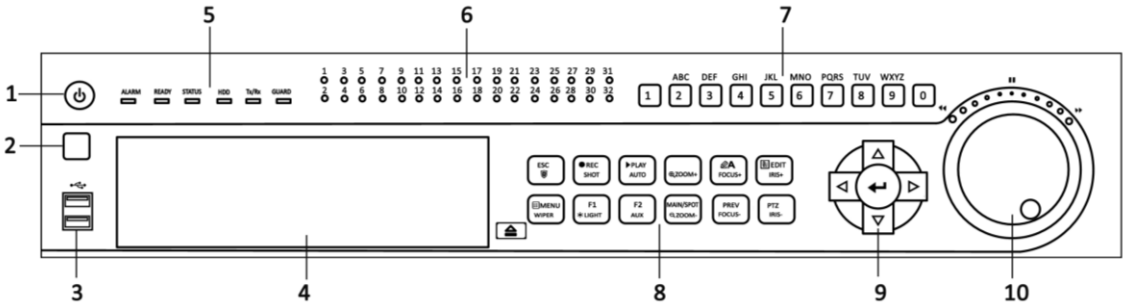


Figure 1. 3 Front Panel of 4ch/8ch/16ch 1080P 1.5U Chassis Models

No.	Name	Function Description
1	**POWER ON/OFF**	Power on/off switch.
2	**IR Receiver**	Receiver for IR remote control.
3	**USB**	Connect to USB mouse or USB flash memory devices.
4	**DVD-R/W**	Slot for DVD-R/W.
5	**ALARM**	Alarm indicator turns red when a sensor alarm is detected.
	READY	Ready indicator is normally blue, indicating that the DVR is functioning properly.
	STATUS	Indicator turns blue when DVR is controlled by an IR remote. Indicator turns red when controlled by a keyboard and orange when IR remote and keyboard is used at the same time. Indicator does not light when the DVR is controlled by the IR remote control with the address of 255.
	HDD	HDD indicator blinks in red when data is being read from or written to HDD.
	Tx/Rx	Tx/Rx indictor blinks in blue when network connection is functioning properly.
	GUARD	Indicator turns blue when the device is armed; Indicator does not light when the device is disarmed; The arm/disarm state can be initiated by pressing and holding on the ESC button for more than 3 seconds in live view mode.
6	**Channel Status LED Indicators**	The button lights in blue when the corresponding channel is recording; it is red when the channel is in network transmission status; it is pink when the channel is recording and transmitting.
7	**Alphanumeric Buttons**	Switch to the corresponding channel in Live View or PTZ Control mode. Input numbers and characters in Edit mode. Switch between different channels in All-day Playback mode.
8	**ESC**	Exit and back to the previous menu. Arm/disarm the DVR in live view mode.
	REC/SHOT	Enter the Manual Record interface. Turn audio on/off in Playback mode; In PTZ control mode, pressing the REC/SHOT button and a Numeric button will

		call a PTZ preset.
	PLAY/AUTO	Enter the Playback menu; Auto scan in the PTZ Control mode.
	ZOOM+ Button	In PTZ control mode, the ZOOM+ button is used to zoom in the PTZ camera.
	A/FOCUS+	Adjust focus in the PTZ Control mode. Switch between input methods (upper and lowercase alphabet, symbols and numeric input).
	EDIT/IRIS+	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.
	MENU/WIPER	Return to the Main menu (after successful login); Turn off audible key beeper by pressing and holding the button for 5 seconds; Start wiper (if applicable) in PTZ Control mode.
	F1/LIGHT	The F1/LIGHT button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
	F2/AUX	The F2/AUX button is used to cycle through tab pages.
	MAIN/SPOT/ZOOM-	Switch to the control of spot output; In PTZ Control mode, it can be used to zoom out the PTZ camera.
	PREV/FOCUS-	Switch between single screen and multi-screen mode. In PTZ Control mode, it is used to adjust the focus in conjunction with the A/FOCUS+ button.
	PTZ/IRIS-	Enter the PTZ Control mode. In PTZ Control mode, it is used to close the iris of the PTZ camera.
9	**DIRECTION**	The DIRECTION buttons are used to navigate between different fields and items in menus. In Playback mode, the Up and Down button is used to speed up and slow down recorded video. In All-day Playback mode, the Left/Right button can be used to select the recorded video of next/previous day; in Playback by Normal Video Search, the Left/Right button can be used to select the next/previous recorded file. In Live View mode, the directional buttons can be used to cycle through channels. In PTZ control mode, it can control the movement of the PTZ camera.
	ENTER	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 ENTER button will advance the video by a single frame. In Auto-switch mode, it can be used to stop /start auto switch.
10	**JOG SHUTTLE Control**	Move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In Playback mode, the inner ring is used to jump 30s forward/backward in video files. The outer ring can be used to speed up/slow down the video. In Live View mode, it can be used to cycle through different channels. In PTZ control mode, in can control the movement of the PTZ camera.

1.2 IR Remote Control Operations

The DVR may also be controlled with the included IR remote control, shown in Figure 1. 4.

NOTE

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

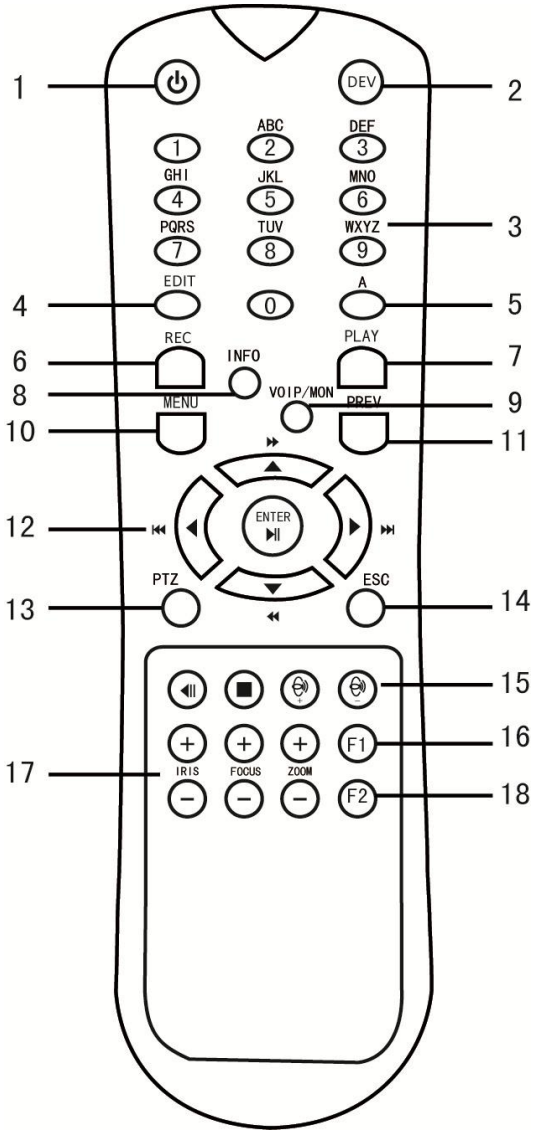


Figure 1. 4 Remote Control

The keys on the remote control closely resemble the ones found on the front panel. Refer to Table 1. 3, they include:

Table 1. 3 Description of the IR Remote Control Buttons

No.	Name	Description
1	POWER	Power on/off the device.
2	DEV	Enables/Disables Remote Control.

No.	Name	Description
3	**Alphanumeric Buttons**	Same as Alphanumeric buttons on front panel.
4	**EDIT Button**	Same as EDIT/IRIS+ button on front panel.
5	**A Button**	Same as A/FOCUS+ button on front panel.
6	**REC Button**	Same as REC/SHOT button on front panel.
7	**PLAY Button**	Same as the PLAY/AUTO button on front panel.
8	**INFO Button**	Same as the ZOOM+ button on front panel.
9	**VOIP/MON Button**	Same as the MAIN/SPOT/ZOOM- button on front panel.
10	**MENU Button**	Same as the MENU/WIPER button on front panel.
11	**PREV Button**	Same as the PREV/FOCUS- button on front panel.
12	**DIRECTION/ENTER Buttons**	Same as the DIRECTION/ENTER buttons on front panel.
13	**PTZ Button**	Same as the PTZ/IRIS- button on front panel.
14	**ESC Button**	Same as the ESC button on front panel.
15	**RESERVED**	Reserved for future usage.
16	**F1 Button**	Same as the F1/LIGHT button on front panel.
17	**PTZ Control Buttons**	Buttons to adjust the iris, focus and zoom of a PTZ camera.
18	**F2 Button**	Same as the F2/AUX button on front panel.

Troubleshooting Remote Control:

NOTE

Make sure you have install 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 into Menu > Settings > General > More Settings by operating the front control panel or the mouse.
2. Check and remember DVR ID#. The default ID# is 255. This ID# is valid for all IR remote controls.
3. Press the DEV button on the remote control.
4. Enter the DVR 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:

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 cannot function properly, please change the 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 DVR. To use a USB mouse:

Steps:

1. Plug USB mouse into one of the USB interfaces on the front panel of the DVR.
2. The mouse should automatically be detected. If in a rare case that the mouse is not detected, the possible reason may be that the two devices are not compatible, please refer to the recommended the device list from your provider.

The operation of the mouse:

Table 1. 4 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 between single-screen and multi-screen.
	Click and Drag	PTZ control: Wheeling. 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. Menu: Previous item.
	Scrolling down	Live view: Next screen. Menu: Next item.

1.4 Input Method Description

Figure 1. 5 Soft Keyboard

Description of the buttons on the soft keyboard:

Table 1. 5 Description of the Soft Keyboard Icons

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

1.5 Rear Panel

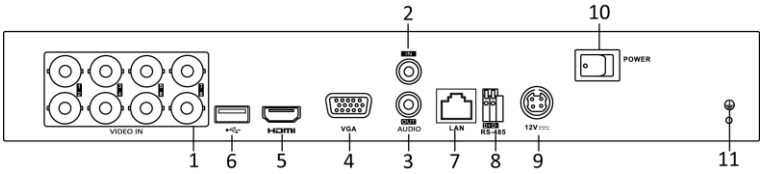


Figure 1. 6 Rear Panel of 720P Series

Table 1. 6 Description of Front Panel

No.	Item	Description
1	**VIDEO IN**	BNC interface for TVI and analog video input.
2	**AUDIO IN**	RCA connector
3	**AUDIO OUT**	RCA connector
4	**VGA**	DB15 connector for VGA output. Display local video output and menu.
5	**HDMI**	HDMI video output connector.
6	**USB Port**	Universal Serial Bus (USB) port for additional devices.
7	**Network Interface**	Connector for network
8	**RS-485 Interface**	Connector for RS-485 devices.
9	**Power Supply**	DC 12V power supply.
10	**Power Switch**	Switch for turning on/off the device.
11	**GND**	Ground

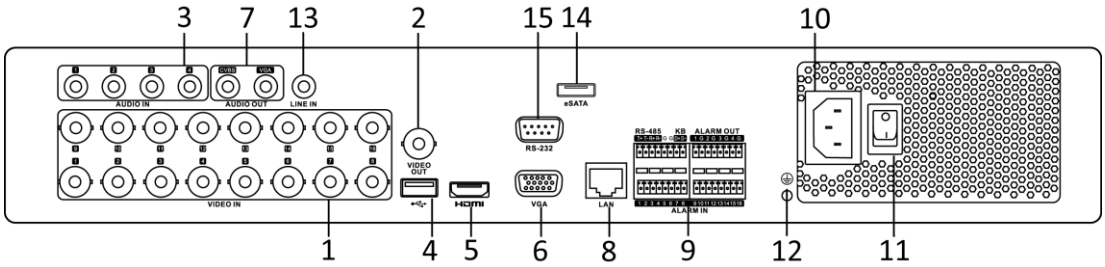


Figure 1. 7 Rear Panel of 1080P 1.5U Chassis Series

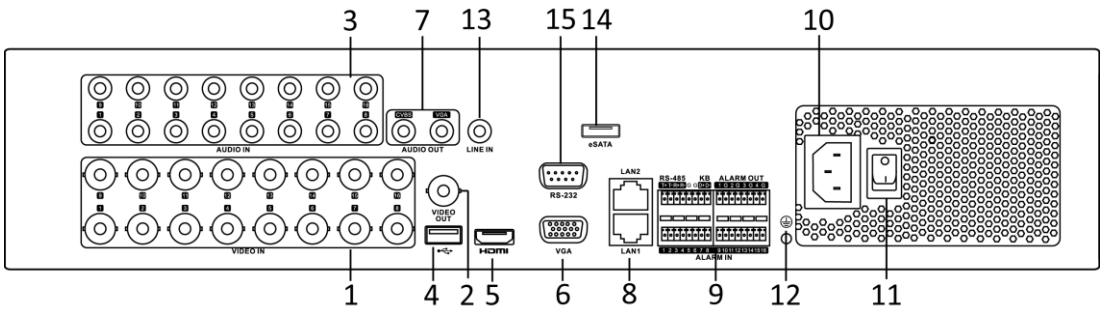


Figure 1. 8 Rear Panel of 1080P 2U Chassis Series

Table 1. 7 Description of Front Panel

No.	Item	Description
1	**VIDEO IN**	BNC interface for TVI and analog video input.
2	**VIDEO OUT**	BNC connector for video output.
3	**AUDIO IN**	RCA connector
4	**USB Port**	Universal Serial Bus (USB) port for additional devices.
5	**HDMI**	HDMI video output connector.
6	**VGA**	DB15 connector for VGA output. Display local video output and menu.
7	**AUDIO OUT**	RCA connector
8	**Network Interface**	Connector for network
9	**RS-485 Interface**	Connector for RS-485 devices. T+ and T- pins connect to R+ and R- pins of PTZ receiver respectively.
		D+, D- pin connects to Ta, Tb pin of controller. For cascading devices, the first DVR's D+, D- pin should be connected with the D+, D- pin of the next DVR.
		Connector for alarm input.
		Connector for alarm output.
10	**Power Supply**	AC 100 ~ 240V power supply.
11	**Power Switch**	Switch for turning on/off the device.
12	**GND**	Ground
13	**LINE IN**	BNC connector for audio input.
14	**eSATA**	Connects external SATA HDD, CD/DVD-RW.
15	**RS-232 Interface**	Connector for RS-232 devices.

Chapter 2 Getting Started

2.1 Starting Up and Shutting Down the DVR

Purpose:

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

Before you start:

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

Starting up the DVR

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. Turn on the power switch on the rear panel, and the Power indicator LED should turn on indicating that the unit begins to start up.
3. After startup, the Power indicator LED remains on.

Shutting down the DVR

Steps:

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

- **OPTION 1: Standard shutdown**
  1. Enter the Shutdown menu.

     Menu > Shutdown

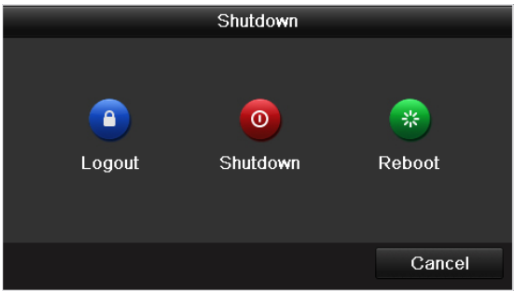


Figure 2. 1 Shutdown Menu

  2. Select the **Shutdown** button.
  3. Click the **Yes** button.
  4. Turn off the power switch on the rear panel when the note appears (for 720P series).

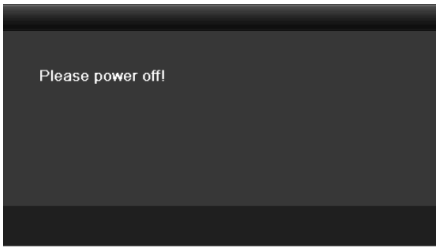


Figure 2. 2 Shutdown Tips

- **OPTION 2: By operating the front panel (for with front panel button series)**
  1. Press and hold the POWER button on the front panel for 3 seconds.
  2. Enter the administrator's username and password in the dialog box for authentication.
  3. Click the **Yes** button.

NOTE

- Do not press the POWER button again when the system is shutting down.
- The device remains standby mode after shutting down, and the POWER indicator turns red; you can turn on the device by pressing the POWER button on the remote control.

Rebooting the DVR

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

Steps:

1. Enter the **Shutdown** menu by clicking Menu > Shutdown.
2. Click the **Logout** button to log out or the **Reboot** button to reboot the DVR.

2.2 Using the Wizard for Basic Configuration

By default, the Setup Wizard will start once the DVR has loaded, as shown in Figure 2. 3.

Steps:

1. Please select the system language in the drop-down list on your demand.

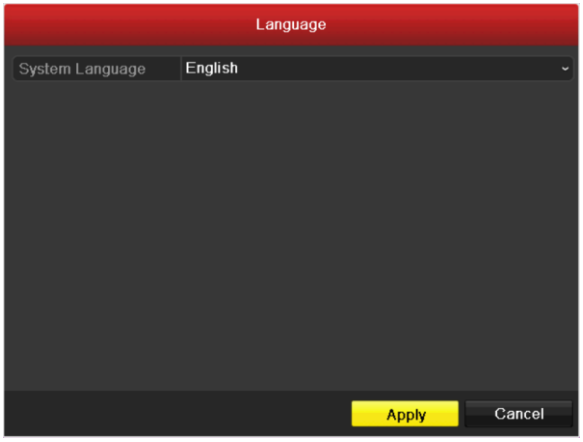


Figure 2. 3 Language Selection

2. The Setup Wizard can walk you through some important settings of the DVR. If you do not want to use the Setup Wizard at this time, click the **Cancel** button. You can also choose to use the Setup Wizard next time by leaving the "Start wizard when device starts?" checkbox in checked status.

Figure 2. 4 Start Wizard Interface

3. Click **Next** button on the Wizard window to enter the **Login** window, as shown in Figure 2. 5.

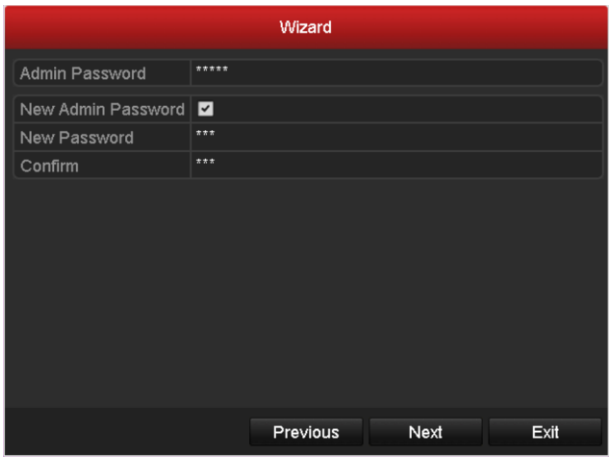


Figure 2. 5 Login Window

4. Enter the admin password. By default, the password is 12345.

NOTE

You are highly recommended to change the default password right after the first login to avoid safety problem.

5. To change the admin password, check the **New Admin Password** checkbox. Enter the new password and confirm the password in the given fields.
6. Click the **Next** button to enter the date and time settings window, as shown in Figure 2. 6.

Figure 2. 6 Date and Time Settings

7. After the time settings, click **Next** button which will take you back to the General Network Setup Wizard window, as shown in Figure 2. 7.

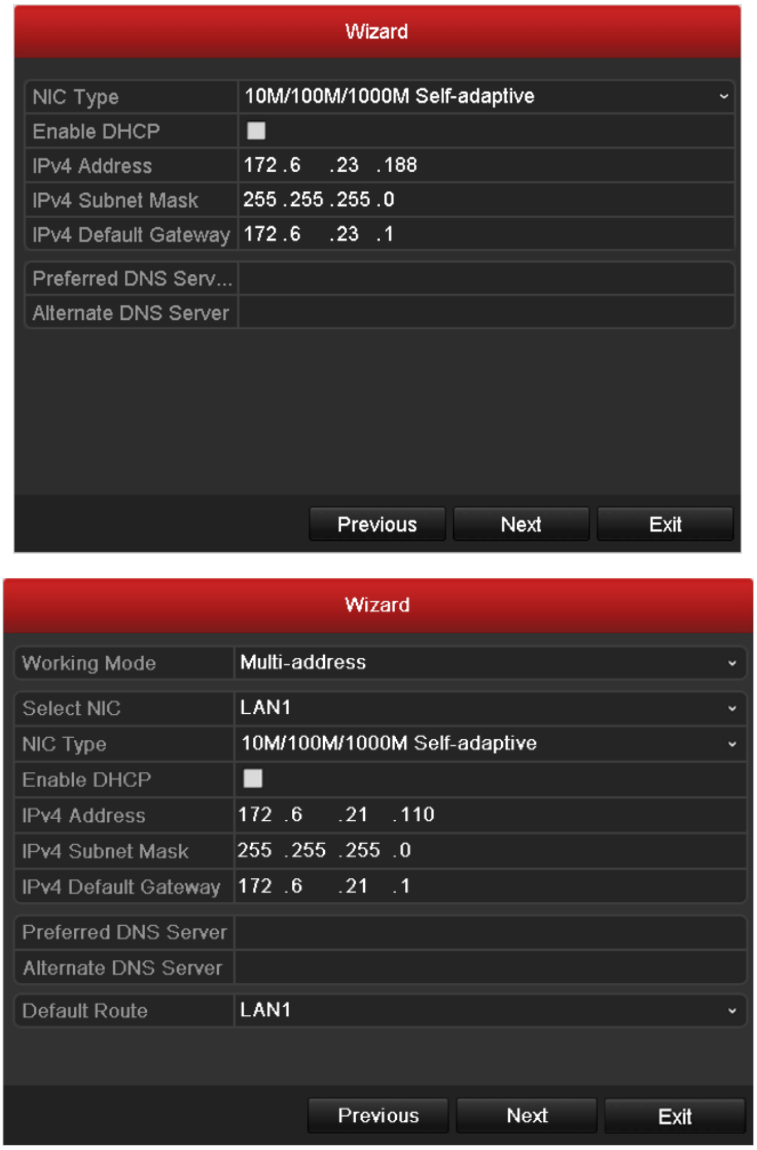


Figure 2. 7 General Network Configuration

NOTE

1 self-adaptive 10M/100M network interface for 4ch 720P 1U chassis models; 2 self-adaptive 10M/100M/1000M network interfaces for 2U chassis models; 1 self-adaptive 10M/100M/1000M network interface for other models.

8. Click **Next** button after you having configured the network parameters, which will take you to the Advanced Network Setup Wizard window, as shown in Figure 2. 8.

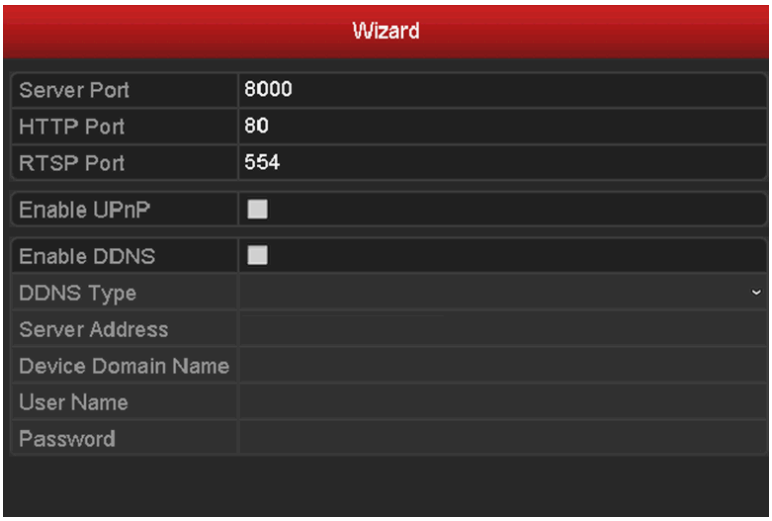


Figure 2. 8 Advanced Network Configuration

9. Set the parameters of port No., Auto UPnP or DDNS if required.
10. Click **Next** button after configuring the advanced network parameters, which will take you to the **HDD Management** window, shown in Figure 2. 9.

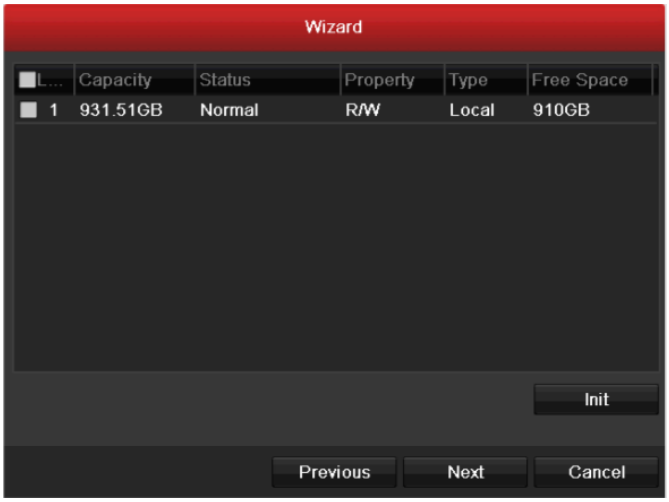


Figure 2. 9 HDD Management

11. To initialize the HDD, click the **Init** button. Initialization will remove all the data saved in the HDD.
12. Click **Next** button to enter the Record Settings window, as shown in Figure 2. 10.

Figure 2. 10 Record Settings

13. Click **Copy** to copy the recording setting to other cameras.

14. Click **OK** to save the settings and exit the wizard.

2.3 Adding and Connecting the IP Cameras

2.3.1 Adding the Online IP Cameras

Purpose:

The main function of the NVR is to connect the network cameras and record the video got from it. 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 checking and configuring of the network, please see *Chapter 9.1, 9.3and 9.4.*

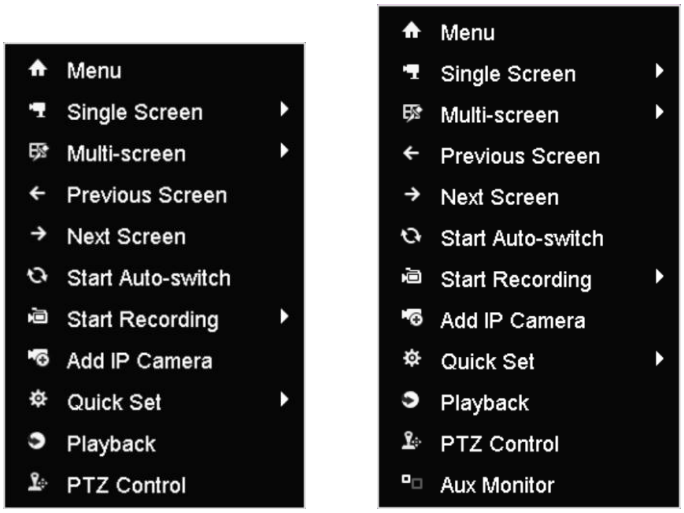
NOTE

For the 4-ch 720P device, 1-ch IP camera can be connected; and for other models, up to 2-ch IP cameras can be connected.

- **OPTION 1:**

Steps:

1. Right-click the mouse when you in the live view mode to show the right-click menu.



720P Series 1080P Series

Figure 2. 11 Right-click Menu

2. Select **Add IP Camera** in the pop-up menu to enter the IP Camera Management interface.

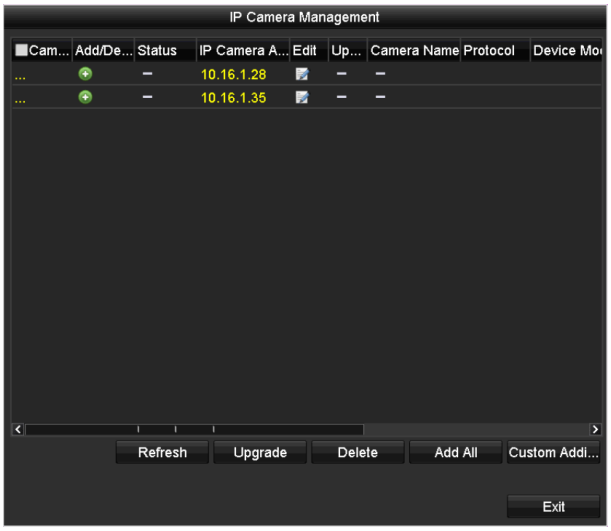


Figure 2. 12 Adding IP Camera Interface

3. The online cameras with same network segment will be displayed in the camera list. Click the button to add the camera.

Or you can click the **Add All** button to add all the detected online IP cameras.

Table 2. 1 Explanation of the icons

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

4. To add other IP cameras:

1) Click the **Custom Adding** button to pop up the Add IP Camera (Custom) interface.

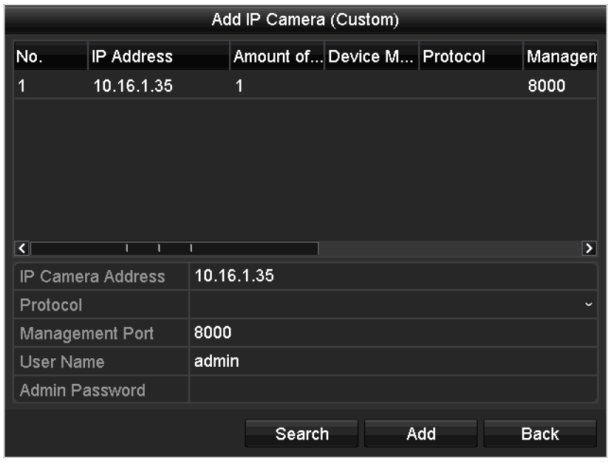


Figure 2. 13 Custom Adding IP Camera Interface

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. 14 Main Menu

2. Repeat the step 3 and 4 of OPTION 1 to add the camera.

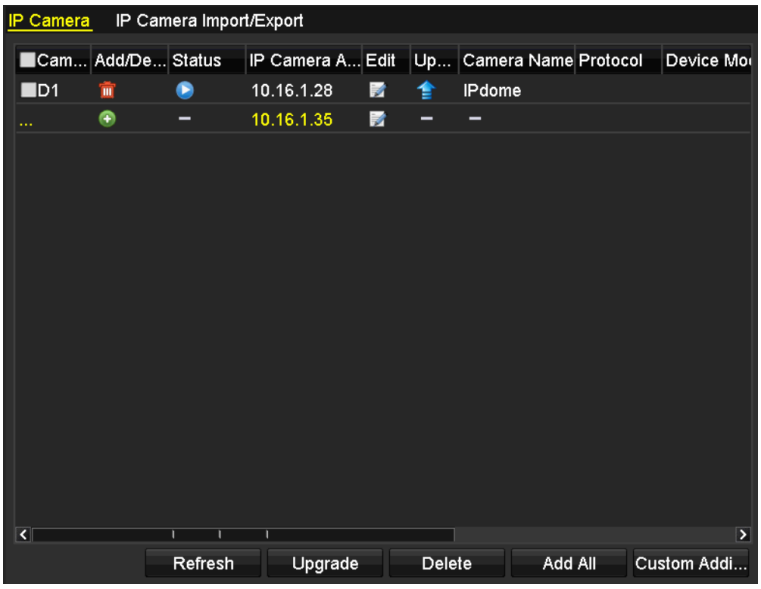


Figure 2. 15 IP Camera Management Interface

Table 2. 2 Explanation of the icons

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

3. (For the encoders with multiple channels only) check the checkbox of Channel No. in the pop-up window, as shown in the following figure, and click **OK** to finish adding.

Figure 2. 16 Selecting Multiple Channels

2.3.2 Editing the Connected IP Cameras and Configuring Customized Protocols

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

Steps:

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

Figure 2. 17 Edit the Parameters

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

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

To edit advanced parameters:

Steps:

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

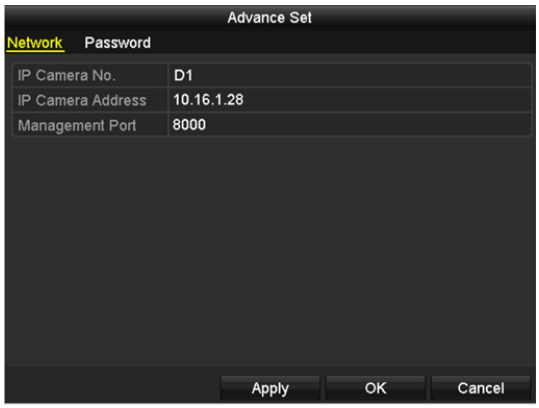


Figure 2. 18 Network Configuration of the Camera

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

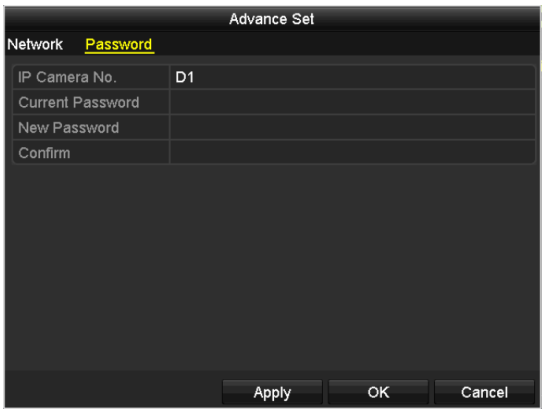


Figure 2. 19 Password Configuration of the Camera

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

Chapter 3 Live View

3.1 Introduction of Live View

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

Live View Icons

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

Table 3. 1 Description of Live View Icons

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

3.2 Operations in Live View Mode

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

- **Single Screen:** show only one screen on the monitor.
- **Multi-screen:** show multiple screens on the monitor simultaneously.
- **Auto-switch:** the screen is auto switched to the next one. And you must set the dwell time for each screen on the configuration menu before enabling the auto-switch. Menu>Configuration>Live View>Dwell Time.
- **Start Recording:** normal record and motion detection record are supported.
- **Quick Set:** select the output mode to Standard, Bright, Gentle or Vivid.
- **Playback:** play back the recorded videos for current day.
- **Aux/Main output switch:** the DVR checks the connection of the output interfaces to define the main and auxiliary output interfaces. The priority level for the main and aux output is HDMI>VGA>CVBS. This means if the HDMI is used, it will be the main output. If the HDMI is not used, the VGA output will be the main output. See the table below.

Table 3. 2 Priorities of Interfaces

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

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

When the aux output is enabled, the main output cannot do any operation, and you can do some basic operation on the live view mode for the Aux output.

3.2.1 Front Panel Operation

NOTE

This function is supported by the models with front panel buttons.

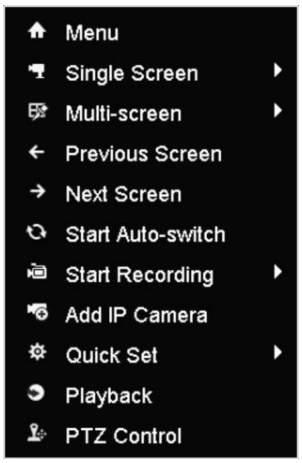
Table 3. 3 Front Panel Operation in Live View

Functions	Front Panel Operation
Show single screen	Press the corresponding Alphanumeric button. E.g. Press 2 to display only the screen for channel 2.
Show multi-screen	Press the **PREV** button.
Manually switch screens	Next screen: right direction button. Previous screen: left direction button.
Auto-switch	Press **Enter** button.
Playback	Press **Pla**y button.

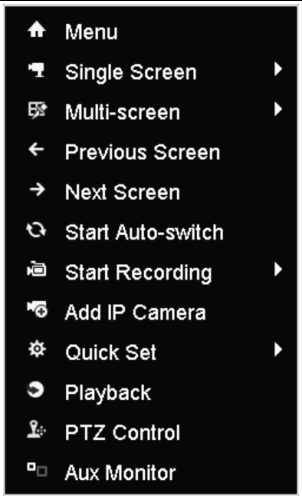
3.2.2 Using the Mouse in Live View

Table 3. 4 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. NOTE The *dwell time* of the live view configuration must be set before using **Start Auto-switch**.
Start Recording	Start recording of all channels, Normal Record and Motion Detection Recording are selectable from the dropdown list.
Add IP Camera	A shortcut to enter the IP camera management interface.(For HDVR series only)
Quick Set	Output Mode is configurable with Standard, Bright, Gentle and Vivid options.
Playback	Enter the playback interface and start playing back the video of the selected channel immediately.
PTZ Control	A shortcut to enter the PTZ control interface of the selected camera.
Aux Monitor	Switch to the auxiliary output mode and the operation for the main output is disabled. NOTE If you enter Aux monitor mode and the Aux monitor is not connected, the mouse operation is disabled; you need to switch back to the Main output with the F1 button on front panel or **VOIP/MON** button on IR remote control and then press the Enter button.



720P Series



1080P Series

Figure 3. 1 Right-click Menu

3.2.3 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 between different display layout options. Layout options can be selected from a dropdown list.
- **Previous Screen:** When displaying less than the maximum number of cameras in Live View, clicking this feature will switch to the previous set of displays.
- **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.
- **Quick Set:** Set the video output mode to Standard, Bright, Gentle or Vivid.
- **Menu Output Mode**: Select the menu output mode to HDMI/VGA, Main CVBS or Auto.
- **PTZ Control**: The shortcut to enter the PTZ control interface.
- **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.

3.2.4 Main/Aux Output Switching

When the HDMI/VGA output is configured as the main output, you can perform the following operation to switch to CVBS output as the main output.

Steps:

1. Use the mouse wheel to double-click on the HDMI/VGA output screen, and the following message box pops up:

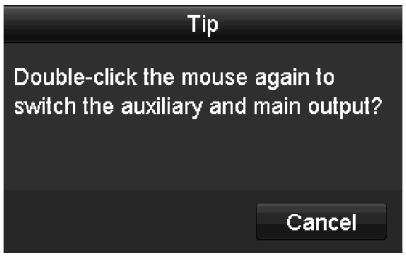


Figure 3. 2 Switch Main and Aux Output

2. Use the mouse wheel to double-click on the screen again to switch to the Aux output, or click **Cancel** to cancel the operation.
3. Select the **Menu Output Mode** to **Main CVBS** from the right-click menu on the CVBS output monitor.
4. On the pop-up message box, click **Yes** to restart the device to enable the CVBS output as the main output.

NOTE

You can select the Menu Output Mode under Menu>Configuration>More Settings to Auto or HDMI/VGA and then restart the device to switch the main output back to HDMI/VGA output.

3.2.5 Quick Setting Toolbar in Live View Mode

On the screen of each channel, there is a quick setting toolbar which shows when you point the mouse to the bottom of the screen.

Figure 3. 3 Quick Setting Toolbar

Table 3. 5 Description of Quick Setting Toolbar Icons

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

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

Digital Zoom can zoom in the selected area to the full screen. Click and draw to select the area to zoom in, as shown in Figure 3. 4.

Figure 3. 4 Digital Zoom

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

Four modes are selectable according to the real situation:

- **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.

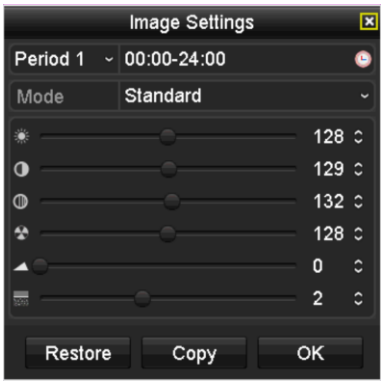


Figure 3. 5 Image Settings

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 cameras.

Refer to the *Chapter 11.3 Configuring Video Parameters* for details.

3.3 Channel-zero Encoding

This chapter is applicable to 1080P series.

Purpose:

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

Steps:

1. Enter the **Live View** Settings interface.
   Menu> Configuration> Live View
2. Select the **Channel-Zero Encoding** tab.

Figure 3. 6 Live View- Channel-Zero Encoding

3. Check the checkbox after **Enable Channel-Zero Encoding.**
4. Configure the Frame Rate, Max. Bitrate Mode and Max. Bitrate.
5. Click the **Apply** button to activate the settings.

After you set the Channel-Zero encoding, you can get a view in the remote client or web browser of 16 channels in one screen.

3.4 Adjusting Live View Settings

Purpose:

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

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 CVBS (depends on the model).
- **Live View Mode:** Designates the display mode to be used for Live View.
- **Dwell Time:** The time in seconds to *dwell* between switching of channels when enabling auto-switch in Live View.
- **Enable Audio Output:** Enables/disables audio output for the selected camera in the live view mode.
- **Event Output:** Designates the output to show event video; if available, you can select a different video output interface from the Video Output Interface when an event occurs.
- **Full Screen Monitoring Dwell Time:** The time in seconds to show alarm event screen.

2. Set the camera order.

   1) Select **View** tab.

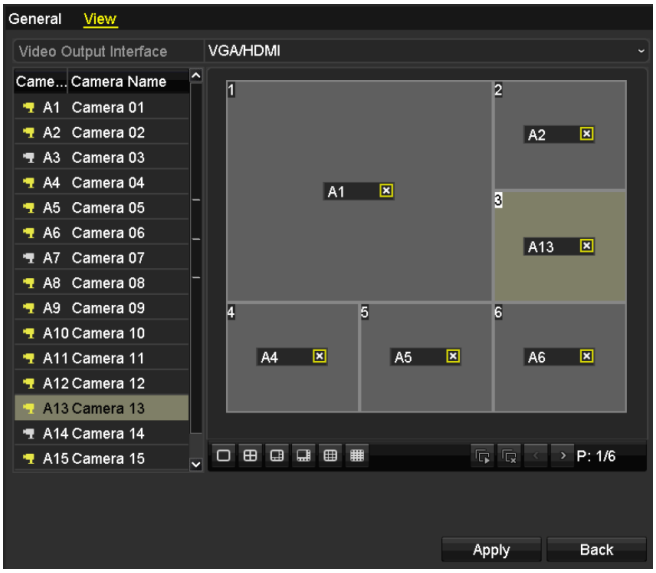


Figure 3. 8 Live View- Camera Order

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

3.5 Manual Video Quality Diagnostics

Purpose:

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

Steps:

1. Enter the Manual Video Quality Diagnostics interface.

   Menu> Manual >Manual Video Quality Diagnostics

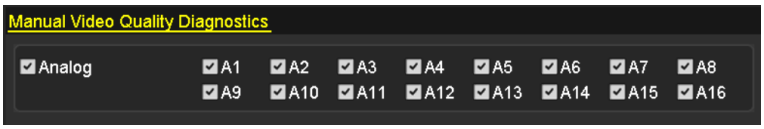


Figure 3. 9 Video Quality Diagnostics

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

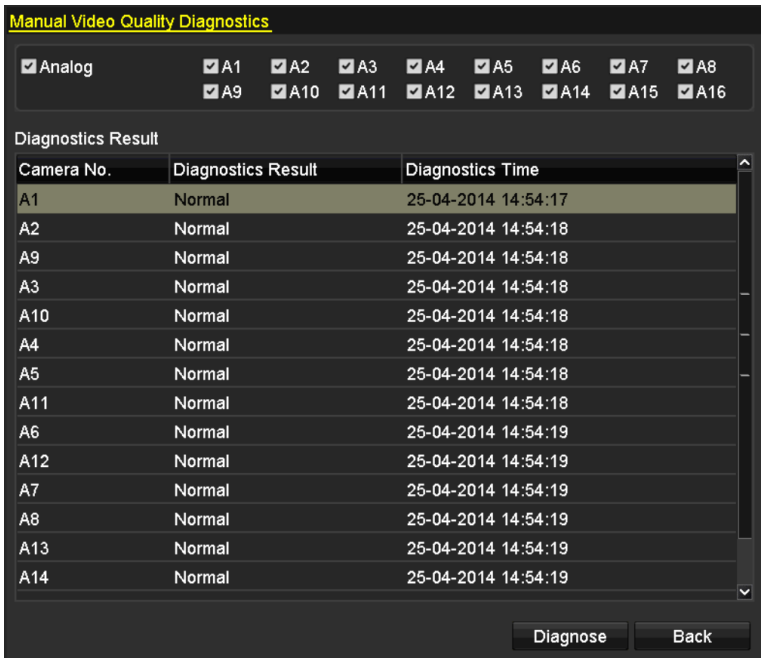


Figure 3. 10 Diagnostics Result

NOTE

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

3.6 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

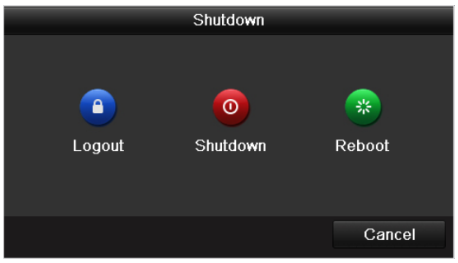


Figure 3. 11 Shutdown

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 login 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.

Steps:

1. Enter the PTZ Settings interface.

   Menu >Camera> PTZ

Figure 4. 1 PTZ Settings

2. Choose the camera for PTZ setting in the **Camera** dropdown list.
3. Click the **RS-485 Settings** button to set the RS-485 parameters.

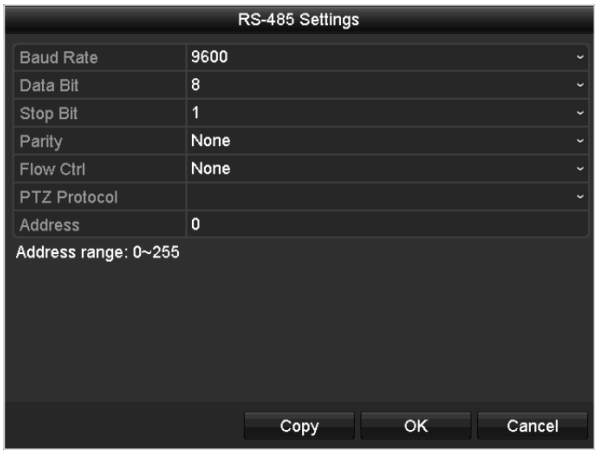


Figure 4. 2 PTZ- General

4. Enter the parameters of the PTZ camera.

NOTE

All the parameters should be exactly the same as the PTZ camera parameters.

NOTE

For the Coaxitron camera/dome connected, you can select the PTZ protocol to HDCAM-C (Coaxitron) or PELCO-C (Coaxitron). Make sure the protocol selected here is supported by the connected camera/dome. When the Coaxitron protocol is selected, all the other parameters like the baud rate, data bit, stop bit, parity and flow control are not configurable.

5. Click **Apply** button 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

Figure 4. 3 PTZ Settings

2. Use the directional button to wheel the camera to the location where you want to set preset; and the zoom and focus operations can be recorded in the preset as well.
3. Enter the preset No. (1~255) in the preset text field, and click the **Set** button to link the location to the preset.

   Repeat the steps2-3 to save more presets.

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

4.2.2 Calling Presets

Purpose:

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

Steps:

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

   Or press the PTZ button on the front panel or click the PTZ Control icon in the quick setting bar, or select the PTZ option in the right-click menu to show the PTZ control panel.
2. Choose C**amera** in the dropdown list.
3. Click the button to show the general settings of the PTZ control.

Figure 4. 4 PTZ Panel - General

4. Click to enter the preset No. in the corresponding text field.
5. Click the **Call Preset** button to call it.

NOTE

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

4.2.3 Customizing Patrols

Purpose:

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

Steps:

1. Enter the PTZ Control interface.

   Menu>Camera>PTZ

Figure 4. 5 PTZ Settings

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

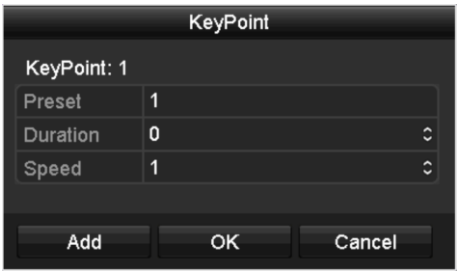


Figure 4. 6 Key point Configuration

4. Configure key point parameters, such as the key point No., duration of staying for one key point and speed of patrol. The key point is corresponding to the preset. The **Key Point No.** determines the order at which the PTZ will follow while cycling through the patrol. The **Duration** refers to the time span to stay at the corresponding key point. The **Speed** defines the speed at which the PTZ will move from one key point to the next.
5. Click the **Add** button to add the next key point to the patrol, or you can click the **OK** button to save the key point to the patrol.
   You can delete all the key points by clicking the **Clear** button for the selected patrol, or click the **Clear All** button to delete all the key pints for all patrols.

4.2.4 Calling Patrols

Purpose:

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

Steps:

1. Click the button **PTZ** in the lower-right corner of the PTZ setting interface;
   Or press the PTZ button on the front panel or click the PTZ Control icon in the quick setting bar, or select the PTZ option in the right-click menu to show the PTZ control panel.

2. Click the button to show the general settings of the PTZ control.

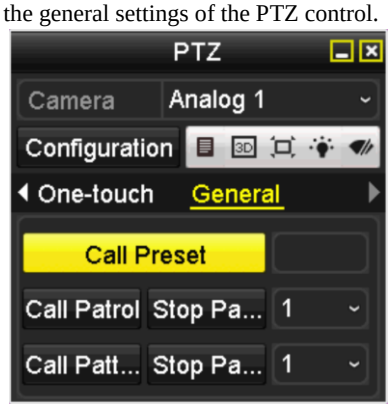


Figure 4. 7 PTZ Panel - General

3. Select a patrol in the dropdown list and click the **Call Patrol** button to call it.
4. You can click the **Stop Patrol** button to stop calling it.

4.2.5 Customizing Patterns

Purpose:

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

Steps:

1. Enter the PTZ Control interface.

   Menu > Camera > PTZ

Figure 4. 8 PTZ Settings

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

   The movement of the PTZ is recorded as the pattern.

4.2.6 Calling Patterns

Purpose:

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

Steps:

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

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

2. Click the button to show the general settings of the PTZ control.

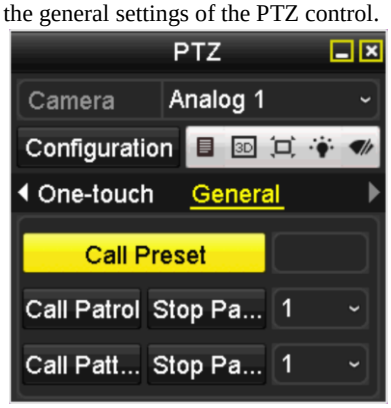


Figure 4. 9 PTZ Panel - General

3. Click the **Call Pattern** button to call it.
4. Click the **Stop Pattern** button to stop calling it.

4.2.7 Customizing Linear Scan Limit

Purpose:

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

NOTE

This function is supported by some certain models.

Steps:

1. Enter the PTZ Control interface.

   Menu > Camera > PTZ

Figure 4. 10 PTZ Settings

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

NOTE

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

4.2.8 Calling Linear Scan

Purpose:

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

Steps:

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

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

2. Click the button to show the one-touch function of the PTZ control.

Figure 4. 11 PTZ Panel - One-touch

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

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

4.2.9 One-touch Park

Purpose:

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

Steps:

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

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

2. Click the button to show the one-touch function of the PTZ control.

Figure 4. 12 PTZ Panel - One-touch

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

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

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

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

   NOTE

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

4. Click the button again to inactivate it.

4.3 PTZ Control Panel

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

OPTION 1:

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

OPTION 2:

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

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

NOTE

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

Figure 4. 13 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	3D-Zoom		Image Centralization		Menu
PTZ Control	Switch to the PTZ control interface	One-touch	Switch to the one-touch control interface	General	Switch to the general settings interface
	Previous item		Next item		Start pattern / patrol
	Stop the patrol / pattern movement		Exit		Minimize windows

Chapter 5 Recording Settings

5.1 Configuring Encoding Parameters

Before you start:

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

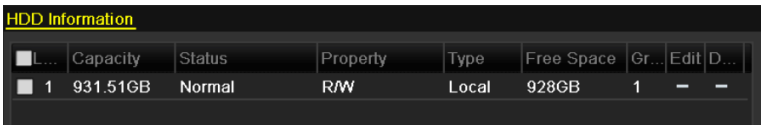


Figure 5. 1 HDD- General

2. Click **Advance** to check the storage mode of the HDD.
   1) Whether the HDD mode is *Quota*, please set the maximum record capacity. For detailed information, see *Chapter 10.5 Configuring Quota Mode*.
   2) If the HDD mode is *Group*, you should set the HDD group. For detailed information, see *Chapter 5.8 Configuring HDD Group for Recording*.

Figure 5. 2 HDD- Advanced

Steps:

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

   Menu>Record>Encoding

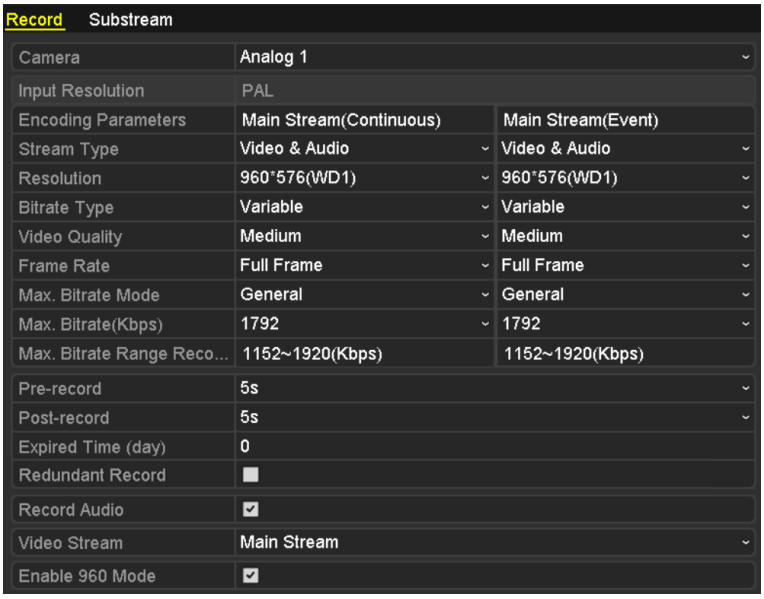


Figure 5. 3 Record Encoding

2. Set the encoding parameters for recording.

1) Select the **Record** tab to configure.
2) Select a camera number in the camera dropdown list.

   You can configure the stream type, the resolution, the video quality and other parameters on demand for Main Stream (Continuous) and Main Stream (Event) respectively.

   The **Input Resolution** of camera connected will be displayed in the live view for 5 seconds when the camera is connected, or the DVR is powered on. The input resolution includes the resolution and frame rate of the camera, e.g. 1080P25.
3) You can configure the advantage parameters, including pre-record, post-record time, expired time, redundant record (this option is only available when the HDD mode is *Group*) and whether you want to record audio.
   - **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:** 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 5.7 Configuring Redundant Recording*.
   - **Record Audio:** Check the checkbox of Record Audio to record the sound, otherwise record the image without sound.
   - **Video Stream:** Main stream and sub-stream are selectable for recording. When you select sub-stream, you can record for a longer time with the same storage space.
   - **Enable 960 Mode:** The option is supported by analog cameras. Enabling the 960 mode to enable the WD1 resolution for the main stream, otherwise, the resolution supports up to 4CIF. And the option does not supported by TVI cameras, while the WD1 resolution is available all the time.
4) Click **Apply** to save the settings.
5) You can copy the settings to other channels by clicking **Copy**, if the setting can also be used for other cameras.

NOTE

You can copy the same settings to the cameras with same signal, e.g., the channel No. 1-3 connect to the TVI cameras, and the channel No.4 connects to an analog camera, and then the settings of channel No. 1 can be only copied to channel 2 and 3.

Figure 5. 4 Copy Camera Settings

3. Set encoding parameters for sub-stream.

1) Select the **Substream** tab.

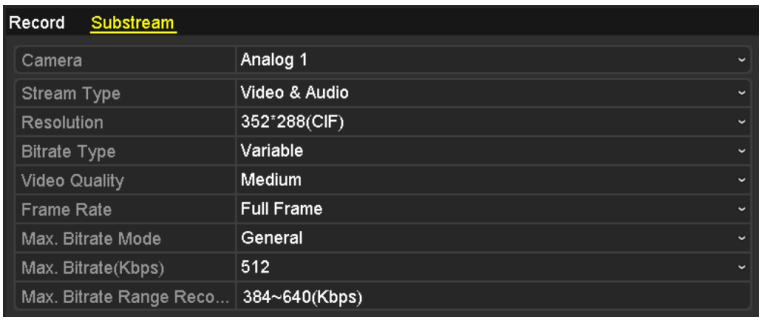


Figure 5. 5 Sub-stream Encoding

2) Select a camera in the camera dropdown list.
3) Configure the parameters.
4) Click **Apply** to save the settings.
5) (Optional) If the parameters can also be used to other cameras, click **Copy** to copy the settings to other channels.

5.2 Configuring Record Schedule

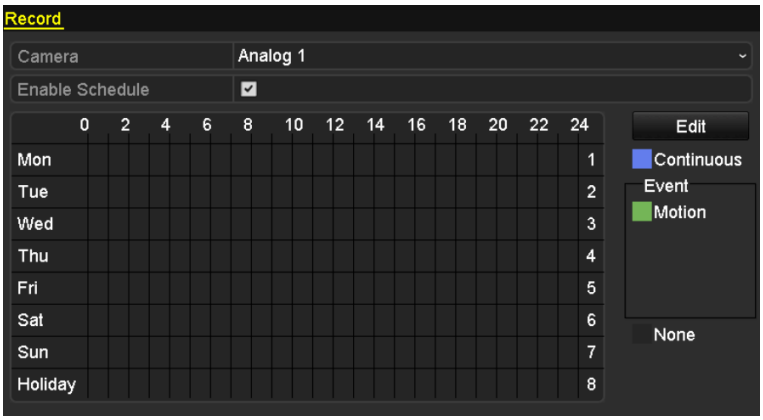
Purpose:

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

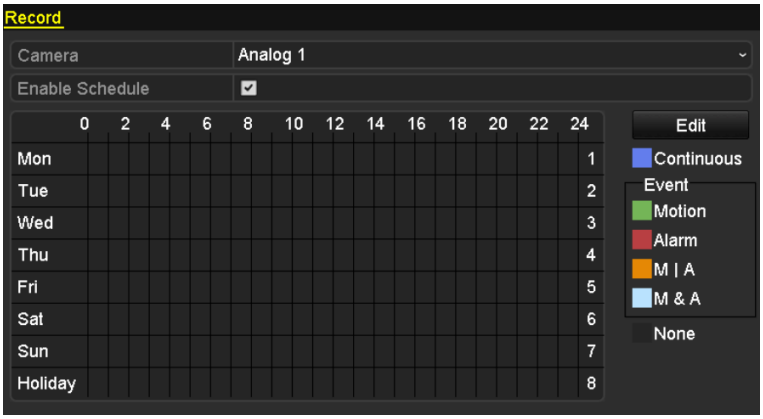
Steps:

1. Enter the Record Schedule interface.

   Menu> Record> Schedule



4/8/16ch 720P Series



Other Models

Figure 5. 6 Record Schedule

2. Choose the camera you want to configure in the Camera dropdown list.
3. Check the checkbox of Enable Schedule.
4. Configure the record schedule.

   Edit the schedule

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

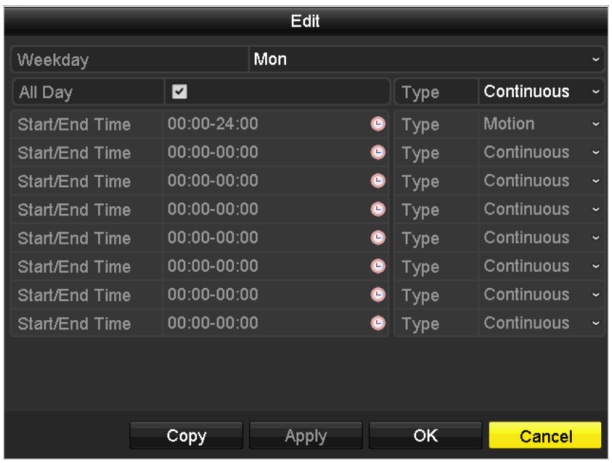


Figure 5. 7 Edit Schedule- All Day

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

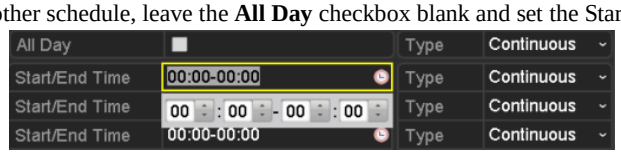


Figure 5. 8 Edit Schedule- Set Time Period

NOTE

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

Repeat the above steps 1)-4) to schedule recording for other days in the week. If the schedule can also be set to other days, click **Copy**.

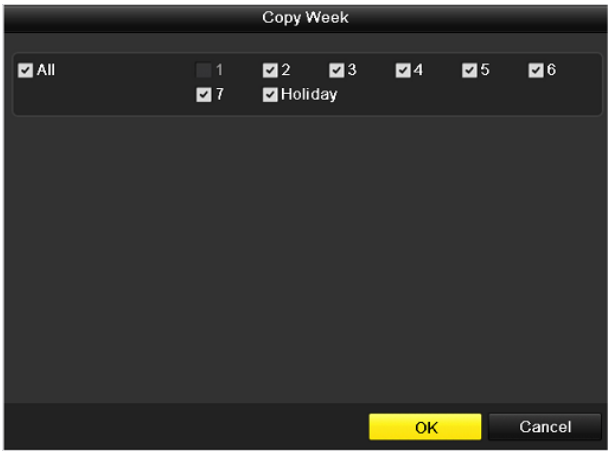


Figure 5. 9 Copy Schedule to Other Days

NOTE

The **Holiday** option is available when you enable holiday schedule in **Holiday settings**. See C*hapter 5.6 Configuring Holiday Record.*

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

Draw the schedule

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

Figure 5. 10 Draw the Schedule

Descriptions of the color icons are shown in the figure below.

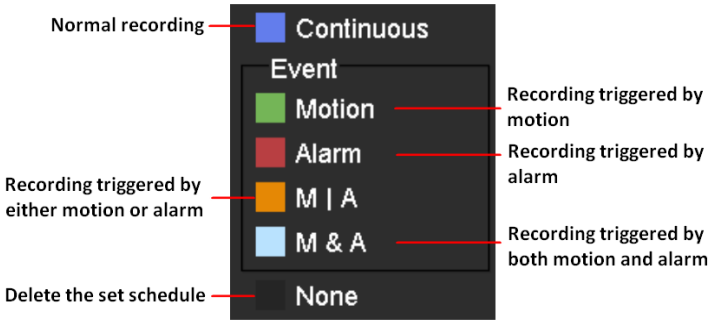


Figure 5. 11 Descriptions of the Color Icons

2) Click and drag the mouse on the schedule.

3) Click on the other area except for the schedule table to finish and exit the drawing.

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

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

5.3 Configuring Motion Detection Record

Purpose:

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

Steps:

1. Enter the Motion Detection interface.

   Menu>Camera>Motion

Figure 5. 12 Motion Detection

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

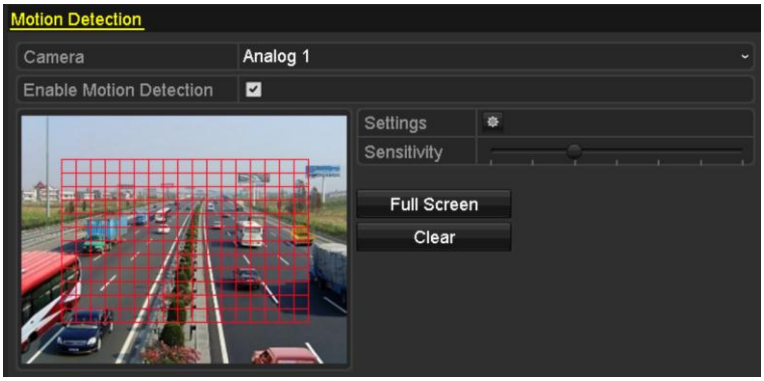


Figure 5. 13 Motion Detection- Mask

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

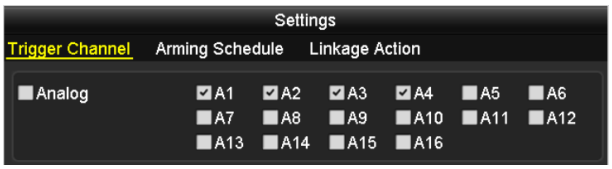


Figure 5. 14 Motion Detection Settings

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

3. Configure the schedule.

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

5.4 Configuring Alarm Triggered Record

NOTE

The 4ch/8ch/16ch 720P series do not support the alarm input by default.

Purpose:

Follow the procedure to configure alarm triggered recording.

Steps:

1. Enter the Alarm setting interface.

   Menu> Configuration> Alarm

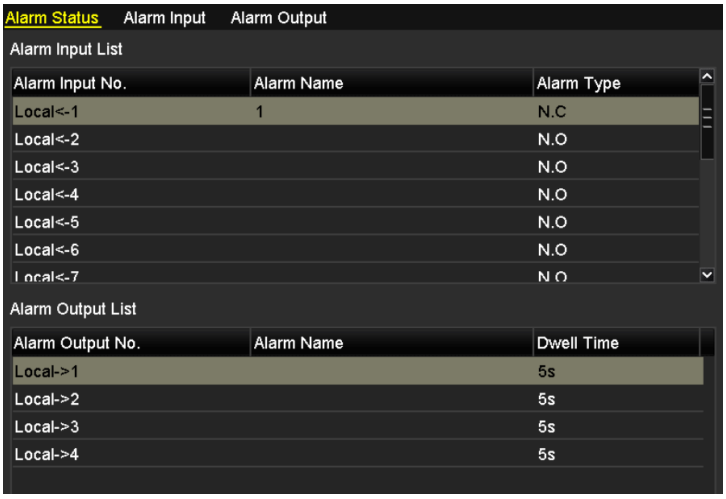


Figure 5. 15 Alarm Settings

2. Click the **Alarm Input** tab.

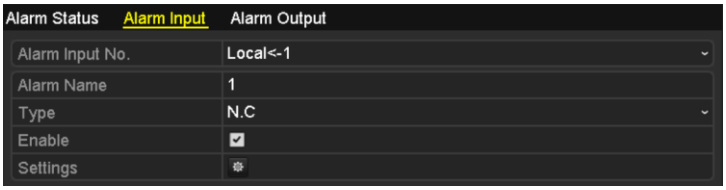


Figure 5. 16 Alarm Settings- Alarm Input

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

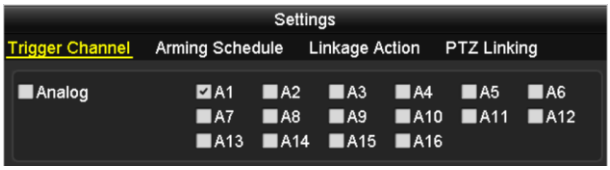


Figure 5. 17 Alarm Handling

5) Choose the alarm triggered recording channel.

6) Check the checkbox ☑ to select channel.

7) Click **Apply** to save settings.

8) Click **OK** to back to the upper level menu.

Repeat the 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.

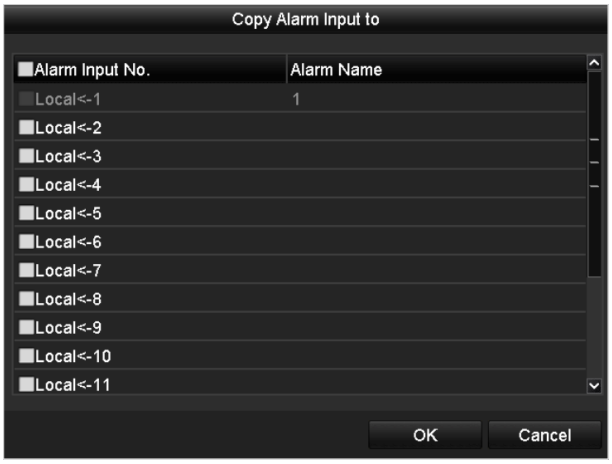


Figure 5. 18 Copy Alarm Input

3. Configure the schedule.

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

5.5 Manual Record

Purpose:

Follow the steps to set parameters for the manual record. Using manual record, you don't need to set a schedule for recording.

Steps:

1. Enter the Manual settings interface.

   Menu> Manual

Figure 5. 19 Manual Record

2. Enable manual record.

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

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

3. Disable manual record.

   Click the status icon ON to change it to OFF.

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

NOTE

After rebooting all the manual records enabled are canceled.

5.6 Configuring Holiday Record

Purpose:

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

Steps:

1. Enter the Record setting interface.

   Menu>Record

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

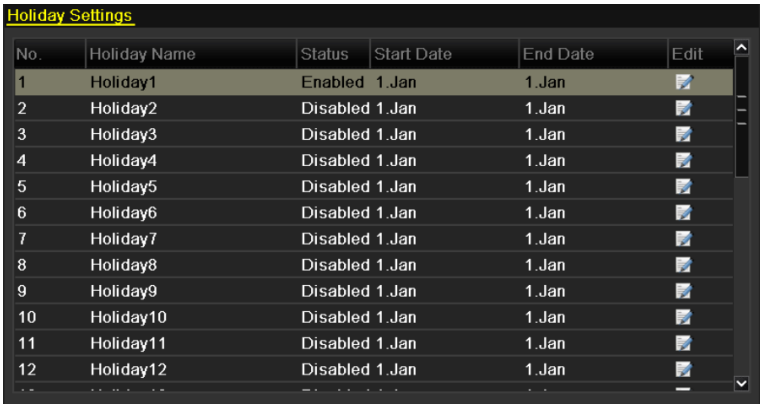


Figure 5. 20 Holiday Settings

3. Enable Edit Holiday schedule.

   1) Click to enter the Edit interface.

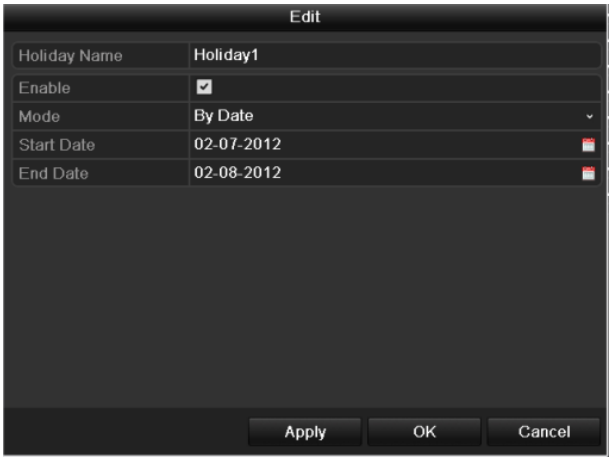


Figure 5. 21 Edit Holiday Settings

   2) Check the checkbox of **Enable**.
   3) Select Mode from the dropdown list.

      There are three different modes for the date format to configure holiday schedule. By Month, By Week, and By Month are selectable.
   4) Set the start and end date.
   5) Click **Apply** to save settings.
   6) Click **OK** to exit the Edit interface.

4. Configure the record schedule.

Please refer to the *Chapter 5.2 Configuring Record Schedule*, while you may choose Holiday in the Schedule dropdown list, or you can draw the schedule on the timeline of Holiday. See the two figures below.

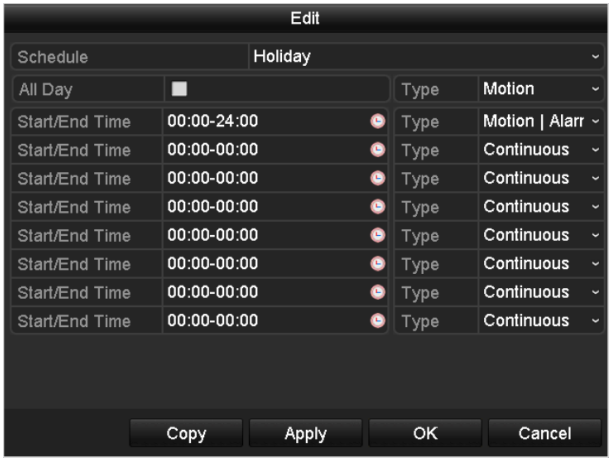


Figure 5. 22 Edit Schedule- Holiday

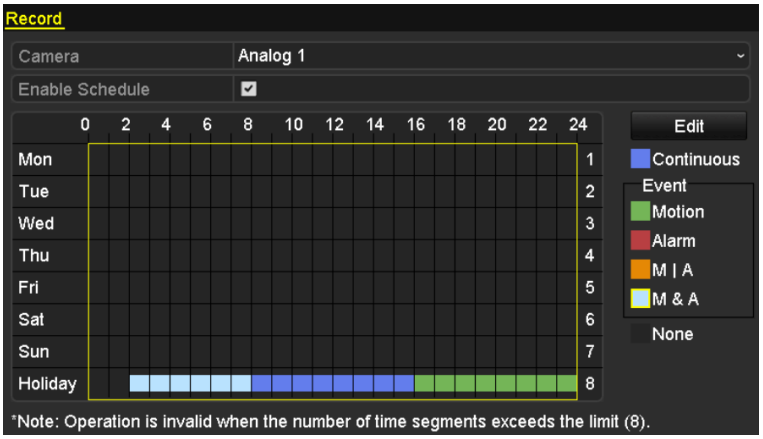


Figure 5. 23 Draw Schedule- Holiday

NOTE

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

In the time table of the channel, both holiday schedule and normal day schedule are displayed.

Repeat the above step 4 to set Holiday schedule for other channel. If the holiday schedule can also be used to other channels, click **Copy** and choose the channel you want to apply the settings.

5.7 Configuring Redundant Recording

Purpose:

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

Before you start:

You must set the Storage mode in the HDD advanced settings to Group before you set the HDD property to Redundant. For detailed information, please refer to *Chapter 10.4 Managing HDD Group*. There should be at least another HDD which is in Read/Write status.

Steps:

1. Enter HDD Information interface.

Menu> HDD

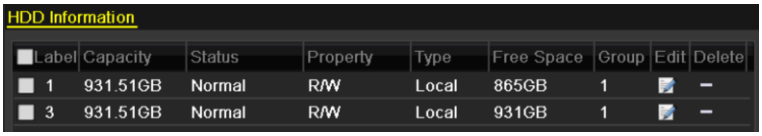


Figure 5. 24 HDD General

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

1) Set the HDD property to Redundant.

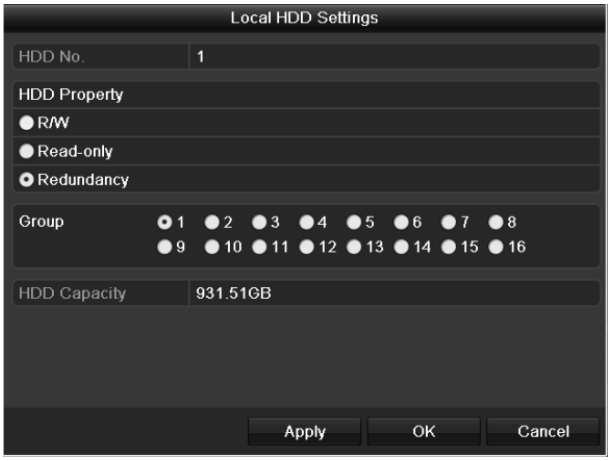


Figure 5. 25 HDD General-Editing

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

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

3. Enter the Record setting interface.

Menu> Record> Encoding

1) Select the **Record** tab.

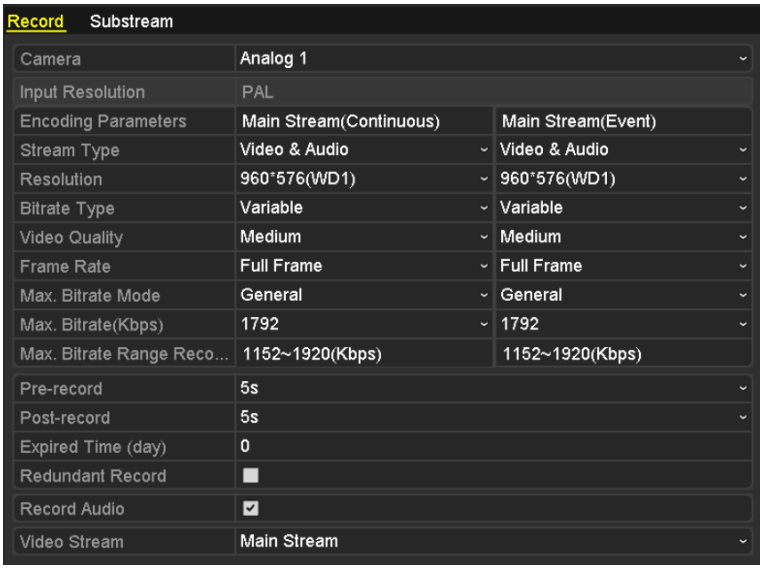


Figure 5. 26 Encoding Parameters

2) Select Camera you want to configure.
3) Check the checkbox of **Redundant Record**.
4) Click **Apply** to save settings.

If the encoding parameters can also be used to other channels, click **Copy** and choose the channel you want to apply the settings.

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>Advanced

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 10.4 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** to save your settings.

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

   Repeat the above steps 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.

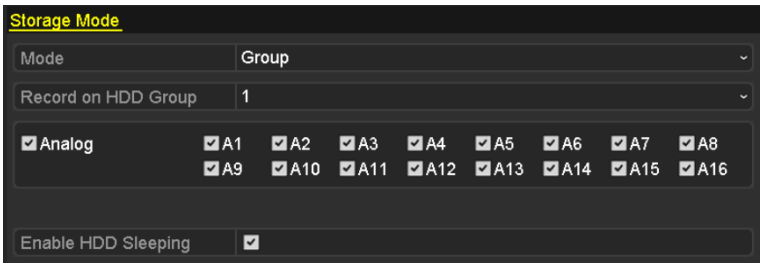


Figure 5. 27 HDD Advanced

   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 you have 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.

Protect file by locking the record files

Steps:

1. Enter Playback setting interface.

   Menu> Export

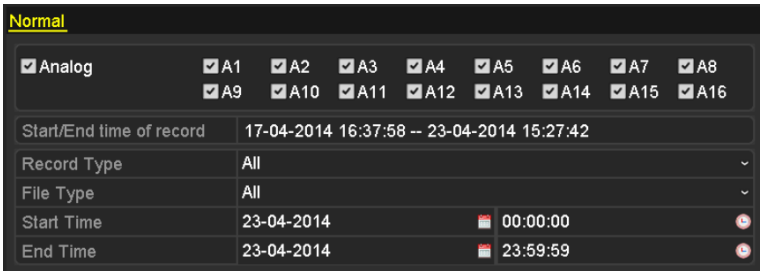


Figure 5. 28 Export

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

Figure 5. 29 Export- Search Result

5. Protect the record files.

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

NOTE

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

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

Protect file by setting HDD property to Read-only

Before you start:

To edit HDD property, you need to set the storage mode of the HDD to Group. See *Chapter 10.4 Managing HDD Group*.

Steps:

1. Enter HDD setting interface.

   Menu> HDD

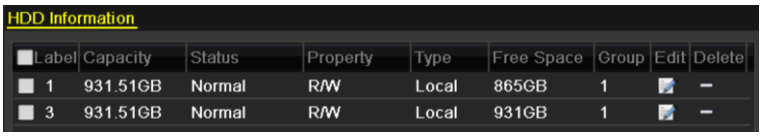


Figure 5. 30 HDD General

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

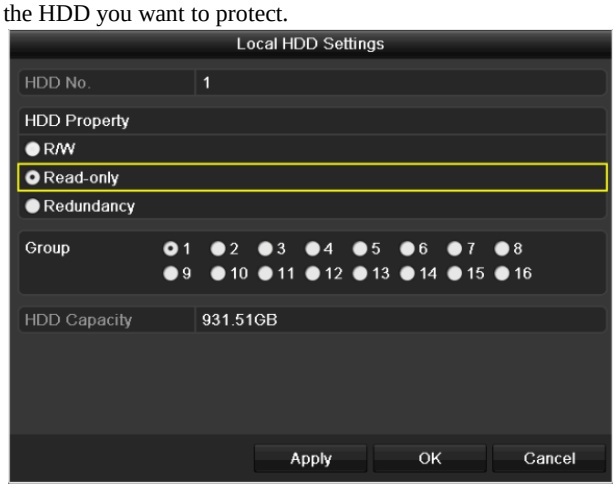


Figure 5. 31 HDD General- Editing

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

NOTE

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

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.

- **OPTION 1**

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.

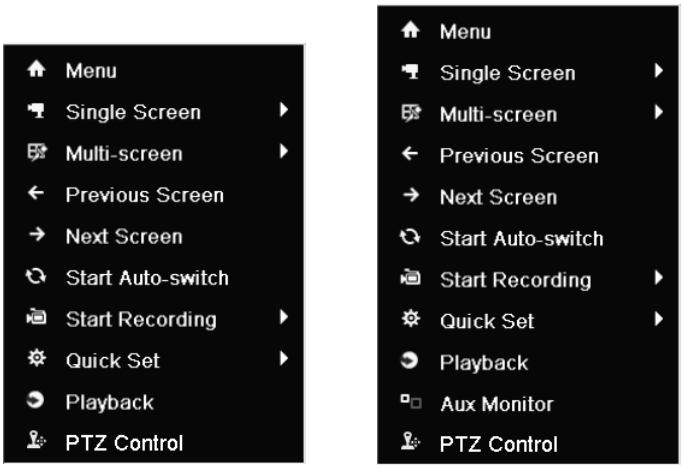
Figure 6. 1 Instant Playback Interface

- **OPTION 2**

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.



4ch/8ch/16ch 720P 1080P

Figure 6. 2 Right-click Menu under Live View

Front Panel: press **PLAY** button to play back recording files of the channel under single-screen live view mode.

Under multi-screen live view mode, the recorded files of the top-left channel will be played back.

NOTE

For the models with front panel, pressing numerical buttons will switch playback to the corresponding camera during playback process.

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 switch playback to another channel or execute simultaneous playback of multiple channels.

Figure 6. 4 Toolbar of Playback

Table 6. 1 Detailed Explanation of Playback Toolbar

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

NOTE

- The 21-04-2014 16:35:31 -- 23-04-2014 15:47:42 indicates the start time and end time of the record files.
- represents normal recording (manual or schedule); represents event recording (motion, alarm, motion | alarm, motion & alarm).
- Playback progress bar: use the mouse to click any point of the progress bar to locate special frames.

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

Figure 6. 5 Playback Calendar

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

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

Table 6. 2 Detailed Explanation of Playback Toolbar

Button	Operation	Button	Operation	Button	Operation
	Audio on/ Mute		Start/Stop clipping		Save clip(s)
	Add default tag		Add customized tag		Tag management
	Digital Zoom		Smart Search		Pause / Reverse play/ Single-frame reverse play

	Stop		Pause play/ Play/ Single-frame play		30s reverse
	30s forward		Speed down		Speed up
	Previous day		Next day		Scaling up/down the time line
	Full Screen		Exit	Normal	Video type
	Process bar		Video type bar		

NOTE

- The 21-04-2014 16:35:31 -- 23-04-2014 15:47:42 indicates the start time and end time of the record files.
- represents normal recording (manual or schedule); represents event recording (motion, alarm, motion | alarm, motion & alarm).
- Playback progress bar: use the mouse to click any point of the progress bar to locate special frames.

6.1.3 Playing Back by Event Search

Purpose:

Play back recording 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. Select the **Event** in the drop-down list on the top-left side.
3. Select **Alarm Input** or **Motion** as the event type, edit the Start time and End time.

   NOTE

   Here we take the playback by motion as the example.

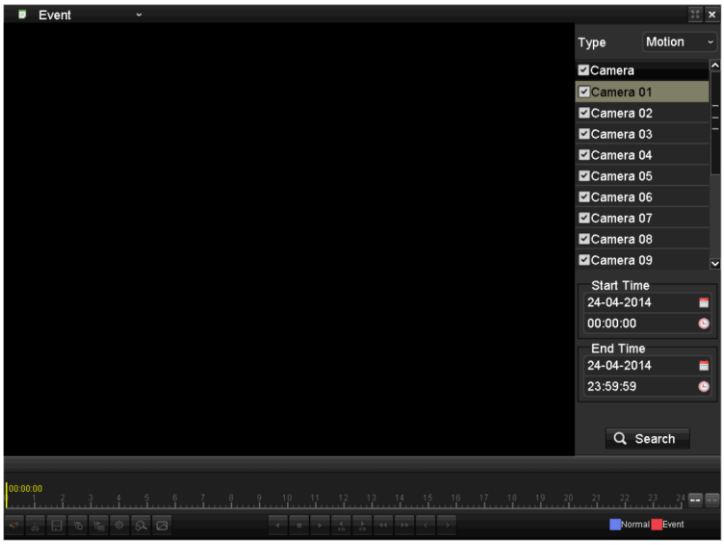


Figure 6. 8 Motion Search Interface

4. Click **Search** button to get the search result information. You may refer to the right-side bar for the result.

Figure 6. 9 Search Result Bar

5. Click button to play back the file.

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

   NOTE

   Pre-play and post-play can be configured.

6. (Optional) If multiple channels are triggered recording by the alarm input, clicking the button will pop up a synchoronouse playback channel selection window. Select channel(s) you want to play and click the **OK** button.

7. Playback management.

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

Figure 6. 10 Interface of Playback by Event

Figure 6. 11 Toolbar of Playback by Event

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

Button	Operation	Button	Operation	Button	Operation
	Audio on/ Mute		Start/Stop clipping		Save clip(s)
	Add default tag		Add customized tag		Tag management
	Digital Zoom		Smart Search (Not supported)		Pause / Reverse play/ Single-frame reverse play
	Stop		Pause play/ Play/ Single-frame play		30s reverse
	30s forward		Speed down		Speed up
	Previous day		Next day		Scaling up/down the time line
	Full Screen		Exit	Event	Video type
	Process bar		Video type bar		

NOTE

- represents normal recording (manual or schedule); represents event recording (motion, alarm, motion | alarm, motion & alarm).
- Playback progress bar: use the mouse to click any point of the progress bar to locate special frames.

6.1.4 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 interface.
   Menu>Playback
2. Search and play back the record file(s). Refer to *Chapter 6.1.1 Playing Back by Channel* for the detailed information about searching and playback of the record files.

Figure 6. 12 Interface of Playback by Time

Click button to add default tag.

Click button to add customized tag and input tag name.

NOTE

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

3. Tag management.

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

Figure 6. 13 Tag Management Interface

Steps:

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

NOTE

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

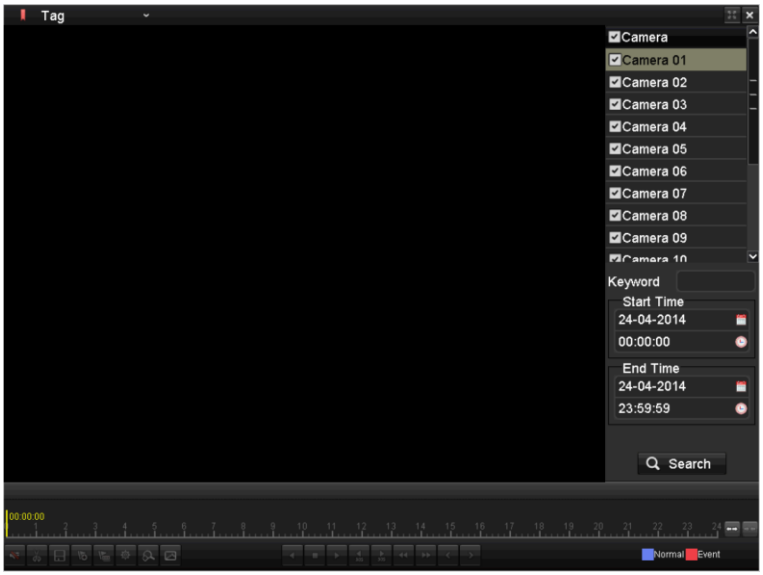


Figure 6. 14 Video Search by Tag

3. Click button to play back the file.

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

NOTE

Pre-play and post-play can be configured.

Figure 6. 15 Interface of Playback by Tag

Figure 6. 16 Toolbar of Playback by Tag

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

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

NOTE

- represents normal recording (manual or schedule); represents event recording (motion, alarm, motion | alarm, motion & alarm).
- Playback progress bar: use the mouse to click any point of the progress bar to locate special frames.

6.1.5 Smart Playback

Purpose:

The smart playback function provides an easy way to get through the less effective information. When you select the smart playback mode, the system will analyze the video with motion, mark it with green color and play it in the normal speed while the video without motion will be played in the 8-time speed.

Steps:

1. Enter Playback interface.
   Menu>Playback
2. Select the **Smart** in the drop-down list on the top-left side.
3. Select a date in the calendar and select a camera in the camera list.
4. Click the button to play.

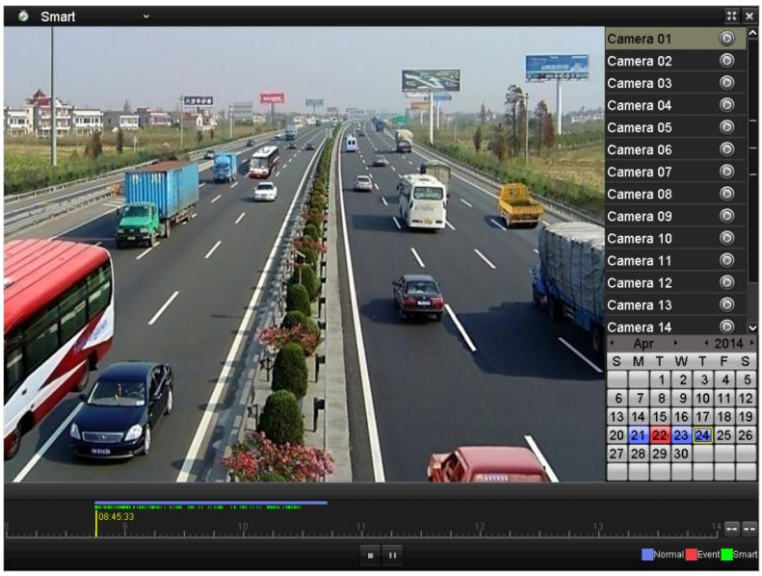


Figure 6. 17 Smart Playback Interface

Table 6. 5 Detailed Explanation of Smart Playback Toolbar

Button	Operation	Button	Operation	Button	Operation
	Stop	/	Pause play/ Play	/	Scaling up/down the time line
	Smart search result	10 11 12	Process bar	Smart	Video type / picture

NOTE

- represents normal recording (manual or schedule); represents event recording (motion, alarm, motion | alarm, motion & alarm); and represents the video with motion.
- Playback progress bar: use the mouse to click any point of the progress bar to locate special frames, and a thumbnail of the specified frame will be displayed.

6.1.6 Playing Back by System Logs

Purpose:

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

Steps:

1. Enter Log Information interface.
   Menu>Maintenance>Log Information

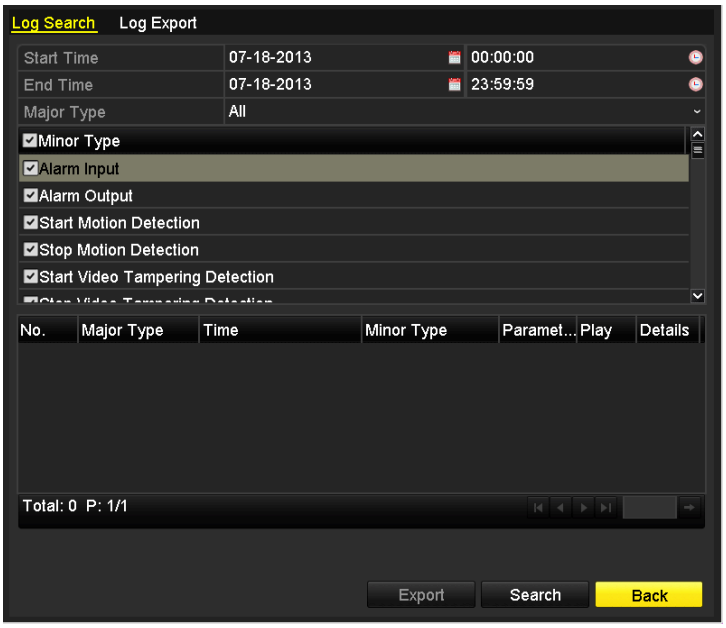


Figure 6. 18 System Log Search Interface

2. Click **Log Search** tab to enter Playback by System Logs.

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

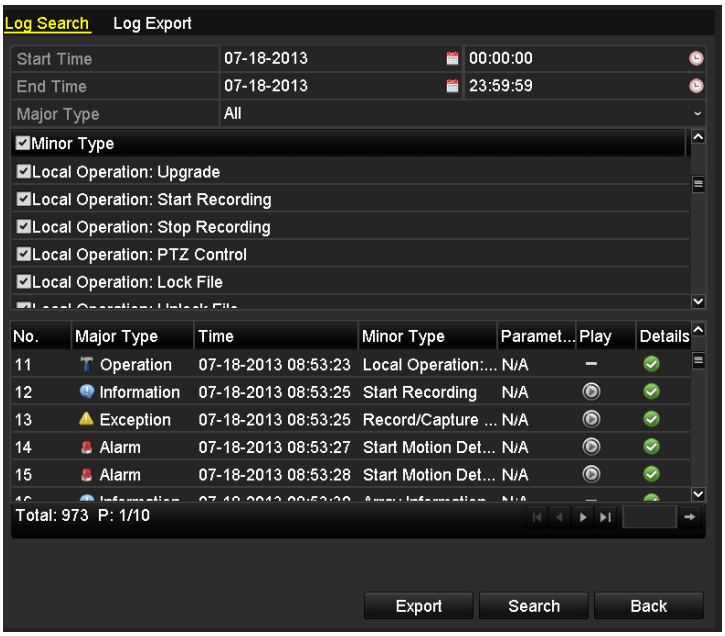


Figure 6. 19 Result of System Log Search

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.

4. Playback management.

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

Figure 6. 20 Interface of Playback by Log

6.1.7 Playing Back External File

Purpose:

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

Steps:

1. Enter Tag Search interface.

   Menu>Playback

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

   The files are listed in the right-side list.

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

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

Figure 6. 21 Interface of External File Playback

6.2 Auxiliary Functions of Playback

6.2.1 Playing Back Frame by Frame

Purpose:

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

Steps:

- **Using a Mouse**

  Go to Playback interface and click button and until the speed changes to *Single* frame. One click on the playback screen represents playback or adverse playback of one frame. It is also feasible to use button in toolbar.

- **Using the front panel (if supported)**

  Press the button to set the speed to *Single* frame. One click on the playback screen or press button on the front panel represents playback or adverse playback of one frame.

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.

Steps:

1. Go to Playback interface and play the video.

Figure 6. 22 Interface of Playback by Time

2. Click the button to go to analysis area selection interface.

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), press button to execute smart search in this area.

NOTE

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

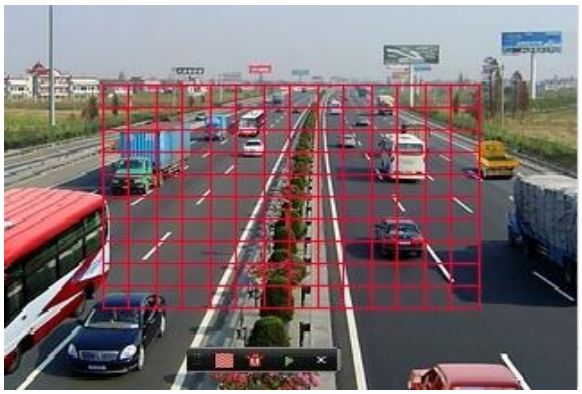


Figure 6. 23 Draw Area of Smart Search

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

Figure 6. 24 Smart Search Result with Video List

Figure 6. 25 Toolbar of Smart Search Playback

NOTE

- represents normal recording (manual or schedule); represents event recording (motion, alarm, motion | alarm, motion & alarm).
- Playback progress bar: use the mouse to click any point of the progress bar to locate special frames.

6.2.3 Digital Zoom

Steps:

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

Figure 6. 26 Draw Area for Digital Zoom

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

6.2.4 Reverse Playback of Multi-channel

Purpose:

You can play back record files of multi-channel reversely. Up to 16-ch (with 1920*1080 resolution) simultaneous reverse playback is supported.

Steps:

1. Enter Playback interface.

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

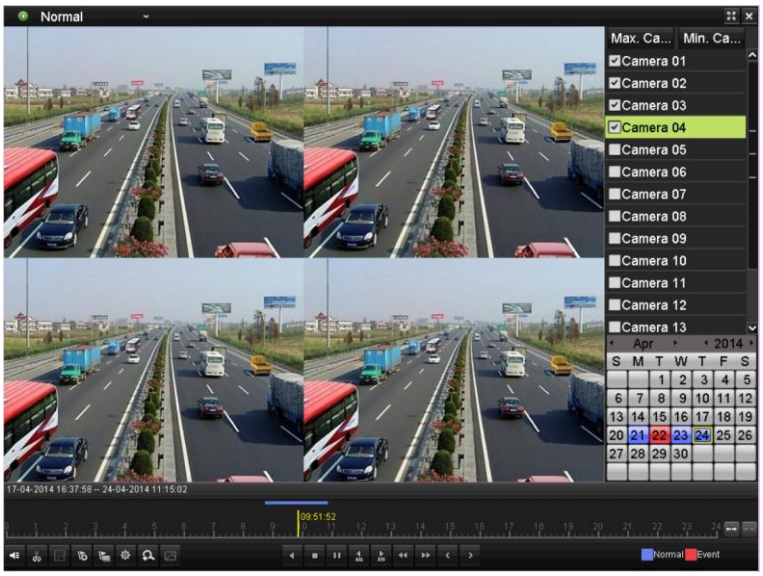


Figure 6. 27 4-ch Synchronous Playback Interface

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 Backing up by Normal Video Search

Purpose:

The record files can be backed up to various USB devices, such as USB flash drives, USB HDDs, and USB writer.

Backup using USB flash drives, USB HDDs, and USB writer

Steps:

1. Enter Export interface.

   Menu>Export>Normal

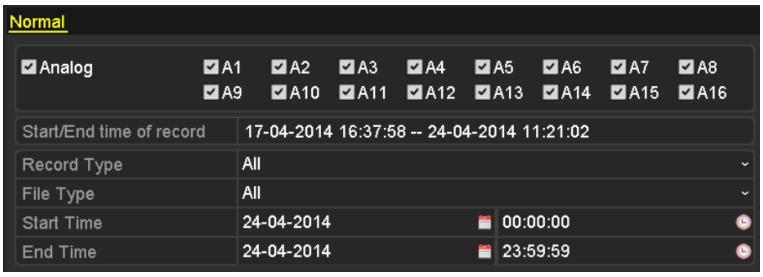


Figure 7. 1 Normal Export Interface

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

Figure 7. 2 Result of 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.

4. Export.

Click **Export** button and start backup.

NOTE

If the inserted USB device is not recognized:

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

You can also format the USB device by clicking the **Format** button.

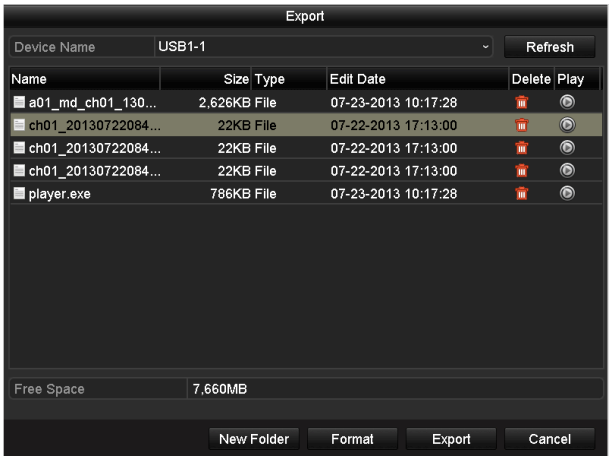


Figure 7. 3 Export by Normal Video Search using USB Flash Drive

Figure 7. 4 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”.

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.

Backup using eSATA HDDs

NOTE

This function is supported by 1080P series DVR.

Steps:

1. Enter Record>Advanced and set the usage of eSATA HDD at “Export”.

   Menu>Record>Advanced

   Choose eSATA and set its usage at Export. Click **Yes** when pop-up message box “System will reboot automatically if the usage of eSATA is changed. Continue?”

   NOTE

   The usages of eSATA HDD contain Record and Export. And changes in usage will take effective after rebooting the device.

2. Enter Export interface.

   Menu>Export>Normal

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

3. Select record files you want to back up.

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

   Tick 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. 5 Result of Normal Video Search for Backup

4. Export.

   Click **Export** button and start backup.

   NOTE

   - Please format the eSATA first when using it for the first time.
   - If the inserted eSATA HDD is not recognized:
     - Click the **Refresh** button.
     - Reconnect device.
     - Check for compatibility from vendor.

   You can also format eSATA HDD via the device.

Figure 7. 6 Export by Normal Video Search Using eSATA HDD

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

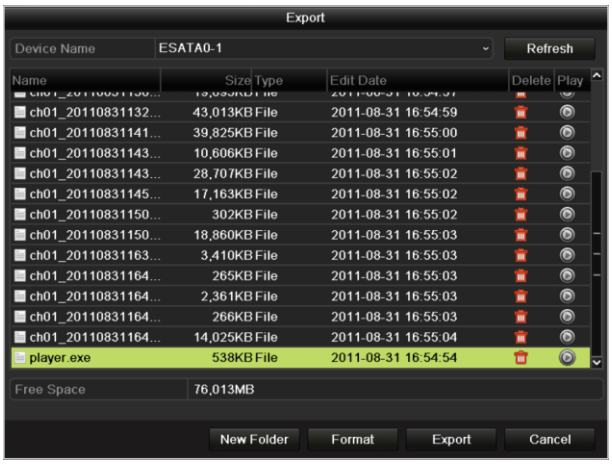


Figure 7. 7 Checkup of Export Result Using eSATA HDD

7.1.2 Backing up by Event Search

Purpose:

Back up event-related recording files using USB devices, such as USB flash drives, USB HDDs, and USB writer.

Steps:

1. Enter Export interface.

   Menu>Export>Event

2. Search for events.

   1) Select the type of event from the dropdown list of Event Type; there are Alarm Input and Motion selectable.

NOTE

- Here we take the backup by motion detection as the example.
- Backup by alarm input is supported by 1080P series DVR.

2) Check the checkbox of cameras and set the search time.

3) Click **Search** button to enter the Search Result interface.

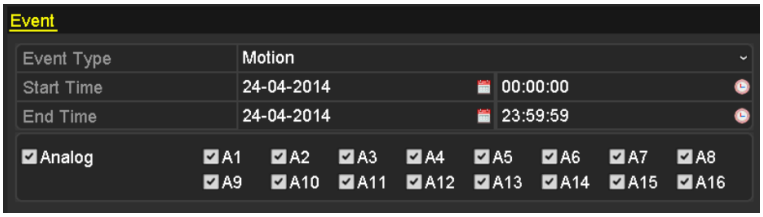


Figure 7. 8 Event Search for Backup

3. Select record files to export.

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

2) Clicking **Details** button will take you to the interface with detailed information of all channels triggered by the event.

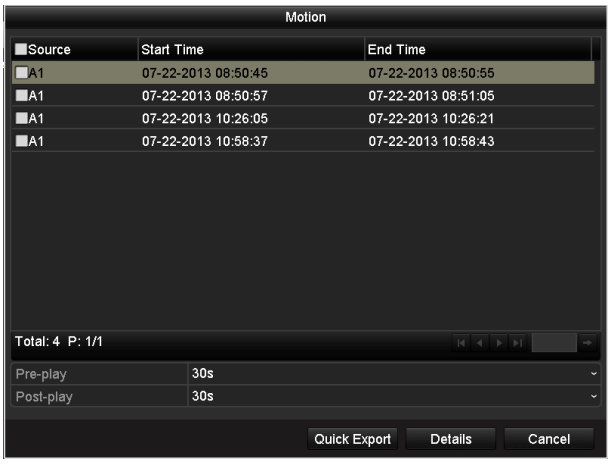


Figure 7. 9 Result of Event Search

3) Click **Details** button to view detailed information of the record file, e.g. start time, end time, file size, etc.

NOTE

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

Figure 7. 10 Event Details Interface

4. Export.

Click the **Export** button and start backing up.

NOTE

If the inserted USB device is not recognized:

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

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

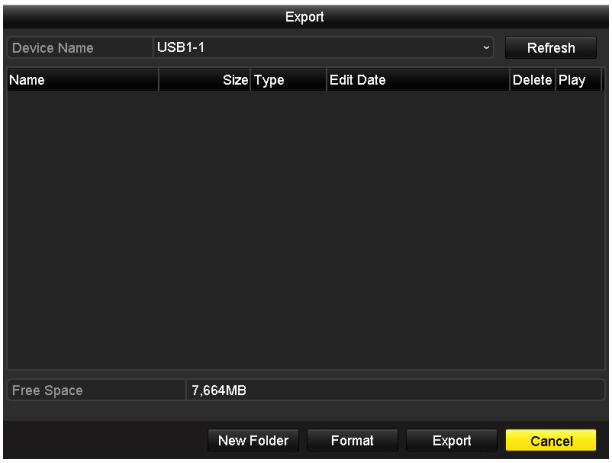


Figure 7. 11 Export by Event Using USB Flash Drive

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

5. Check backup result.

NOTE

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

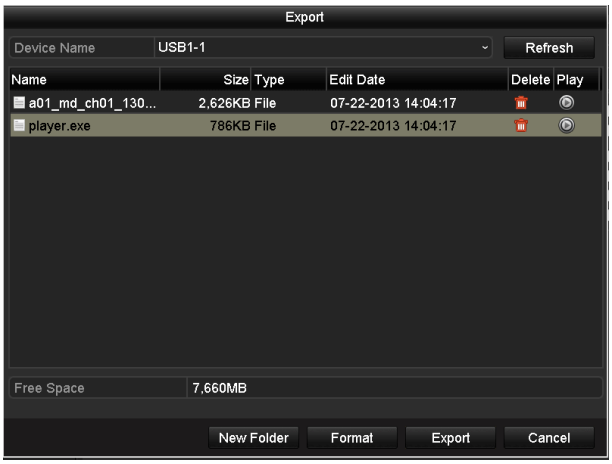


Figure 7. 12 Checkup of Event Export Result Using USB Flash Drive

7.1.3 Backing up Video Clips

Purpose:

You may also select video clips to export directly during Playback, using USB devices, such as USB flash drives, USB HDDs, and USB writers.

Steps:

1. Enter Playback interface.

   Please refer to *Chapter 6 Playback*.

Figure 7. 13 Interface of Playback by Time

2. During playback, use buttons and in the playback toolbar to start and stop clipping record file(s).
3. Click the icon to enter the Clips Export interface.

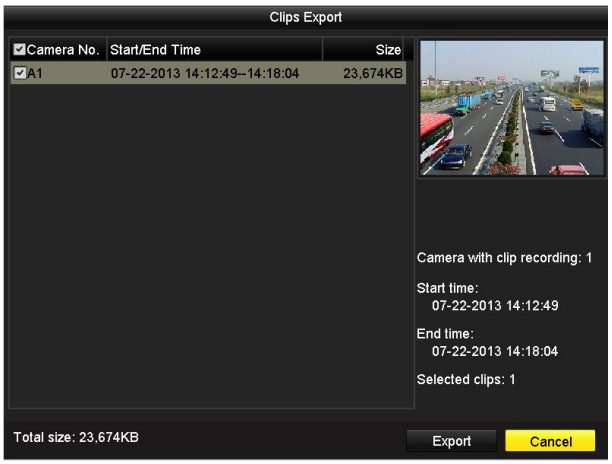


Figure 7. 14 Clips Export

NOTE

Up to 30 items of video clips can be selected for backup at one time.

4. Click the button **Export** to export the selected video clips to the backup device.

NOTE

If the inserted USB device is not recognized:

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

You can also format USB devices by clicking the **Format** button.

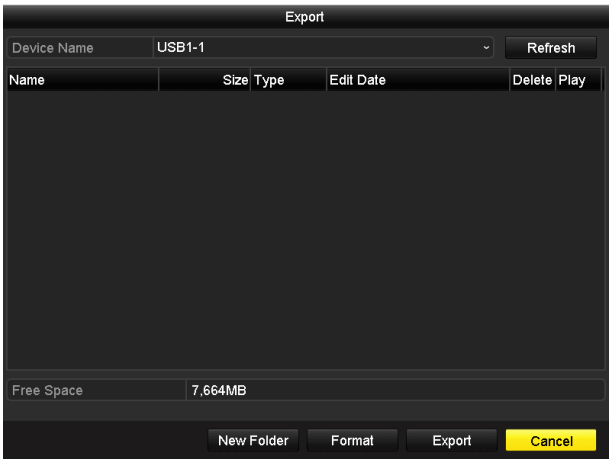


Figure 7. 15 Export Video Clips Using USB Flash Drive

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

5. Or a prompt will pop up when you quit the Playback interface if there are clips not saved.

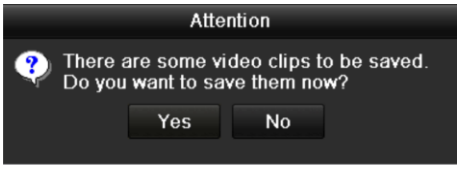


Figure 7. 16 Attention to Video Clip Saving

6. Click **Yes** to save video clips and enter Export interface, or click **No** to quit without saving video clips.
7. Check backup result.

NOTE

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

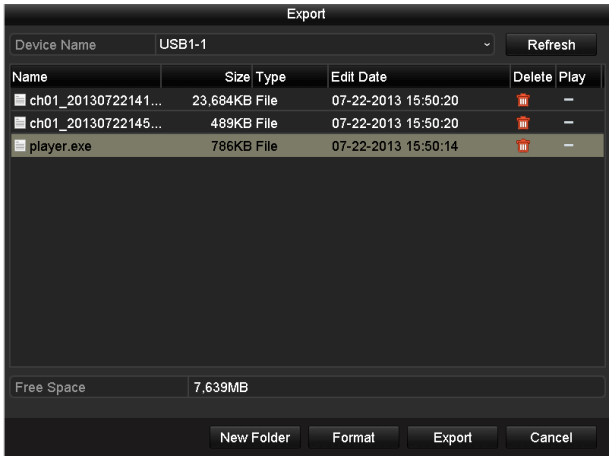


Figure 7. 17 Checkup of Video Clips Export Result Using USB Flash Drive

7.2 Managing Backup Devices

Steps:

1. Enter Search Result interface of record files.

   Menu>Export>Normal

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

   NOTE

   At least one channel shall be selected.

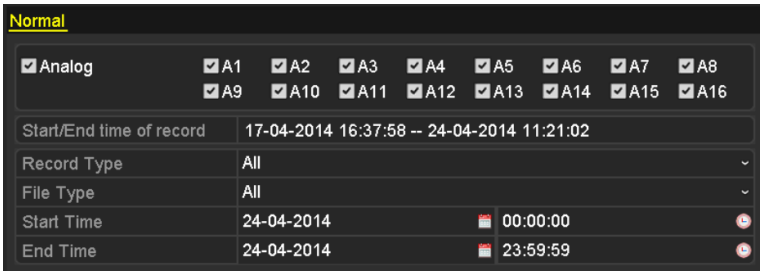


Figure 7. 18 Normal Video Search for Backup

2. Select record files you want to back up.

   Click **Export** button to enter Export interface.

   NOTE

   At least one recording file shall be selected.

Figure 7. 19 Result of Normal Video Search for Backup

3. Backup device management.

   ➢ **Management of USB flash drives, USB HDDs and eSATA HDDs**

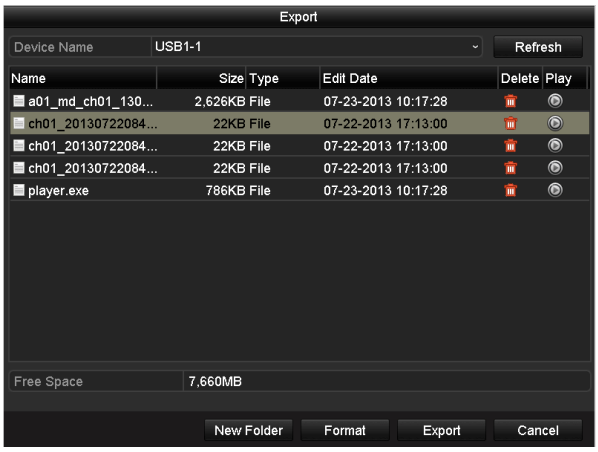


Figure 7. 20 USB Flash Drive Management

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

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

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

Click **Format** button to format the backup device.

NOTE

If the inserted USB device is not recognized:

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

➢ **Management of USB writers**

Figure 7. 21 USB Writer Management

Click **Erase** button 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.
- If the inserted USB writer is not recognized:
  - Click the **Refresh** button.
  - Reconnect device.
  - Check for compatibility from vendor.

Chapter 8 Alarm Settings

8.1 Setting Motion Detection

Steps:

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

   Menu> Camera> Motion

Figure 8. 1 Motion Detection Setup Interface

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.

   Click ⚙ to set alarm response actions.

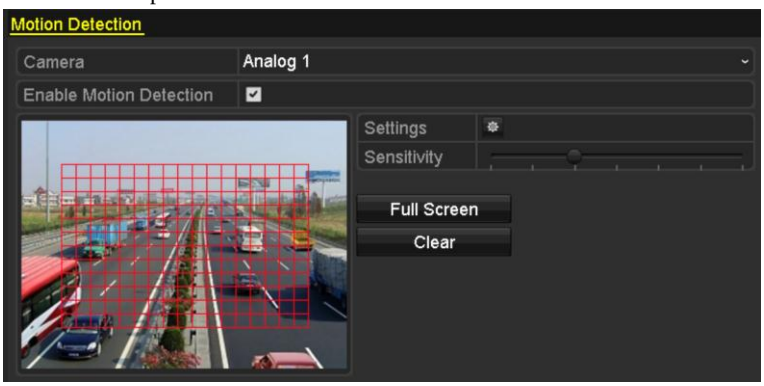


Figure 8. 2 Set Detection Area and Sensitivity

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

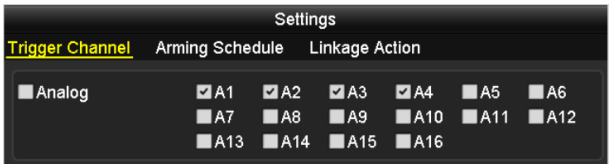


Figure 8. 3 Set Trigger Camera of Motion Detection

4. Set arming schedule of the channel.

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

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

NOTE

Time periods shall not be repeated or overlapped.

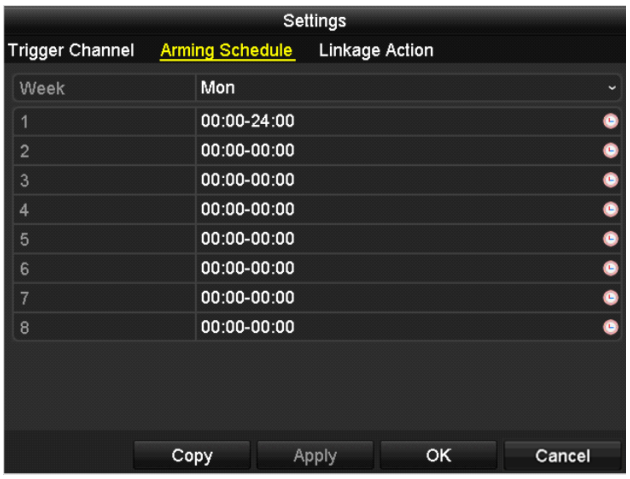


Figure 8. 4 Set Arming Schedule of Motion Detection

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

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

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

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

NOTE

You are not allowed to copy the “Trigger Channel” action.

8.2 Setting Sensor Alarms

This function is not supported by 4ch/8ch/16ch 720P series.

Purpose:

Set up handling method of an external sensor alarm.

Steps:

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

   Menu> Configuration> Alarm

   Select Alarm Input tab to enter Alarm Input Settings interface.

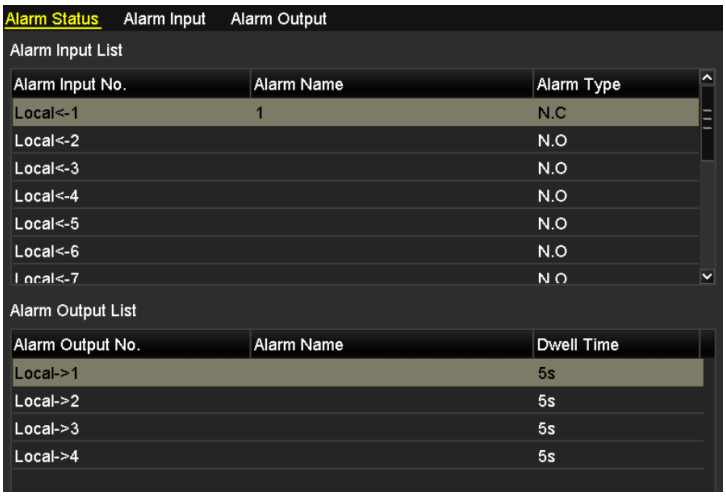


Figure 8. 5 Alarm Status Interface of System Configuration

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

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

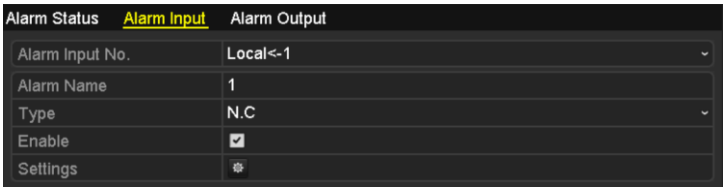


Figure 8. 6 Alarm Input Settings Interface

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 input is triggered.
4. Select **Arming Schedule** tab to set the channel's arming schedule.

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

Time periods shall not be repeated or overlapped.

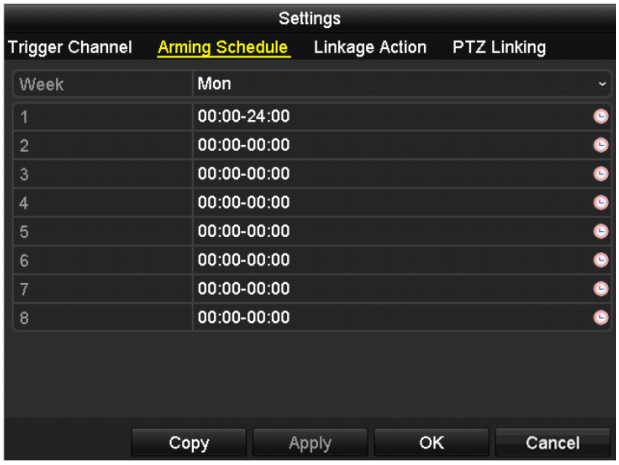


Figure 8. 7 Set Arming Schedule of Alarm Input

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

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

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

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

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.

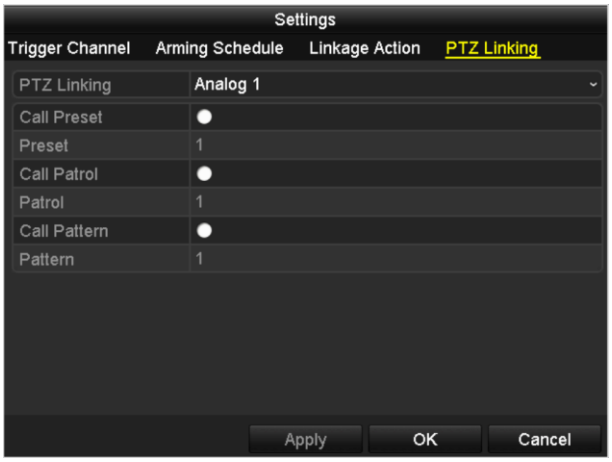


Figure 8. 8 Set PTZ Linking of Alarm Input

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

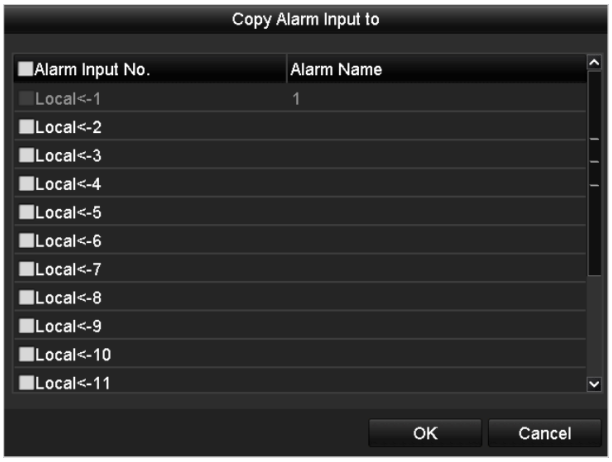


Figure 8. 9 Copy Settings of Alarm Input

8.3 Detecting Video Loss

Purpose:

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

Steps:

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

   Menu> Camera> Video Loss

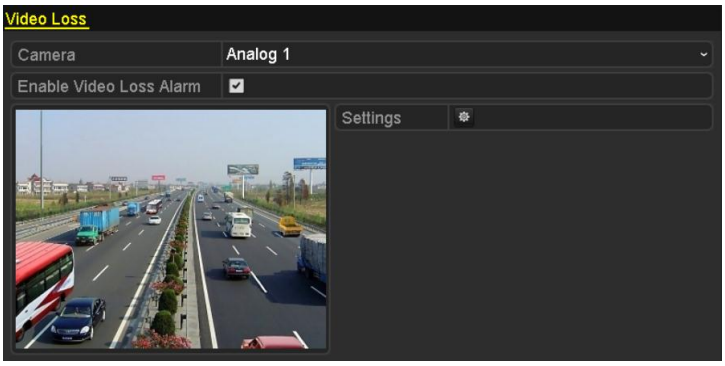


Figure 8. 10 Video Loss Setup Interface

2. Set up handling method of video loss.

   Check the checkbox of "Enable Video Loss Alarm".

   Click button to set up handling method of video loss.

3. Set arming schedule of the channel.

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

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

NOTE

Time periods shall not be repeated or overlapped.

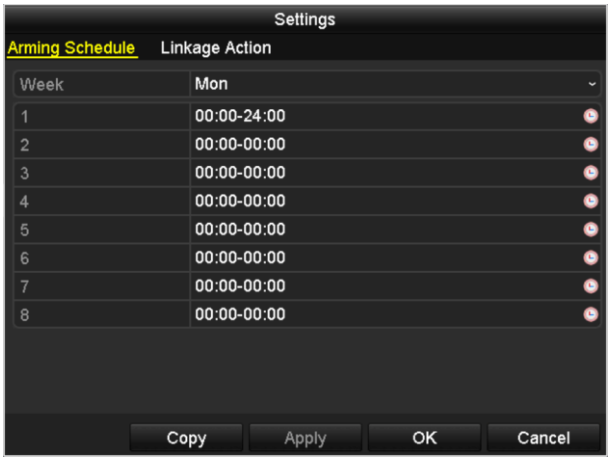


Figure 8. 11 Set Arming Schedule of Video Loss

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

4. Select **Linkage Action** tab to set up alarm response action of video loss (please refer to *Chapter 8.7 Setting Alarm Response Actions*).
5. Click the **OK** button to complete the video loss settings of the channel.

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

8.4 Detecting Video Tampering

Purpose:

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

Steps:

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

   Menu> Camera> Video Tampering Detection

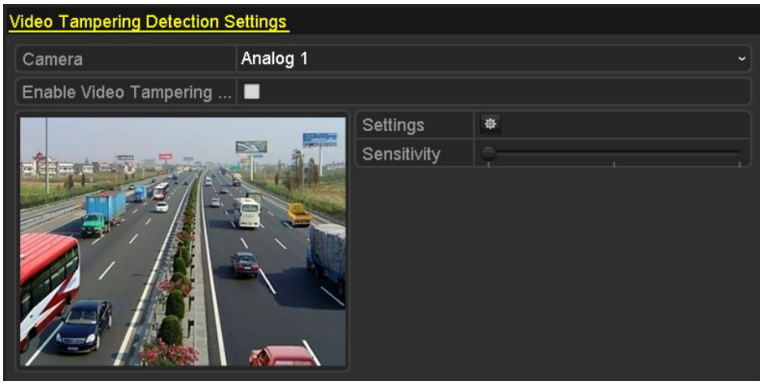


Figure 8. 12 Video Tempering Interface

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

NOTE

Time periods shall not be repeated or overlapped.

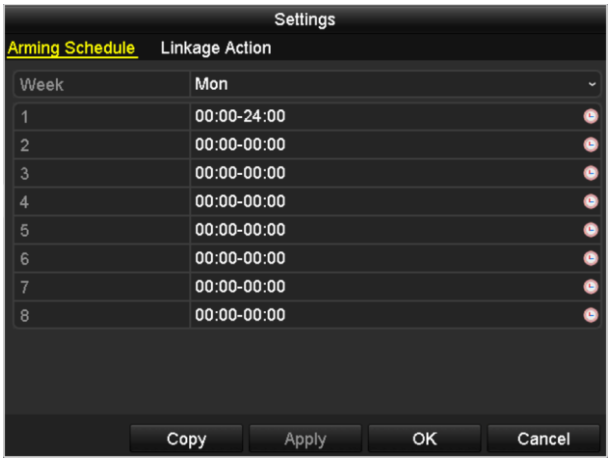


Figure 8. 13 Set Arming Schedule of Video Tampering

   3) Select **Linkage Action** tab to set alarm response actions of video tampering alarm (please refer to

Chapter 8.7 Setting Alarm Response Actions).

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

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

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

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

8.5 Setting All-day Video Quality Diagnostics

Purpose:

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

Steps:

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

   Menu> Camera> Video Quality Diagnostics
2. Check the checkbox of Enable Video Quality Diagnostics.
3. Enable and set the threshold of the diagnostic types, there are Blurred Image, Abnormal Brightness, and Color Cast.

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

NOTE

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

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

NOTE

Time periods shall not be repeated or overlapped.

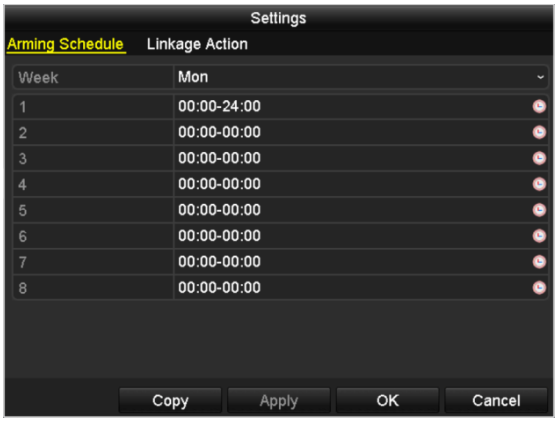


Figure 8. 14 Set Arming Schedule of Video Quality Diagnostics

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

      Repeat the above steps to set arming schedule of other days of a week. You can also use **Copy** button to copy an arming schedule to other days.
   4) Click the **OK** button to complete the video tampering settings of the channel.
5. Click the **Apply** button to save and activate settings.
6. (Optional) you can copy the same settings to other cameras by clicking the **Copy** button.

8.6 Handling Exceptions

Purpose:

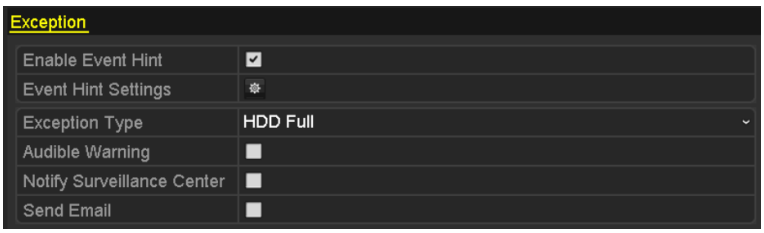
Exception settings refer to the handling method of various exceptions, e.g.

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

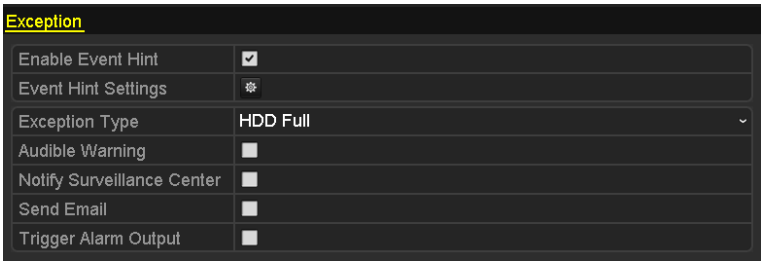
Steps:

1. Enter Exceptions interface and handle various exceptions.

   Menu> Configuration> Exceptions



4ch/8ch/16ch 720P Models



Other Models

Figure 8. 15 Exception Settings Interface

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

NOTE

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

Figure 8. 16 Detailed Event

3. Set the alarm linkage actions. For details, see *Chapter 8.7 Setting Alarm Response Actions*.
4. Click **Apply** to save the settings.

8.7 Setting Alarm Response Actions

Purpose:

Take 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 CVBS 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.

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

Audible Warning

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

Notify Surveillance Center

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

NOTE

The alarm signal will be transmitted automatically at detection mode when remote alarm host is configured. Please refer to *Chapter 9.2.6 Configuring the Remote Alarm Host* 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 9.2.11 Configuring Email* for details of Email configuration.

Trigger Alarm Output

Trigger an alarm output when an alarm is triggered.

NOTE

This function is not supported by 4ch/8ch/16ch 720P series DVR.

Steps:

1. Enter Alarm Output interface.

   Menu> Configuration> Alarm> Alarm Output

   Select an alarm output and set alarm name and dwell time. Click button to set the arming schedule of alarm output.

NOTE

If “Manually Clear” is selected in the dropdown list of Dwell Time, you can clear it only by going to Menu> Manual> Alarm.

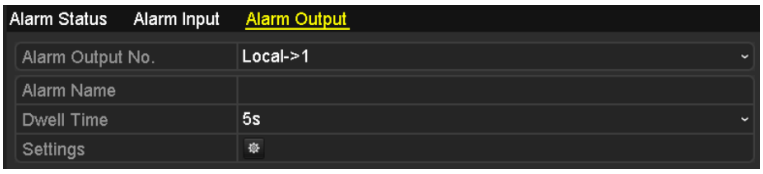


Figure 8. 17 Alarm Output Settings Interface

2. Set up arming schedule of the 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.

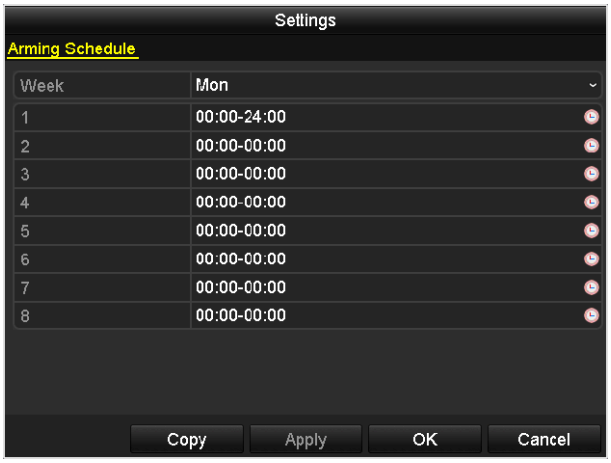


Figure 8. 18 Set Arming Schedule of Alarm Output

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

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

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

8.8 Triggering or Clearing Alarm Output Manually

This function is not supported by 4ch/8ch/16ch 720P series.

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.

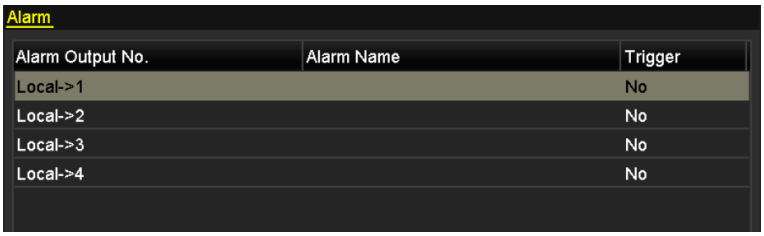


Figure 8. 19 Clear or Trigger Alarm Output Manually

Chapter 9 Network Settings

9.1 Configuring General Settings

Purpose:

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

Steps:

1. Enter the Network Settings interface.

   Menu > Configuration > Network

Figure 9. 1 Network Settings Interface

NOTE

1 self-adaptive 10M/100M network interface for 4ch 720P 1U chassis models; 2 self-adaptive 10M/100M/1000M network interfaces for 2U chassis models; 1 self-adaptive 10M/100M/1000M network interface for other models;

2. Select the **General** tab.
3. In the **General Settings** interface, you can configure the following settings: NIC Type, IPv4 Address, 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 of MTU is from 500 to 1500.
4. After having configured the general settings, click the **Apply** button to save the settings.

Working Mode

There are two 10M/100M/1000M NIC cards provided by certain models, and it allows the device to work in the Multi-address, Load Balance and Net-fault Tolerance modes.

Multi-address Mode: The parameters of the two NIC cards can be configured independently. You can select LAN1 or LAN2 in the NIC type field for parameter settings.

You can select one NIC card as default route. And then the system is connecting with the extranet the data will be forwarded through the default route.

Net-fault Tolerance Mode: The two NIC cards use the same IP address, and you can select the Main NIC to LAN1 or LAN2. By this way, in case of one NIC card failure, the device will automatically enable the other standby NIC card so as to ensure the normal running of the whole system.

Load Balance Mode: By using the same IP address and two NIC cards share the load of the total bandwidth, which enables the system to provide two Gigabit network capacity.

9.2 Configuring Advanced Settings

9.2.1 Configuring PPPoE Settings

Purpose:

The DVR 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.

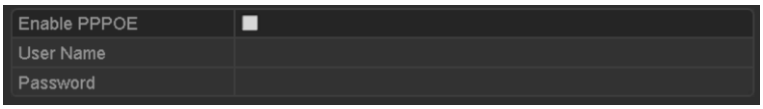


Figure 9. 2 PPPoE Settings Interface

3. Check the **PPPoE** checkbox to enable this feature.
4. Enter **User Name** and **Password** for PPPoE access.

NOTE

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

5. Click the **Apply** button to save the settings.
6. After successful settings, the system asks you to reboot the device to enable the new settings, and the PPPoE dial-up is automatically connected after reboot.
   You can go to Menu > Maintenance > System Info > Network interface to view the status of PPPoE connection.

9.2.2 Configuring DDNS

Purpose:

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

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

Steps:

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

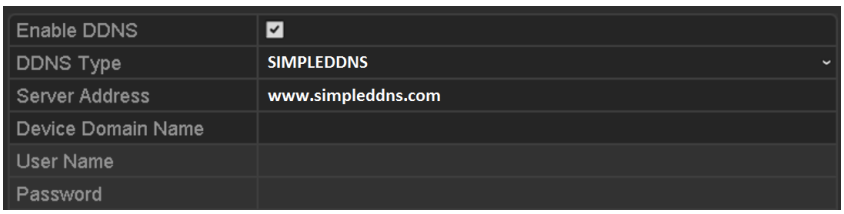


Figure 9. 3 DDNS Settings Interface

3. Check the **DDNS** checkbox to enable this feature.
4. Select **DDNS Type**. Five different DDNS types are selectable: IPServer, DynDNS, PeanutHull, NO-IP and SIMPLEDDNS.
   - **IPServer:** Enter **Server Address** for IPServer.

Figure 9. 4 IPServer Settings Interface

   - **DynDNS:**
     1) Enter **Server Address** for DynDNS (i.e. members.dyndns.org).
     2) In the DVR Domain Name text field, enter the domain obtained from the DynDNS website.
     3) Enter the **User Name** and **Password** registered in the DynDNS website.

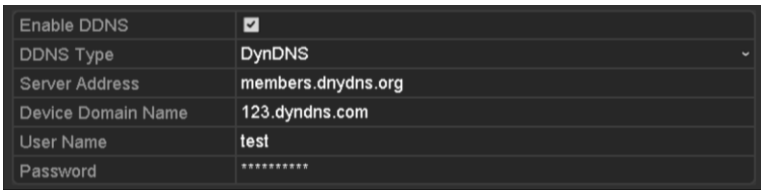


Figure 9. 5 DynDNS Settings Interface

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

Figure 9. 6 PeanutHull Settings Interface

   - **NO-IP:**

     Enter the account information in the corresponding fields. Refer to the DynDNS settings.
     1) Enter **Server Address** for NO-IP.
     2) In the DVR 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. 7 NO-IP Settings Interface

- **SIMPLEDDNS:**
  1) The **Server Address** of the SIMPLEDDNS server appears by default: www.simpleddns.com.
  2) Enter the **Device Domain Name.** You can use the alias you registered in the SIMPLEDDNS server or define a new device domain name. If a new alias of the device domain name is defined in the DVR, it will replace the old one registered on the server. You can register the alias of the device domain name in the SIMPLEDDNS server first and then enter the alias to the **Device Domain Name** in the DVR; you can also enter the domain name directly on the DVR to create a new one.

Figure 9. 8 SIMPLEDDNS Settings Interface

Register the device on the SIPMLEDDNS server.

1) Go to the SIMPLEDDNS website: www.simpleddns.com.
2) Click Register new user to register an account if you do not have one and use the account to log in.

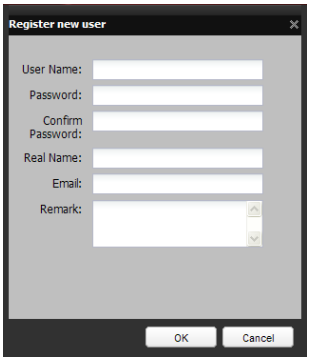


Figure 9. 9 Register an Account

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

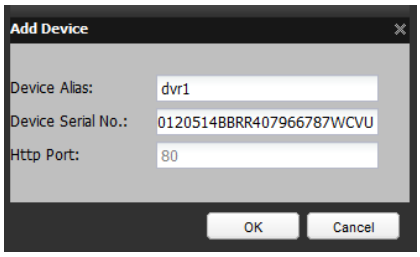


Figure 9. 10 Register the Device

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 SIMPLEDDNS server, you can access your device via web browser or Client Software with the **Device Domain Name** (**Device Name**).

OPTION 1: Access the Device via Web Browser

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

Example: *http://www.simpleddns.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.simpleddns.com/alias:HTTP port* in the address bar to access the device. You can refer to *Chapter 9.2.5 Configuring NAT* for the mapped HTTP port No.

OPTION 2: Access the devices via CMS

For CMS, in the Add Device window, select SIMPLEDDNS and then edit the device information.

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

Server Address: www.simpleddns.com

Device Domain Name: It refers to the **Device Domain Name** on the device or the **Device Name** on the SIMPLEDDNS 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.

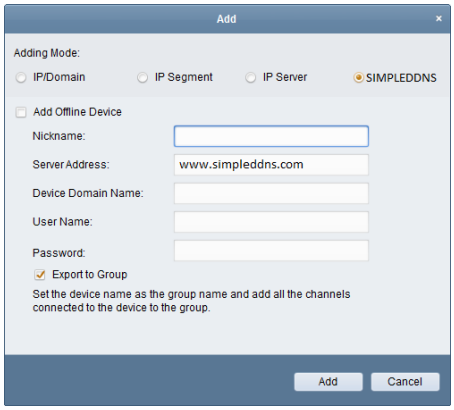


Figure 9. 11 Access Device via CMS

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

9.2.3 Configuring NTP Server

Purpose:

A Network Time Protocol (NTP) Server can be configured on your DVR 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.

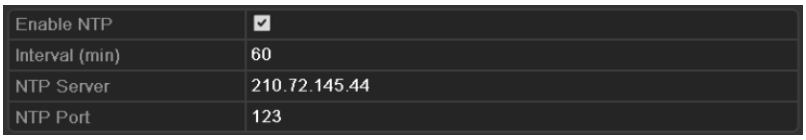


Figure 9. 12 NTP Settings Interface

3. Check the **Enable NTP** checkbox to enable this feature.
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 the **Apply** button to save and exit the interface.

NOTE

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

9.2.4 Configuring SNMP

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. 13 SNMP Settings Interface

3. Check the **Enable SNMP** checkbox to enable this feature.
4. Configure the following SNMP settings:
   - **Trap Address:** IP Address of SNMP host.
   - **Trap Port:** Port of SNMP host.

Figure 9. 14 Configure SNMP Settings

5. Click the **Apply** button 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 DVR is allowed to send the alarm event and exception message to the surveillance center.

9.2.5 Configuring NAT

Purpose:

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

Before you start:

If you want to enable the UPnP™ function of the device, you must enable the UPnP™ function of the router to which your device is connected. When the network working mode of the device is set as multi-address, the

Default Route of the device should be in the same network segment as that of the LAN IP address of the router.

Steps:

1. Enter the Network Settings interface.

   Menu > Configuration > Network

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

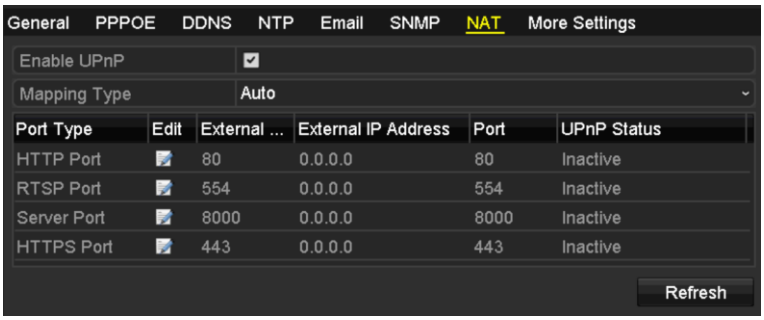


Figure 9. 15 UPnP™ Settings Interface

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

   OPTION 1: Auto

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

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

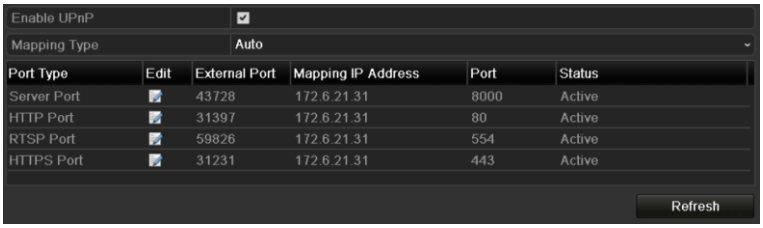


Figure 9. 16 UPnP™ Settings Finished-Auto

OPTION 2: Manual

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

Steps:

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

NOTE

- You can use the default port No., or change it according to actual requirements.
- External Port indicates the port No. for port mapping in the router.
- The value of the RTSP port No. should be 554 or between 1024 and 65535, while the value of the other ports should be between 1 and 65535 and the value must be different from each other. If multiple devices are configured for the UPnP™ settings under the same router, the value of the port No. for each device should be unique.

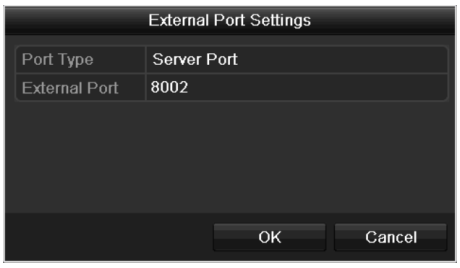


Figure 9. 17 External Port Settings Dialog Box

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

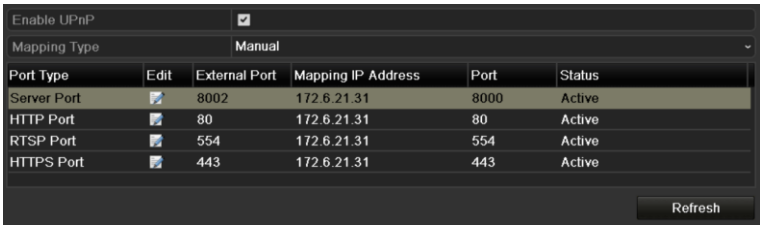


Figure 9. 18 UPnP™ Settings Finished-Manual

9.2.6 Configuring the Remote Alarm Host

Purpose:

With a remote alarm host configured, the DVR will send the alarm event or exception message to the host when an alarm is triggered. The remote alarm host must have the Network Video Surveillance 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. 19 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 is installed, and the **Alarm Host Port** must be the same as the alarm monitoring port configured in the software (default port is 7200).

Figure 9. 20 Configure Alarm Host

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

9.2.7 Configuring Multicast

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.** When adding a device to the CMS software, the multicast address must be the same as the DVR's multicast IP.

Server Port	8000
HTTP Port	80
Multicast IP	239.252.2.50

Figure 9. 21 Configure Multicast

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

9.2.8 Configuring RTSP

Purpose:

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

Steps:

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

RTSP Port	554

Figure 9. 22 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 the **Apply** button to save and exit the menu.

9.2.9 Configuring Server and HTTP Ports

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, as shown in Figure 9. 23.
3. Enter new **Server Port** and **HTTP Port**.

Server Port	8000
HTTP Port	80
Multicast IP	

Figure 9. 23 Host/Others Settings Menu

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 the **Apply** button 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 web browser access.

9.2.10 Configuring HTTPS Port

Purpose:

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

Example:

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

NOTE

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

Steps:

1. Open web browser, input the IP address of device, and the web server will select the language automatically according to the system language and maximize the web browser.
2. Input the correct user name and password, and click **Login** button to log in the device.
3. Enter the HTTPS settings interface.
   Configuration > Remote Configuration > Network Settings > HTTPS
4. Create the self-signed certificate or authorized certificate.

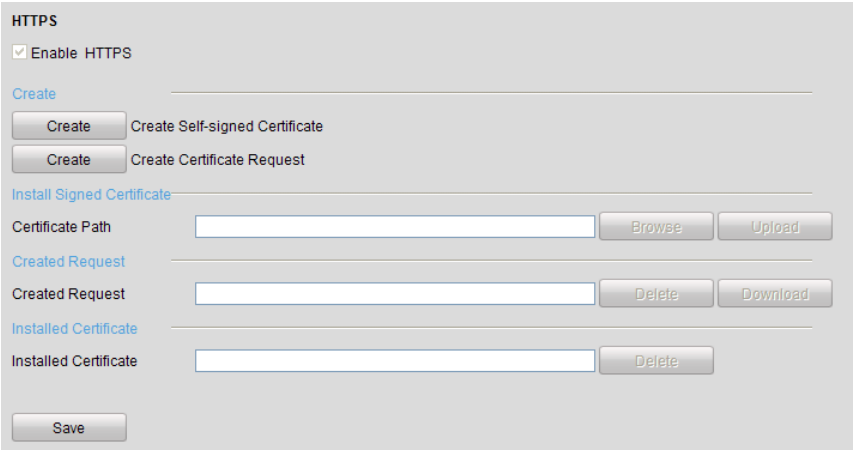


Figure 9. 24 HTTPS Settings

OPTION 1: Create the self-signed certificate

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

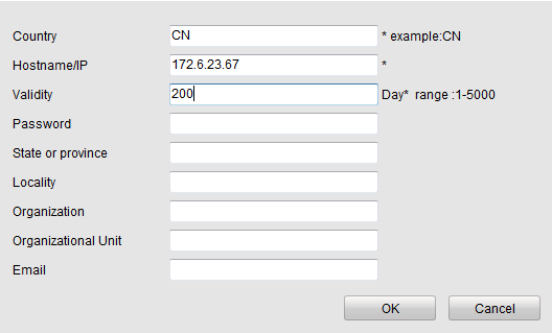


Figure 9. 25 Create Self-signed Certificate

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

OPTION 2: Create the authorized certificate

1) Click the **Create** button to create the certificate request.
2) Download the certificate request and submit it to the trusted certificate authority for signature.
3) After receiving the signed valid certificate, import the certificate to the device.

5. There will be the certificate information after you successfully create and install the certificate.

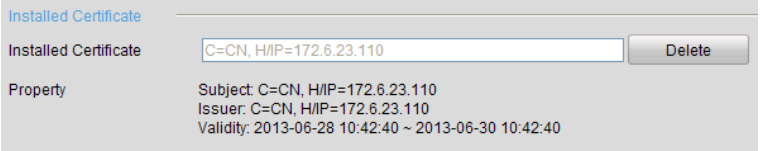


Figure 9. 26 Installed Certificate Property

6. Check the checkbox to enable the HTTPS function.

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

9.2.11 Configuring Email

Purpose:

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

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

Before you start:

Make sure you have configured the IPv4 Address, IPv4 Subnet Mask, IPv4 Gateway and the Preferred DNS Server in the Network Settings menu. Please refer to *Chapter 9.1 Configuring General Settings* for detailed information.

Steps:

1. Enter the Network Settings interface.

   Menu > Configuration > Network

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

Figure 9. 27 Email Settings Interface

3. Configure the following Email settings:

   Enable Server Authentication (optional): Check the checkbox to enable the server authentication feature.

   User Name: The user account of sender's Email for SMTP server authentication.

   Password: The password of sender's Email for SMTP server authentication.

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

   SMTP Port No.: The SMTP port. The default TCP/IP port used for SMTP is 25.

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

   Sender: The name of sender.

   Sender's Address: The Email address of sender.

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

   Receiver: The name of the receiver of the Email.

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

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

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

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

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

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

Figure 9. 28 Email Testing Attention

9.2.12 Telnet Settings

Purpose:

Telnet function provides an easy way to get access to the DVR. You can see the advanced information about the device by inputting command; as well the configuration can also be realized through telnet connection.

Steps:

1. Enter the Advanced settings interface, as shown in the Figure 9. 29.
   Configuration > Remote Configuration > Network Settings > Advanced

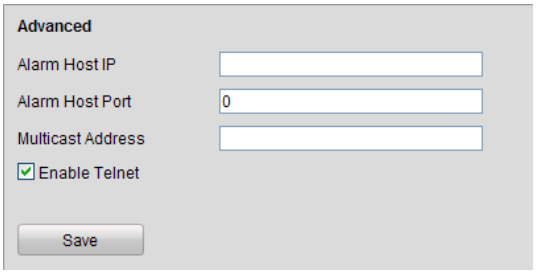


Figure 9. 29 Telnet Settings Interface

2. Check the checkbox of the **Enable Telnet**.
3. Click the **Save** button to save the setting.
4. You can open the Command Prompt window in your PC, and input "telnet *IP Address*" to connect with the DVR, as shown in the figure below.

   Example:

   If the IP address of the DVR is 192.0.0.64, you can input "telnet 192.0.0.64" and then press Enter to connect to the DVR.

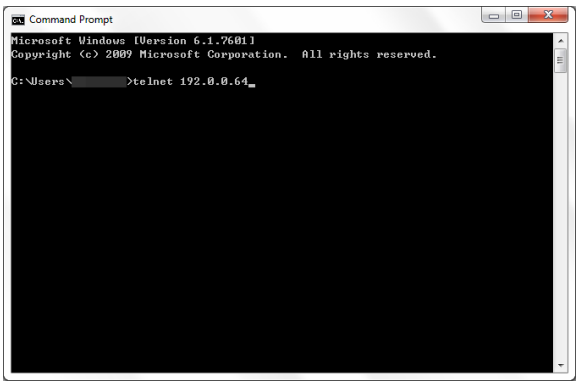


Figure 9. 30 Connect to DVR

NOTE

The telnet function turns invalid after the device shutting down or rebooting, you have to enable it again if required.

9.3 Checking Network Traffic

Purpose:

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

Steps:

1. Enter the Network Traffic interface.

   Menu > Maintenance > Net Detect

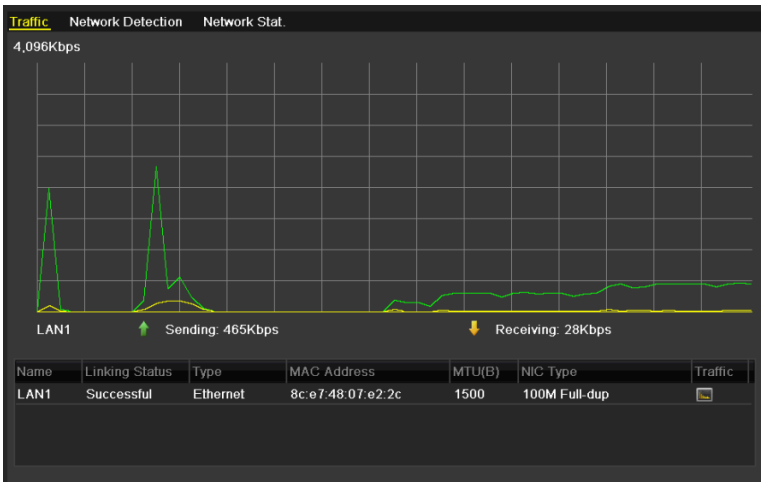


Figure 9. 31 Network Traffic Interface

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

9.4 Configuring Network Detection

Purpose:

You can obtain network connecting status of DVR 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 Traffic interface.

   Menu > Maintenance > Net Detect

2. Click the **Network Detection** tab to enter the Network Detection menu.

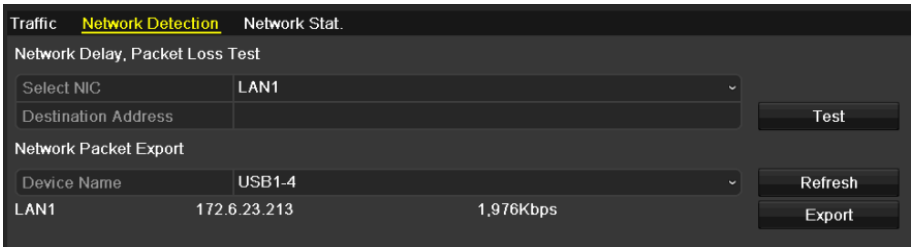


Figure 9. 32 Network Detection Interface

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 the **Test** button 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. 33 Testing Result of Network Delay and Packet Loss

9.4.2 Exporting Network Packet

Purpose:

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

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

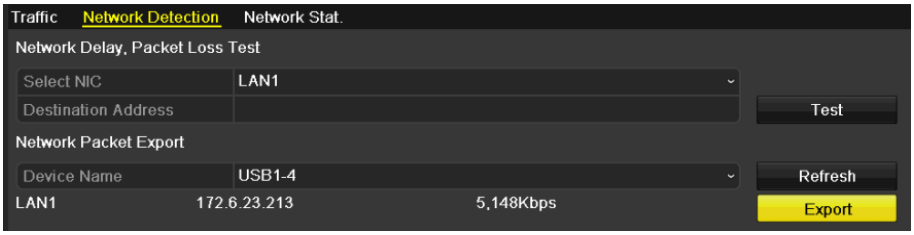


Figure 9. 34 Export Network Packet

4. Click the **Export** button to start exporting.
5. After the exporting is complete, click **OK** to finish the packet export.

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:

Click Status on the right bottom of the page.

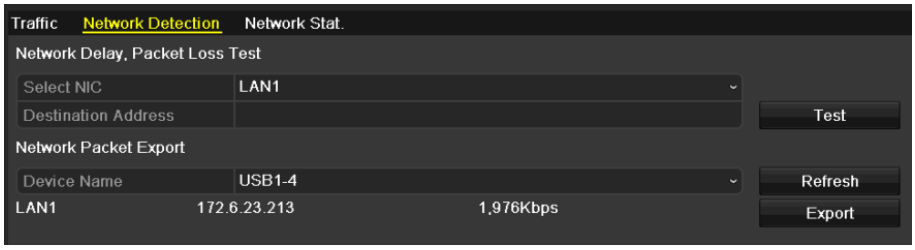


Figure 9. 35 Checking Network Status

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

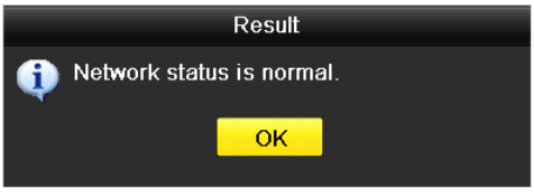


Figure 9. 36 Network Status Checking Result

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

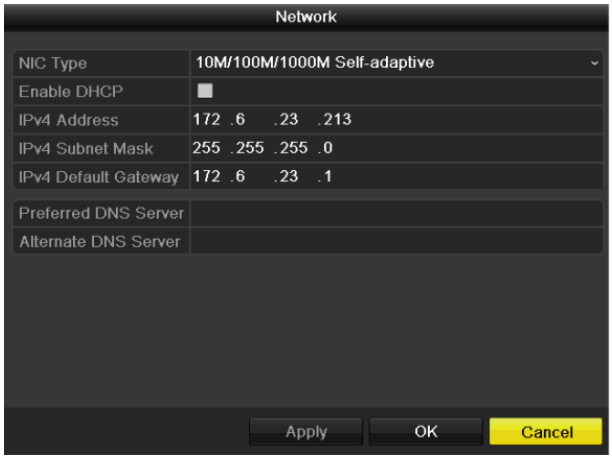


Figure 9. 37 Network Parameters Configuration

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 menu.

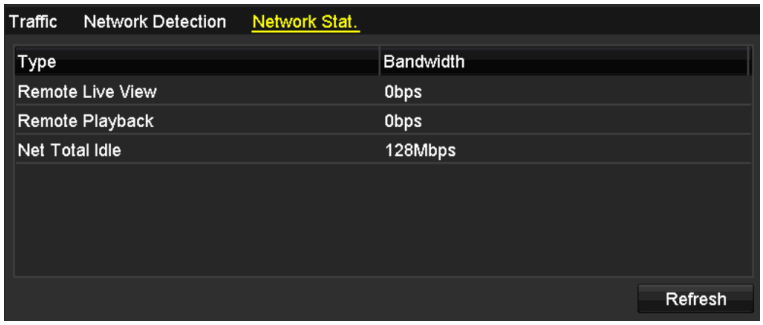


Figure 9. 38 Network Stat. Interface

3. View the bandwidth of Remote Live View, bandwidth of Remote Playback, and bandwidth of Net Total Idle.
4. Click **Refresh** button 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 DVR.

Steps:

1. Enter the HDD Information interface.

   Menu > HDD>General.

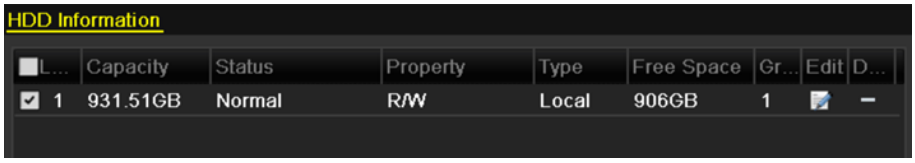


Figure 10. 1 HDD Information Interface

2. Select HDD to be initialized.
3. Click the **Init** button.

Figure 10. 2 Confirm Initialization

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

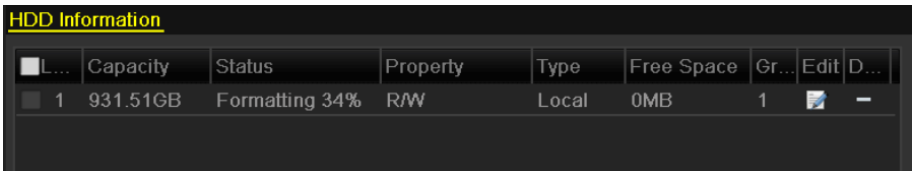


Figure 10. 3 Start Initialization

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

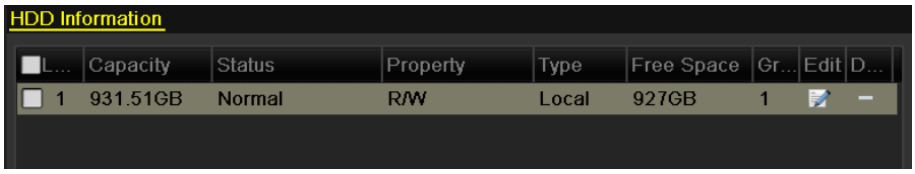


Figure 10. 4 HDD Status Changes to Normal

NOTE

Initializing the HDD will erase all data on it.

The HDDs which are free of working for a long time can be enabled to sleep, thus to decrease the power

consumption of the device and extend the life of the HDDs.

Click Menu > HDD > Advanced.

Figure 10. 5 Enable HDD Sleeping

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

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

10.2 Managing Network HDD

Purpose:

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

Steps:

1. Enter the HDD Information interface.

   Menu > HDD>General

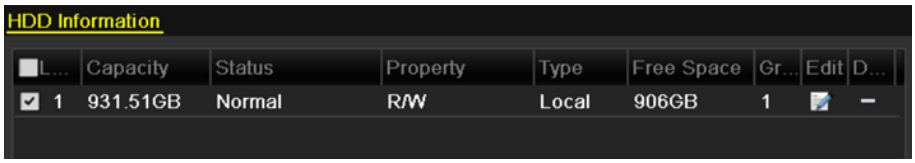


Figure 10. 6 HDD Information Interface

2. Click the **Add** button to enter the Add NetHDD interface, as shown in Figure 10. 7.

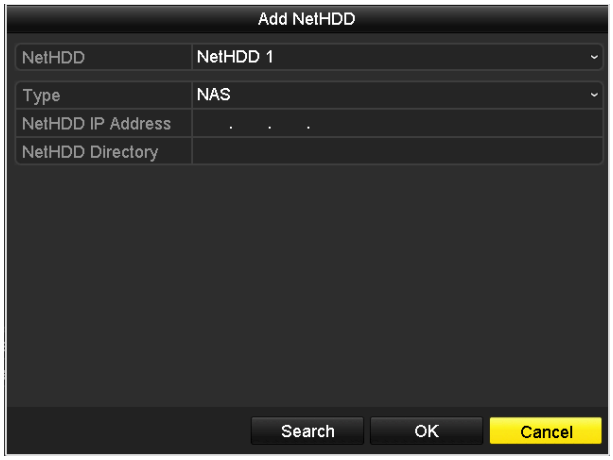


Figure 10. 7 HDD Information Interface

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.

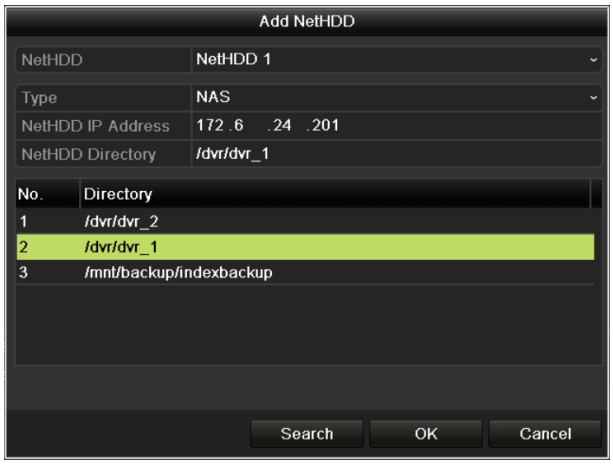


Figure 10. 8 Add NAS Disk

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

NOTE

Up to 1 IP SAN disk can be added.

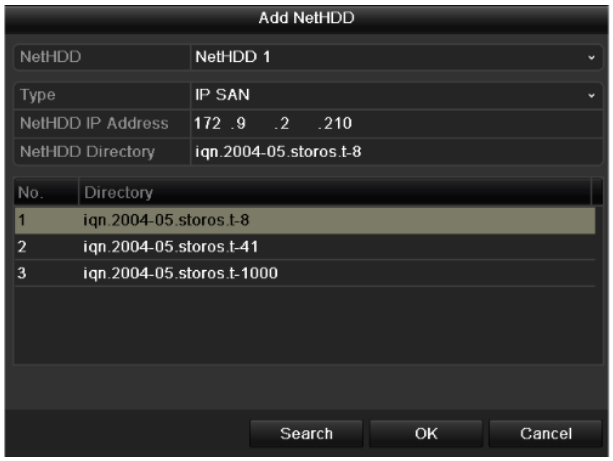


Figure 10. 9 Add IP SAN Disk

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

NOTE

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

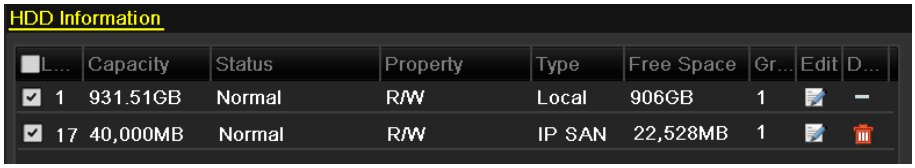


Figure 10. 10 Initialize Added NetHDD

10.3 Managing eSATA

Purpose:

When there is an external eSATA device connected to DVR, you can configure eSATA for the use of Record or Export, and you can manage the eSATA in the DVR.

Steps:

1. Enter the Advanced Record Settings interface.
   Menu >Record>Advanced
2. Select the eSATA type to Export or Record from the dropdown list of **eSATA**.
   Export: use the eSATA for backup. Refer to *Backup using eSATA HDDs* in *Chapter 7.1.1 Backing up by Normal Video Search* for operating instructions.
   Record: use the eSATA for record. Refer to the following steps for operating instructions.

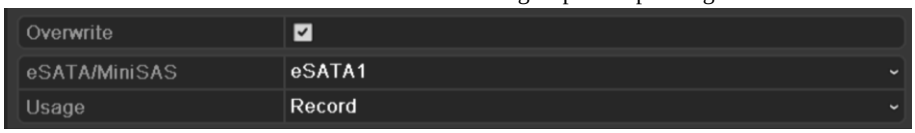
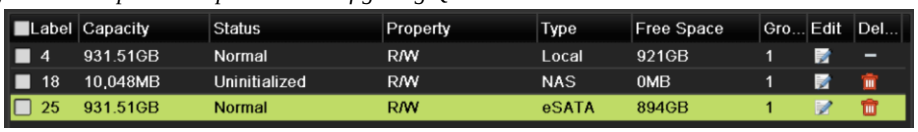


Figure 10. 11 Set eSATA Mode

3. When the eSATA type is selected to Record, enter the HDD Information interface.
   Menu > HDD>General
4. Edit the property of the selected eSATA, or initialize it is required.

NOTE

Two storage modes can be configured for the eSATA when it is used for Record. Please refer to *Chapter 10.4 Managing HDD Group* and *Chapter 10.5 Configuring Quota Mode* for details.



Label	Capacity	Status	Property	Type	Free Space	Gro...	Edit	Del...
4	931.51GB	Normal	R/W	Local	921GB	1		
18	10,048MB	Uninitialized	R/W	NAS	0MB	1		
25	931.51GB	Normal	R/W	eSATA	894GB	1		

Figure 10. 12 Initialize Added eSATA

10.4 Managing HDD Group

10.4.1 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 in Figure 10. 13.

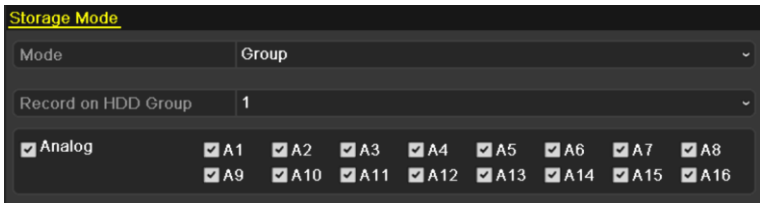


Figure 10. 13 Storage Mode Interface

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

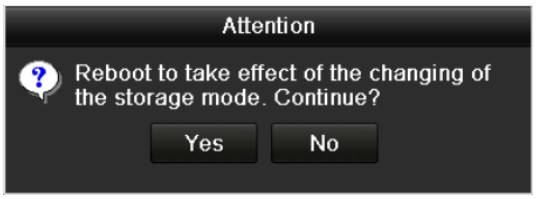


Figure 10. 14 Attention for Reboot

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

   Menu > HDD > General

6. Select HDD from the list and click the icon to enter the Local HDD Settings interface, as shown in Figure 10. 15.

Figure 10. 15 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 the **OK** button to confirm the settings.

Figure 10. 16 Confirm HDD Group Settings

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

10.4.2 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 10.4.1 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 HDD from the list and click the icon to enter the Local HDD Settings interface, as shown in Figure 10. 17.

Figure 10. 17 Set HDD Property

3. Set the HDD property to R/W, Read-only or Redundancy.
4. Click the **OK** button 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 hard disks must be added on your DVR when you want to set a HDD to Redundancy, and there is one HDD with R/W property.

10.5 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. 18.

NOTE

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

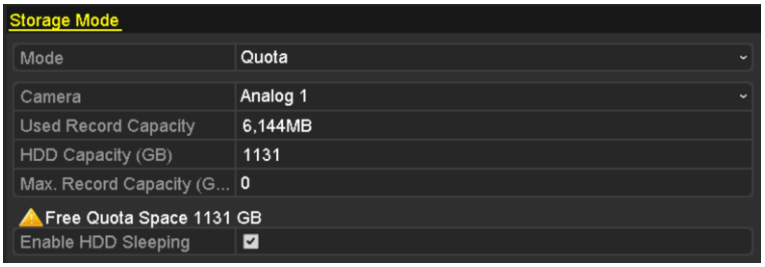


Figure 10. 18 Storage Mode Settings Interface

3. Select a camera for which you want to configure quota.
4. Enter the storage capacity in the text field of **Max. Record Capacity (GB)**.
5. You can copy the quota settings of the current camera to other cameras if required. Click the **Copy** button to enter the Copy Camera interface, as shown in Figure 10. 19.

Figure 10. 19 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 to select all cameras.
7. Click the **OK** button to finish the Copy settings and back to the Storage Mode interface.
8. Click the **Apply** button to apply the settings.

NOTE

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

10.6 Checking HDD Status

Purpose:

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

Checking HDD Status in HDD Information Interface

Steps:

1. Enter the HDD Information interface.

   Menu > HDD>General

2. Check the status of each HDD which is displayed on the list, as shown in Figure 10. 20.

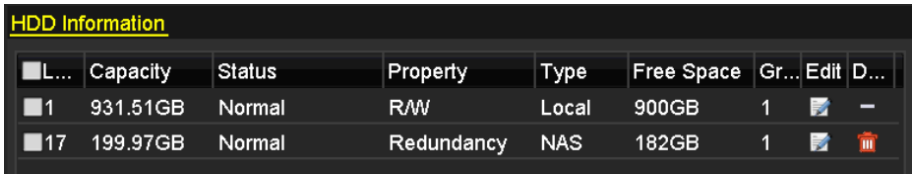


Figure 10. 20 View HDD Status (1)

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 System 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, as shown in Figure 10. 21.

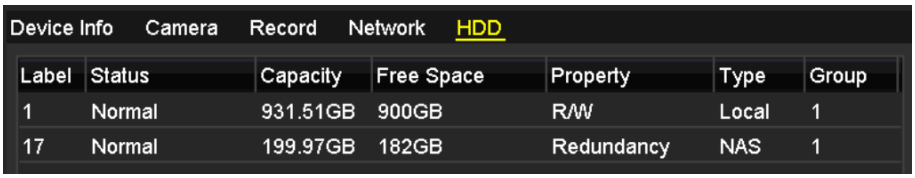


Figure 10. 21 View HDD Status (2)

10.7 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 *a*nd report on various indicators of reliability in the hopes of anticipating failures.

Steps:

1. Enter the HDD Detect interface.

   Menu > HDD > HDD Detect

2. Click the S.M.A.R.T. Settings tab to enter the interface.
3. Select the HDD to view its S.M.A.R.T. information list, as shown in Figure 10. 22.

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.

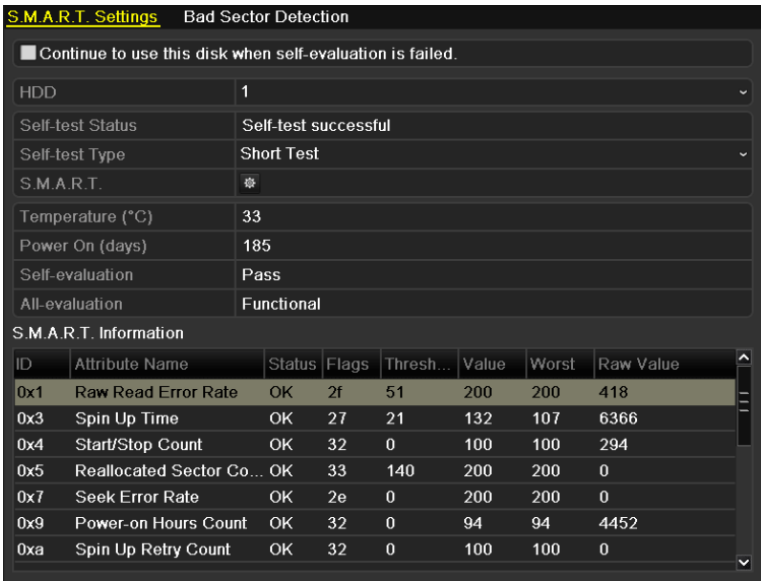


Figure 10. 22 S.M.A.R.T Settings Interface

10.8 Detecting Bad Sector

Purpose:

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

Steps:

1. Enter the HDD Detect interface.

   Menu>HDD>HDD Detect

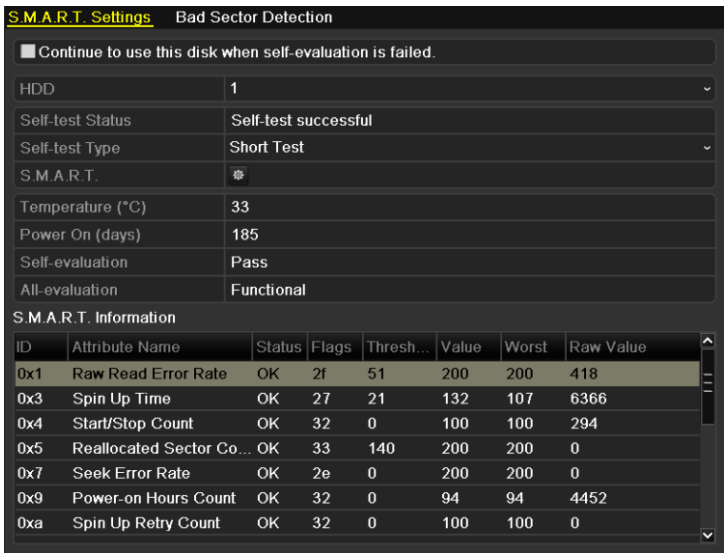


Figure 10. 23 Bad Sector Detection

2. Click the Bad Sector Detection tab to enter the interface.
3. Select a HDD and click the **Detect** button to start detecting.

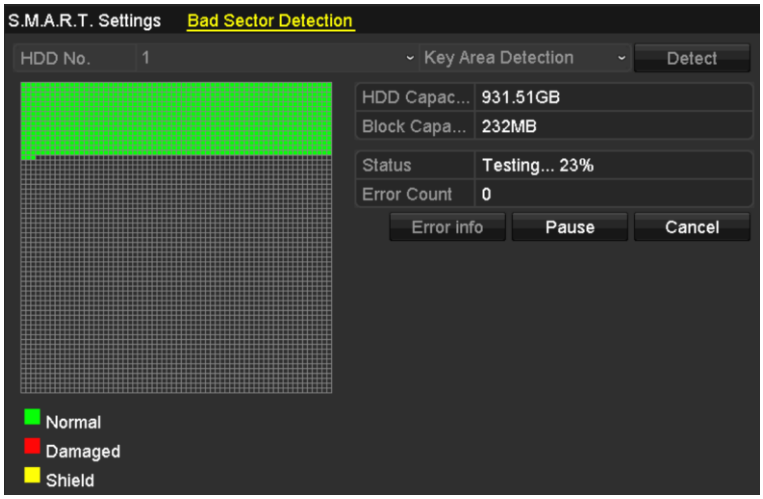


Figure 10. 24 Bad Sector Detecting

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

10.9 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. Check the checkbox(s) below to select the linkage action(s) for HDD error, as shown in Figure 10. 25.

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

NOTE

Trigger alarm output is applicable to 1080P Series.

Please refer to *Chapter 8.7 Setting Alarm Response Actions.*

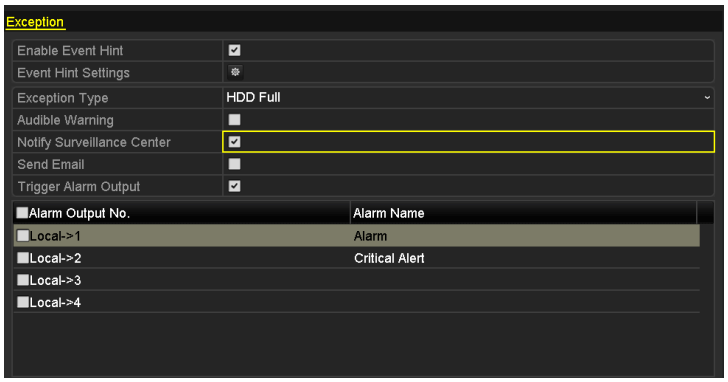


Figure 10. 25 Configure HDD Error Alarm

4. When the Trigger Alarm Output is selected, you can also select the alarm output to be triggered from the list below.
5. Click the **Apply** button 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, Display Mode and the OSD font.

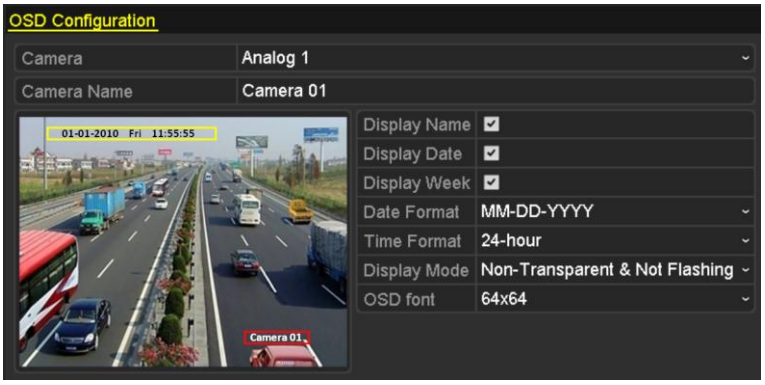


Figure 11. 1 OSD Configuration Interface

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 the **Copy** button to enter the Copy Camera interface, as shown in Figure 11. 2.

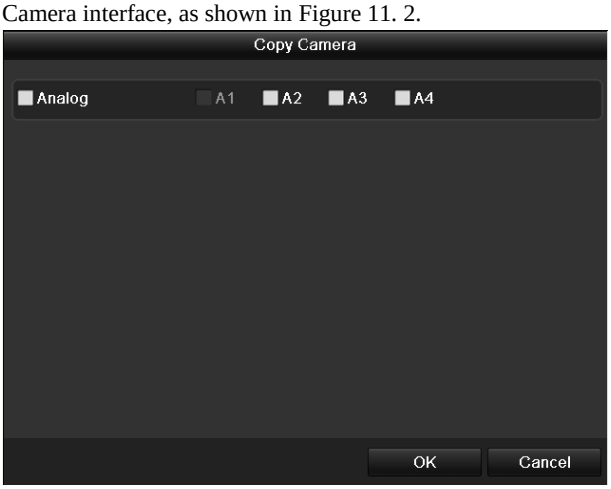


Figure 11. 2 Copy Settings to Other Cameras

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

11.2 Configuring Privacy Mask

Purpose:

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

Steps:

1. Enter the Privacy Mask Settings interface.

   Menu > Camera > Privacy Mask

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

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 the **Copy** button to copy the privacy mask settings of the current camera to other cameras. Please refer to step 7 of *Chapter 11.1Configuring OSD Settings*.
7. Click the **Apply** button to save the settings.

11.3 Configuring Video Parameters

Steps:

1. Enter the Image Settings interface.

   Menu > Camera > Image

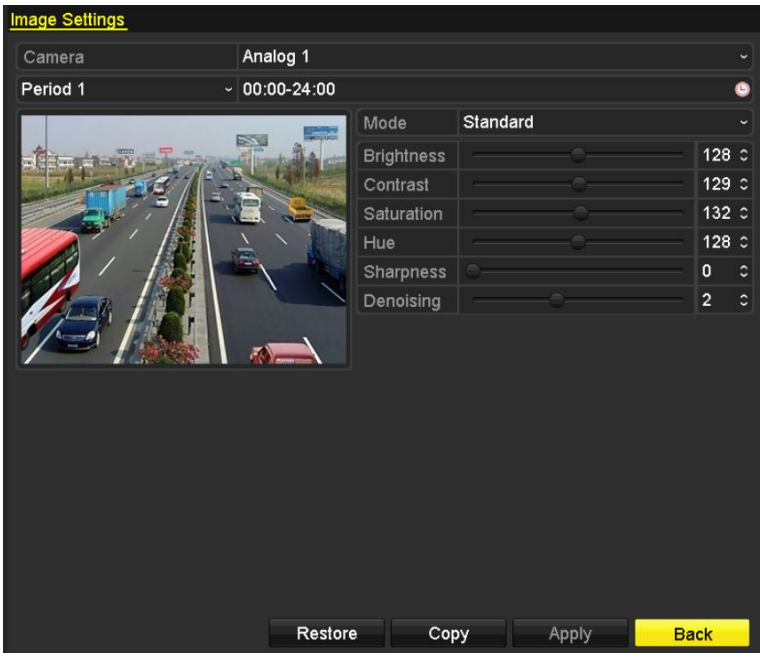


Figure 11. 5 Image Settings Interface

2. Select the camera to set image parameters.
3. Two periods for different image settings are provided, select the period name in the dropdown list.

NOTE

The time periods cannot be overlapped with each other.

4. Select the mode from the drop-down list of **Mode**, there are four modes selectable: Standard, Indoor, Dim Light and Outdoor.
5. Adjust the image parameters according to actual needs. The parameters include Brightness, Contrast, Saturation, Hue, Sharpness and Denoising. You can also click **Restore** to set the parameters to the default settings.
6. You can click **Copy** to copy the image settings of the current camera to other analog cameras.
7. Click **Apply** to save the settings.

Chapter 12 DVR Management and Maintenance

12.1 Viewing System Information

Steps:

1. Enter the System Information interface.
   Menu > Maintenance > System Info
2. You can click the **Device Info**, **Camera**, **Record**, **Alarm**, **Network** and **HDD** tabs to view the system information of the device.

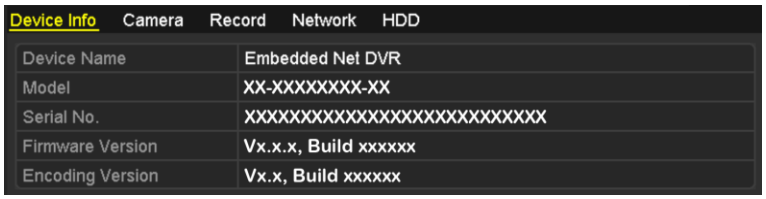


Figure 12. 1 System Information Interface

NOTE

This alarm information is not available for the 4/8/16ch 720P series.

12.2 Searching and Exporting Log Files

Purpose:

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

Steps:

1. Enter the Log Search interface.
   Menu > Maintenance > Log Search

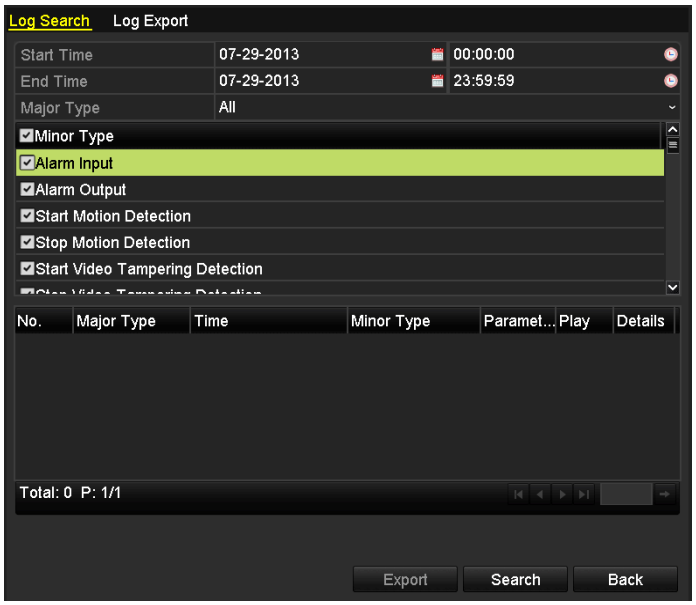


Figure 12. 2 Log Search Interface

2. Set the log search conditions to refine your search, including the Start Time, End Time, Major Type and Minor Type.
3. Click the **Search** button to start search 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.

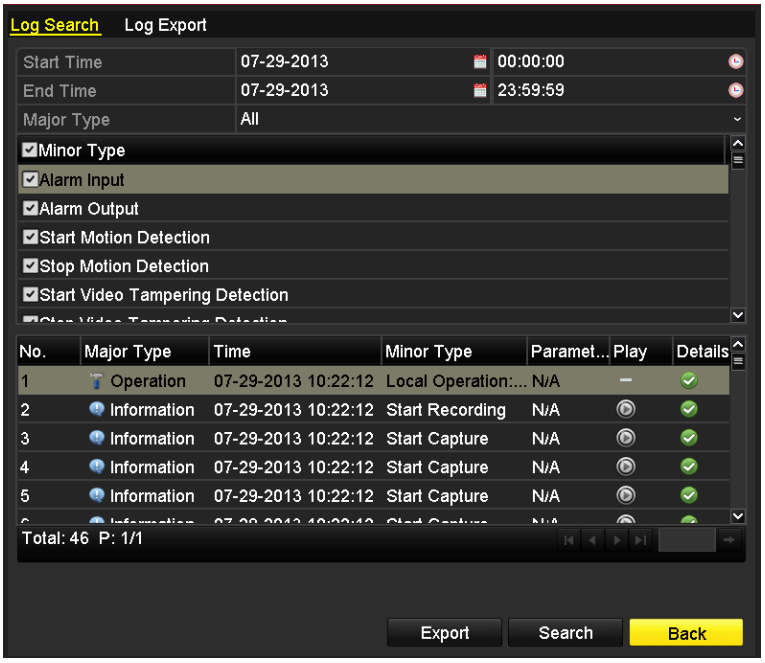


Figure 12. 3 Log Search Results

5. You can click the button of each log or double-click it to view its detailed information, as shown in Figure 12. 4. And you can also click the button to view the related video files if available.

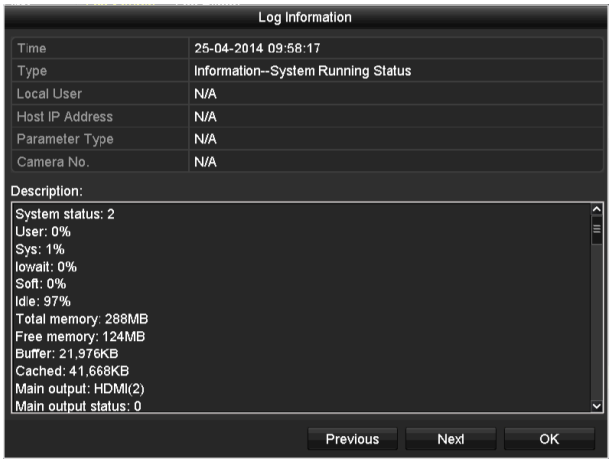


Figure 12. 4 Log Details

6. If you want to export the log files, click the **Export** button to enter the Export menu, as shown in Figure 12. 5.

Figure 12. 5 Export Log Files

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

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

NOTE

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

12.3 Importing/Exporting IP Camera Info

Purpose:

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

Steps:

1. Enter the camera management interface.
   Menu > Camera > IP Camera Import/Export
2. Click the IP Camera Import/Export tab, the content of detected plugged external device appears.
3. Click the **Export** button to export configuration files to the selected local backup device.
4. To import a configuration file, select the file from the selected backup device and click the **Import** button. After the importing process is completed, you must reboot the DVR.

12.4 Importing/Exporting Configuration Files

Purpose:

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

Steps:

1. Enter the Import/Export Configuration File interface.

   Menu > Maintenance > Import/Export

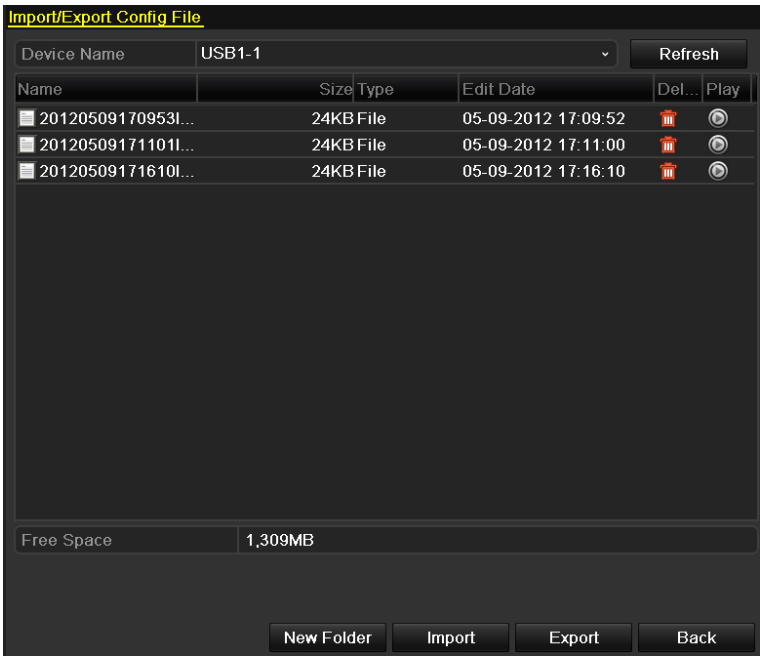


Figure 12. 6 Import/Export Config File

2. Click the **Export** button 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 the **Import** button. After the import process is completed, you must reboot the DVR.

NOTE

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

12.5 Upgrading System

Purpose:

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

12.5.1 Upgrading by Local Backup Device

Steps:

1. Connect your DVR 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, as shown in Figure 12. 7.

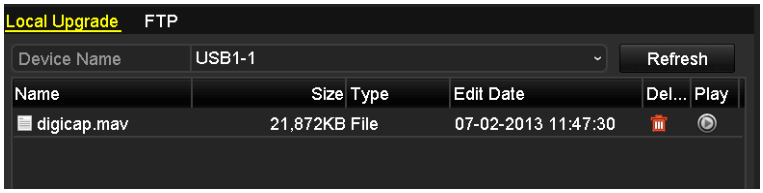


Figure 12. 7 Local Upgrade Interface

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

12.5.2 Upgrading by FTP

Before you start:

Configure PC (running FTP server) and DVR to the same Local Area Network. Run the 3rd-party TFTP software on the PC and copy the firmware into the root directory of TFTP.

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. 8.

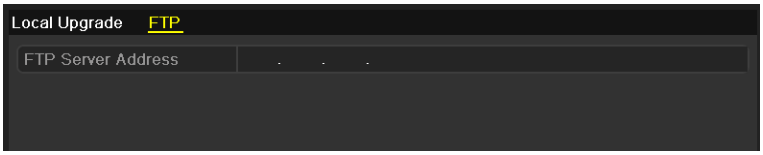


Figure 12. 8 FTP Upgrade Interface

3. Enter the FTP Server Address in the text field.
4. Click the **Upgrade** button to start upgrading.
5. After the upgrading is complete, reboot the DVR to activate the new firmware.

12.6 Restoring Default Settings

Steps:

1. Enter the Default interface.

   Menu > Maintenance > Default

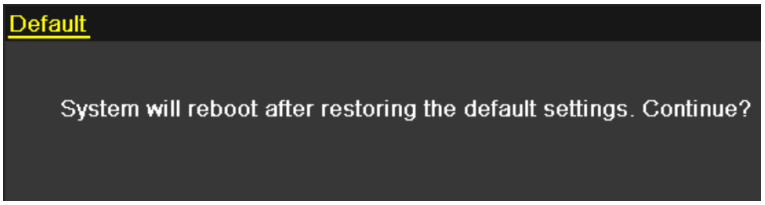


Figure 12. 9 Restore Factory Default

2. Click the **OK** button to restore the default settings.

NOTE

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

Chapter 13 Others

13.1 Configuring RS-232 Serial Port

Purpose:

The RS-232 port can be used in two ways:

Parameters Configuration: Connect a PC to the device through the PC serial port. Device parameters can be configured by using software such as HyperTerminal. The serial port parameters must be the same as the device's when connecting with the PC serial port.

Transparent Channel: Connect a serial device directly to the device. The serial device will be controlled remotely by the PC through the network.

NOTE

RS-232 serial port is not available for 4ch/8ch/16ch 720P series.

Steps:

1. Enter the RS-232 Settings interface.

   Menu > Configuration > RS-232

Figure 1. 1 RS-232 Settings Interface

2. Configure RS-232 parameters, including baud rate, data bit, stop bit, parity, flow control and usage.
3. Click **Apply** to save the settings.

13.2 Configuring General Settings

Purpose:

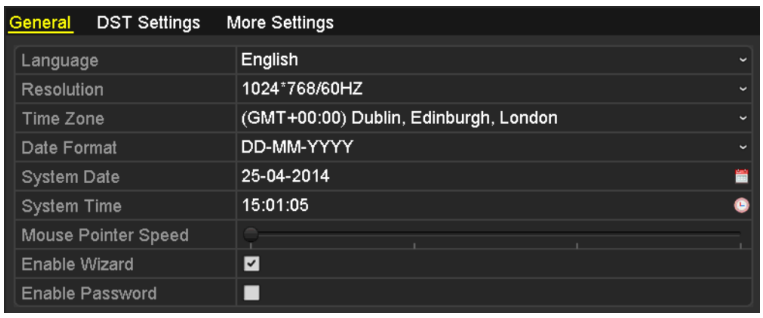
You can configure the output resolution, system time, mouse pointer speed, etc.

Steps:

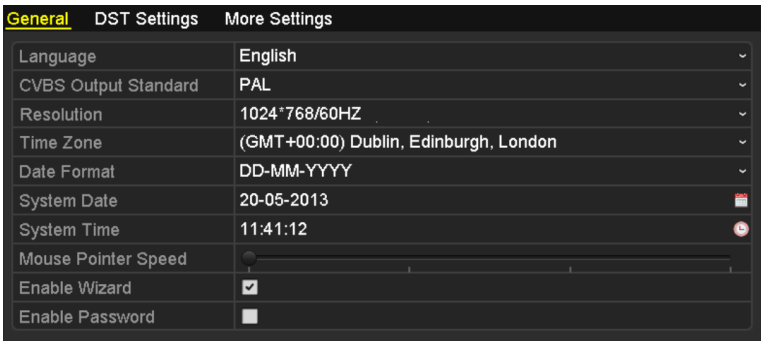
1. Enter the General Settings interface.

   Menu > Configuration > General

2. Select the **General** tab.



720P Series



Other Models

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 (for 1080P series).
   - **Resolution:** Select the output resolution, which must be the same with the resolution of the VGA/HDMI display.
   - **Time Zone:** Select the time zone.
   - **Date Format:** Select the date format.
   - **System Date:** Select the system date.
   - **System Time:** Select the system time.
   - **Mouse Pointer Speed:** Set the speed of mouse pointer; 4 levels are configurable.
   - **Enable Wizard:** Enable/disable the Wizard when the device starts up.
   - **Enable ID Authentication:** Enable/disable the use of the login password.
4. Click the **Apply** button to save the settings.

13.3 Configuring DST Settings

Steps:

1. Enter the General Settings interface.

   Menu >Configuration>General

2. Choose **DST Settings** tab.

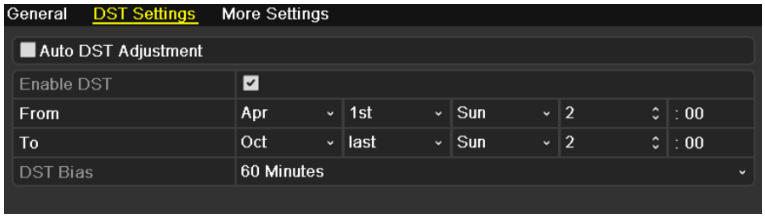


Figure 13. 2 DST Settings Interface

You can check the checkbox before the **Auto DST Adjustment** item.

Or you can manually check the **Enable DST** checkbox, and then you choose the date of the DST period.

13.4 Configuring More Settings

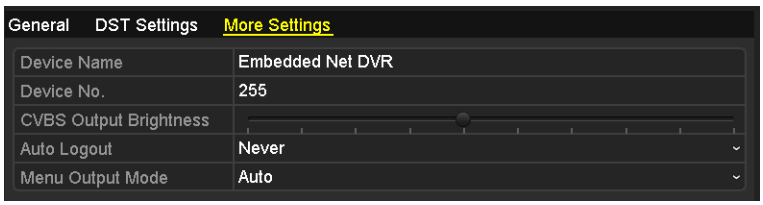
Steps:

1. Enter the General Settings interface.

   Menu > Configuration > General

2. Click the **More Settings** tab to enter the More Settings interface, as shown in 0.

4/8/16ch 720P Series



Other Models

Figure 13. 3 More Settings Interface

3. Configure the following settings:
   - **Device Name:** Edit the name of DVR.
   - **Device No.:** Edit the serial number of DVR. The Device No. can be set in the range of 1~255, and the default No. is 255.
   - **CVBS Output Brightness:** Adjust the video output brightness via the CVBS interface.
   - **Auto Logout:** Set timeout time for menu inactivity. E.g., when the timeout time is set to *5 Minutes*, then the system will exit from the current operation menu to live view screen after 5 minutes of menu inactivity.
   - **Menu Output Mode:** You can choose the menu display on different video output. There are auto, HDMI/VGA and Main CVBS selectable.
4. Click the **Apply** button to save the settings.

13.5 Managing User Accounts

Purpose:

There is a default account in the DVR: *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.

13.5.1 Adding a User

Steps:

1. Enter the User Management interface.

   Menu > Configuration > User

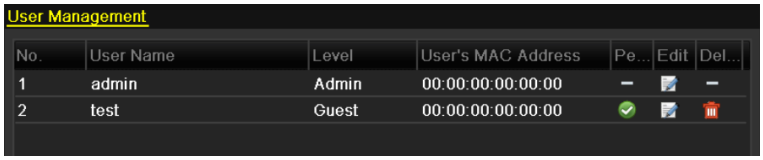


Figure 13. 4 User Management Interface

2. Click the **Add** button 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 DVR. If it is configured and enabled, it only allows the remote user with this MAC address to access the DVR.

4. Click the **OK** button to save the settings and go back to the User Management interface. The added new user will be displayed on the list, as shown in Figure 13. 6.

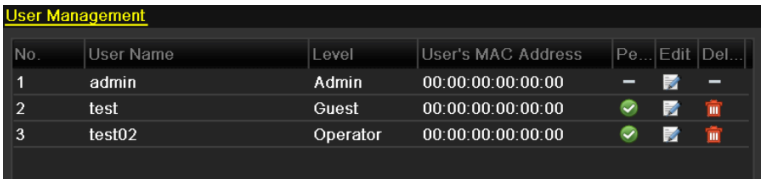


Figure 13. 6 Added User Listed in User Management Interface

5. Select the user from the list and then click the button to enter the Permission settings interface, as shown in Figure 13. 7.

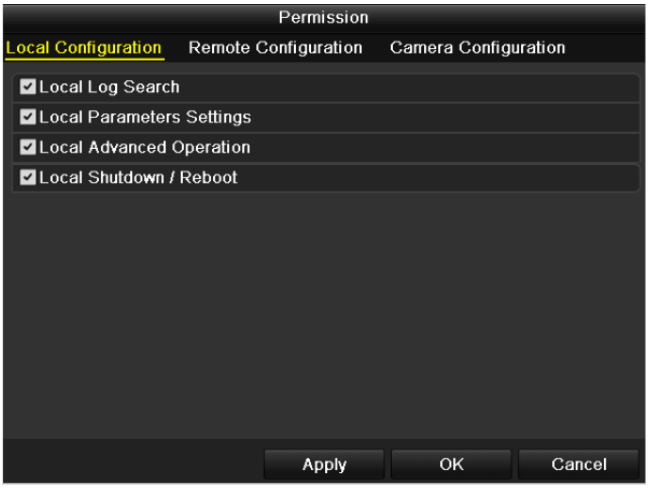


Figure 13. 7 User Permission Settings Interface

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 DVR.
- Local Parameters Settings: Configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- 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 DVR.

Remote Configuration

- Remote Log Search: Remotely viewing logs that are saved on the DVR.
- Remote Parameters Settings: Remotely configuring parameters, restoring factory default parameters and importing/exporting configuration files.
- Remote Serial Port Control: Configuring settings for RS-232 and RS-485 ports.
- Remote Video Output Control: Sending remote button control signal.
- Two-way Audio: Realizing two-way radio between the remote client and the DVR.
- 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 DVR.

Camera Configuration

- Remote Live View: Remotely viewing live video of the selected camera(s).

- Local Manual Operation: Locally starting/stopping manual recording and alarm output of the selected camera(s).
- Remote Manual Operation: Remotely starting/stopping manual recording 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 the **OK** button to save the settings and exit interface.

NOTE

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

13.5.2 Deleting a User

Steps:

1. Enter the User Management interface.

Menu > Configuration > User

2. Select the user to be deleted from the list, as shown in Figure 13. 8.

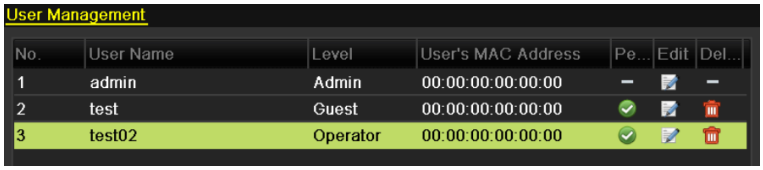


Figure 13. 8 Delete a User

3. Click the icon to delete the selected user.

13.5.3 Editing a User

Steps:

1. Enter the User Management interface.

Menu > Configuration > User

2. Select the user to be edited from the list, as shown in Figure 13. 9.

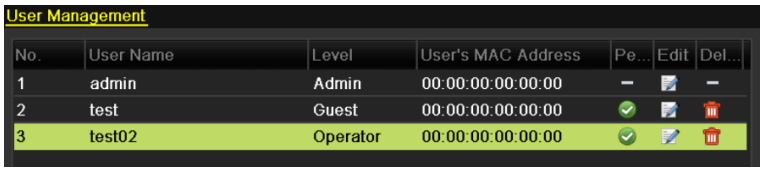


Figure 13. 9 Edit a User

3. Click the icon to enter the Edit User interface, as shown in Figure 13. 10 and Figure 13. 11.

Figure 13. 10 Edit User Interface-operator and guest

Figure 13. 11 Edit User Interface-admin

4. Edit the parameters.

- **Operator and Guest**

You can edit the user information, including user name, password, permission level and MAC address. Check the checkbox of **Change Password** if you want to change the password, and input the new one in the text field of **Password** and **Confirm**.

- **Admin**

You are only allowed to edit password and MAC address. Check the checkbox of **Change Password** if you want to change the password, and the input the correct old password, and the new one in the text field of **Password** and **Confirm**.

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

13.6 Logging out/Shutting down/Rebooting Device

Steps:

1. Enter the Shutdown interface.

   Menu > Shutdown

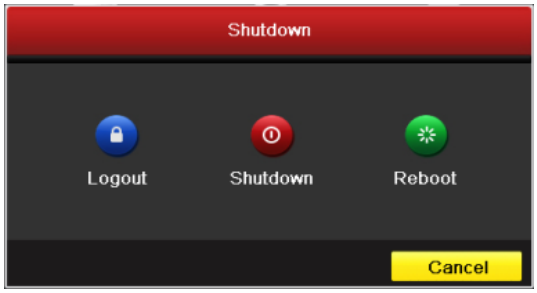


Figure 13. 12 Shutdown Menu

2. Click the **Logout** button to log out, or

   Click the **Shutdown** button to shut down the device, or

   Click the **Reboot** button 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 login the system.

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

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 a beep sound 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 do not 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.

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

Possible Reasons:

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

Steps:

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

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

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

   If it is solved, finish the process.

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

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

Possible Reasons:

a) The frame rate is not the real-time frame rate.

b) The DVR supports up to 16-channel synchronize playback at the resolution of 4CIF, if you want a 16-channel synchronize playback at the resolution of 720P, the frame extracting may occur, which leads to a slight stuck.

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.