Network Video Recorder

Quick Operation Guide

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Regulatory information

FCC information

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

FCC conditions

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

1. This device may not cause harmful interference.

2. This device must accept any interference received, including interference that may cause undesired operation.

EU Conformity Statement

CE

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the Low Voltage Directive 2006/95/EC, the EMC Directive 2004/108/EC, the RoHS Directive 2011/65/EU.

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

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

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Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer. This manual is for reference only.

NOTE

This product has default user name and password credentials for first time access. You must change these default credentials to protect against unauthorized access to the product.

NVR Pre-Installation

The NVR is highly advanced surveillance equipment that should be installed with care. Please take into consideration the following precautionary steps before installation of the NVR.

1. Keep all liquids away from the NVR.
2. Install the NVR in a well-ventilated and dust-free area.
3. Ensure environmental conditions meet factory specifications.
4. Install a manufacturer recommended HDD.

NVR Installation

During the installation of the NVR:

1. Use brackets for rack mounting.
2. Ensure there is ample room for audio and video cables.
3. When routing cables, ensure that the bend radius of the cables are no less than five times than its diameter.
4. Connect both the alarm and RS-485 cable.
5. Allow at least 2cm (≈0.75-inch) of space between racks mounted devices.
6. Ensure the NVR is grounded.
7. Environmental temperature should be within the range of -10 ºC ~ 55 ºC, 14ºF ~ 131ºF.
8. Environmental humidity should be within the range of 10% ~ 90%.

Hard Disk Installation

Before you start:

Disconnect the power from the NVR before installing a hard disk drive (HDD). A factory recommended HDD should be used for this installation.

Up to 2 SATA hard disks can be installed on your NVR.

Tools Required: Screwdriver.

Steps:

1. Remove the cover from the NVR by unfastening the screws on the rear and side panel.

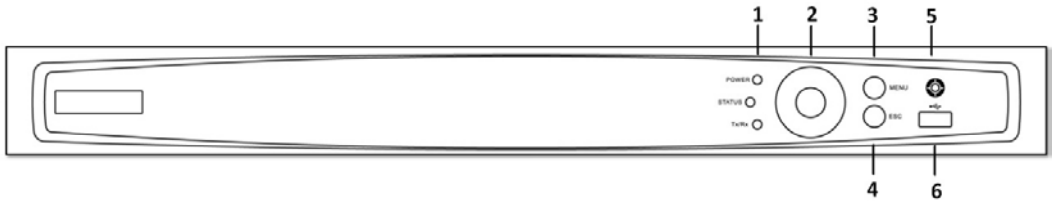
2. Connect one end of the data cable to the motherboard of NVR and the other end to the HDD.

3. Connect the power cable to the HDD.

4. Place the HDD on the bottom of the device and then fasten the screws on the bottom to fix the HDD.

5. Re-install the cover of the NVR and fasten screws.

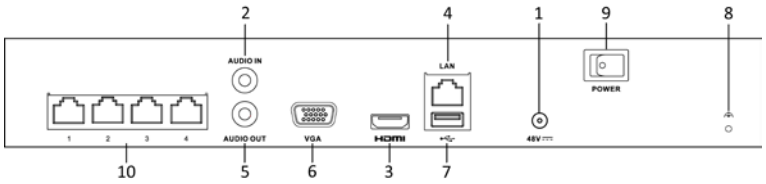
Front Panel



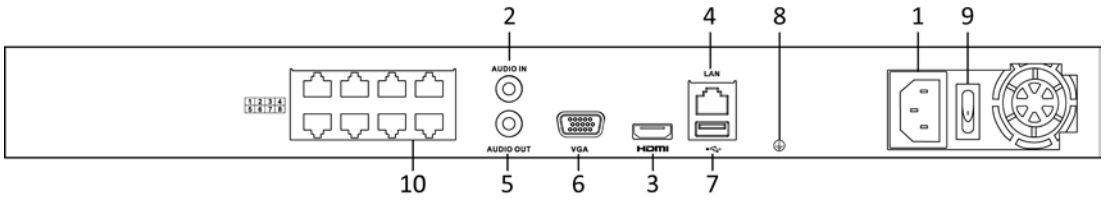
No.	Name	Function Description
1	**POWER**	POWER indicator turns green when DVR is powered up.
	STATUS	STATUS indicator lights in red when data is being read from or written to HDD.
	Tx/Rx	Tx/Rx indictor blinks green when network connection is functioning properly.
2	**DIRECTION**	The DIRECTION buttons 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.

Rear Panel

The rear panel vaires according to different models.



4ch



8ch

No.	Item	Description
1	**Power Supply**	48V DC power supply for 4ch model and AC 100~240V for 8ch and 16ch models.
2	**Audio In**	RCA connector for audio input.
3	**HDMI Interface**	HDMI video output connector.
4	**LAN Network Interface**	1 10 /100 /1000 Mbps self-adaptive Ethernet interface
5	**Audio Out**	RCA connector for audio output.
6	**VGA Interface**	DB9 connector for VGA output. Display local video output and menu.
7	**USB Interface**	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
8	**Ground**	Ground (needs to be connected when NVR starts up).
9	**Power Switch**	Switch for turning on/off the device.
10	**Network Interfaces with PoE function**	Network interfaces for the cameras and to provide power over Ethernet.

Specifications

Specification

Model		4ch	8ch	16ch
Video/Audio input	IP video input	4-ch	8-ch	16-ch
	Two-way audio input	1-ch, RCA (2.0 Vp-p, 1kΩ)		
Network	Incoming bandwidth	25Mbps	50Mbps	100Mbps
	Outgoing bandwidth	80Mbps		
	Remote connection	32	128	128
Video/Audio output	Recording resolution	6MP/5MP/3MP/1080P/UXGA/720P/VGA/4CIF/DCIF/2CIF/CIF/QCIF		
	Frame rate	Main stream: 50 fps (P) / 60 fps (N)		
		Sub-stream: 50 fps (P) / 60 fps (N)		
	HDMI/VGA output	1-ch, resolution: 1920 × 1080P /60Hz, 1600 × 1200 /60Hz, 1280 × 1024 /60Hz, 1280 × 720 /60Hz, 1024 × 768 /60Hz		
	Audio output	1-ch, RCA (Linear, 1kΩ)		
Decoding	Live view / Playback resolution	6MP/5MP/3MP/1080P/UXGA/720P/VGA/4CIF/DCIF/2CIF/CIF/QCIF		
	Capability	4-ch@1080P	8-ch@720P, 6-ch@1080P	16-ch@4CIF, 12-ch@720P, 6-ch@1080P
Hard disk	SATA	1 SATA interface for 1 HDD	2 SATA interfaces for 2 HDDs	
	Capacity	Up to 4TB for each disk		
External interface	Network interface	1 RJ-45 10 /100 /1000 Mbps self-adaptive Ethernet interface		
	USB interface	1 × USB 2.0 and 1 × USB 3.0		
	Alarm in/out (Optional)	4 / 1		
PoE	Interface	4 independent 100 Mbps PoE network interfaces	8 independent 100 Mbps PoE network interfaces	
	Max. Power	50W	120W	
	Supported standard	AF and AT		
Others	Power supply	48V DC	220V AC	
	Consumption (without hard disk and PoE)	≤ 10W		
	Working temperature	-10 ºC ~ +55 ºC (+14 ºF~ + 131 ºF)		
	Working humidity	10 % ~ 90 %		
	Chassis	1U chassis	19-inch rack-mounted 1U chassis	
	Dimensions (W × D × H)	315 × 230 × 45mm (12.4"×9.1"×1.8")	445 × 290 × 45mm (17.5" × 11.4" × 1.8")	
	Weight (without hard disk)	≤ 1 kg (2.2 lb)		

HDD Storage Calculation Chart

The following chart shows an estimation of storage space used based on recording at one channel for an hour at a fixed bit rate.

Bit Rate	Storage Used
96K	42M
128K	56M
160K	70M
192K	84M
224K	98M
256K	112M
320K	140M
384K	168M
448K	196M
512K	225M
640K	281M
768K	337M
896K	393M
1024K	450M
1280K	562M
1536K	675M
1792K	787M
2048K	900M
4096K	1.8G
8192K	3.6G
16384K	7.2G

Please note that supplied values for storage space used is just for reference. The storage values in the chart are estimated by formulas and may have some deviation from actual value.

Accessing by Web Browser

Logging In

You can get access to the device via web browser. Open web browser, input the IP address of the device and then press Enter. The login interface appears.

Input the user name and password, and click the **Login** button.

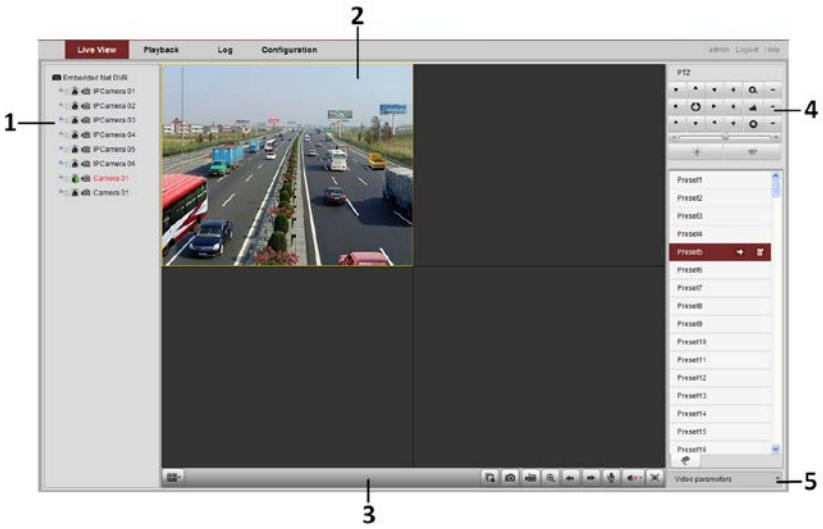
NOTE

- The default IP address is 192.0.0.64.
- The default user name is admin, and password is 12345.
- You may use one of the following listed web browsers: Internet Explorer 6.0, Internet Explorer 7.0, Internet Explorer 8.0, Internet Explorer 9.0, Internet Explorer 10.0, Apple Safari, Mozilla Firefox, and Google Chrome.
- The supported resolutions include 1024*768 and above.

When you log in for the first time, the system will remind you to install the Plug-in control. After the installation, you can configure and manage the device remotely.

Live View

The live view interface appears by default when you log in the device.



NOTE

The live view interface may differ according to different models.

Interface Introduction

No.	Name	Description
1	Channel List	Displays the list of channels and the playing and recording status of each channel. NOTE The stream type can be switched by clicking the icon before the channel name: stands for main stream and for sub-stream.
2	Live View Window	Displays the image of channel, and multi-window division is supported.
3	Play Control Bar	Play control operations are supported.
4	PTZ Control	Pan, tilt, zoom operations are supported, as well as preset editing and calling. NOTE PTZ function can only be realized if the connected camera supports PTZ control.
5	Video Parameters Configuration	Brightness, contrast, saturation and hue of the image can be edited.

Start Live View

Steps:

1. In the live view window, select a playing window by clicking the mouse.
2. Double click a camera from the device list to start the live view.
3. You can click the button on the toolbar to start the live view of all cameras on the device list.

   Refer to the following table for the description of buttons on the live view window:

Icon	Description	Icon	Description
	Select the window-division mode		Open/Close audio
	Start/Stop all live view		Start/Stop two-way Audio
	Capture pictures in the live view mode		Adjust volume
	Start/Stop all recording		Enable/Disable digital zoom
	Previous/Next page		Full screen

Recording

Before you start

Make sure the device is connected with HDD or network disk, and the HDD or network disk has been initialized for the first time to use.

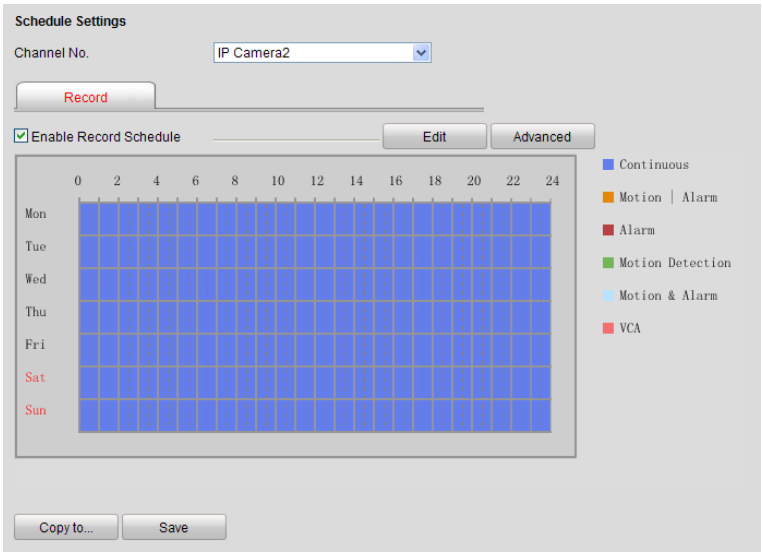
Two recording types can be configured: Manual and Scheduled. The following section introduces the configuration of scheduled recording.

Steps:

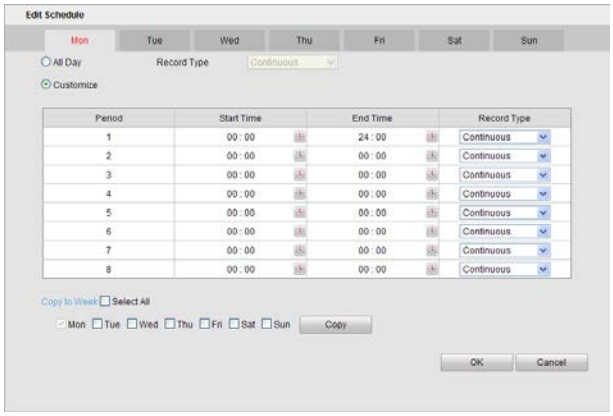
1. Click **Remote Configuration> Camera Settings> Record Schedule** to enter Record Schedule settings

interface.

2. Select the camera to configure the record schedule.
3. Check the checkbox of **Enable Schedule** to enable recording schedule.



4. Choose the day in a week to configure scheduled recording.
5. Click **Edit** to edit record schedule**.**



1) Configure All Day or Customize Record:

- If you want to configure the all-day recording, please check the **All Day** checkbox.
- If you want to record in different time sections, check the **Customize** checkbox. Set the **Start Time** and **End Time.**

NOTE

Up to 8 segments can be configured and each segment cannot be overlapped.

2) Select a **Record Type**. The record type can be Continuous, Motion, Alarm, Motion & Alarm, Motion | Alarm and VCA.

3) Check the checkbox of **Select All** and click **Copy** to copy settings of this day to the whole week. You can also check any of the checkboxes before the date and click **Copy**.

4) Click **OK** to save the settings and exit the **Edit Schedule** interface.

6. Click **Advanced** to configure advanced record parameters**.**
7. Click **Save** to activate the above settings.

Playback

NOTE

The playback interface may differ according to different models.

Interface Introduction

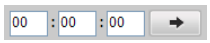
No.	Name	Description
1	Channel List	Displays the list of channels and the playing status of each channel.
2	Playback Window	Displays the image of channel.
3	Play Control Bar	Play control operations are supported.
4	Time Line	Displays the time bar and the records marked with different colors.
5	Playback Status	Displays the playback status, including channel number and playback speed.
6	Calendar	You can select the date to play.

Start Playback

Steps:

1. Click **Playback** on the menu bar to enter playback interface.
2. Click the camera from the device list for playback.
3. Select the date from the calendar and click **Search**.
4. Click the **Play** button to play the video file searched on the current date.
5. Use the buttons on the toolbar to operate in playback mode.

Button	Description	Button	Description
	Play/Pause		Stop
	Slow down		Speed up
	Play by single frame		Capture
	Stop all playback		Download
	Video clip		Open/Close audio
	Full screen		Reverse playback

6. You can drag the progress bar with the mouse to locate the exact playback point. You can also input the time in the textbox  and click button to locate the playback point.
   The color of the video on the progress bar stands for the different video types.

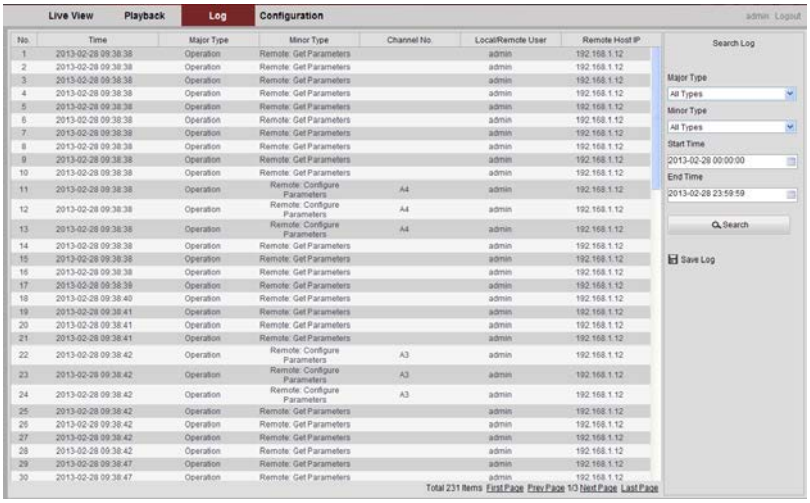
Log

You can view and export the log files at any time, including operation, alarm, exception and information of device.

Before you start:

The Log function can be realized only when the device is connected with HDD or network disk.

Steps:

1. Click **Log** on the menu bar to enter the Log interface.
   

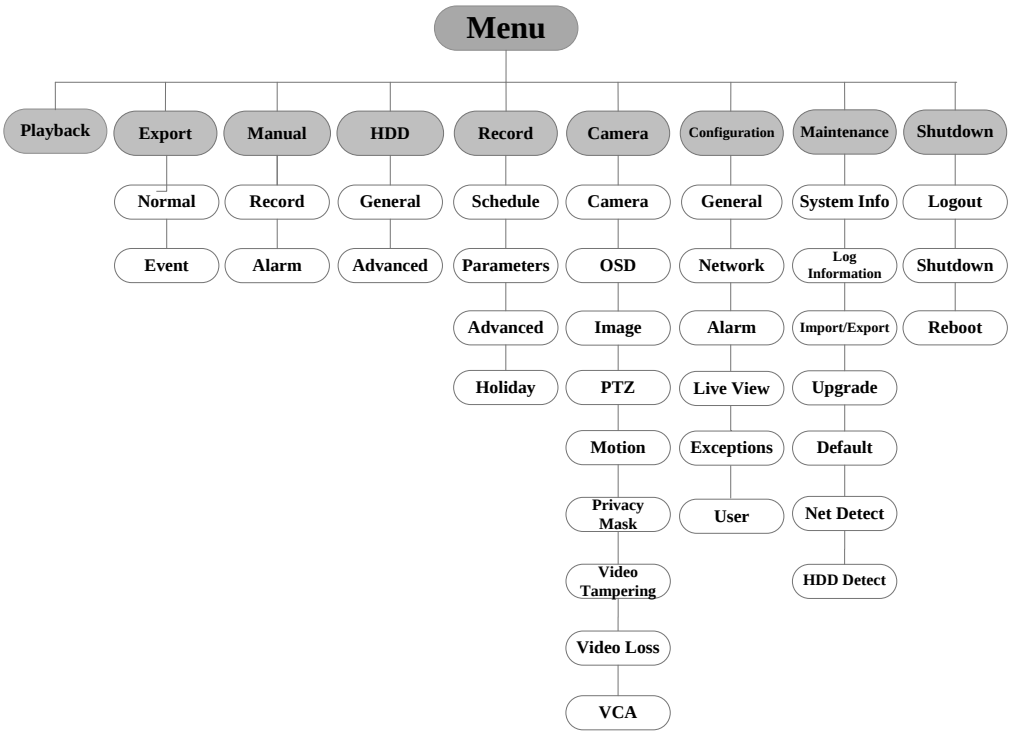
2. Set the log search conditions to refine your search, including the Major Type, Minor Type, Start Time and End Time.
3. Click the **Search** button to start searching log files.
4. The matched log files will be displayed on the list.

   Up to 2000 log files can be found each time, and 100 log files can be displayed on each page.

   You can click the button to save the searched log files to local directory.

Menu Operation

Menu Structure



NOTE

The menu structure may vary according to different models.

Startup and Shutdown

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

To start your NVR:

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. The Power LED should turn green. The unit will begin to start. After the device starting up, the wizard will guide you through the initial settings, including modifying password, date and time settings, network settings, HDD initializing, and recording.

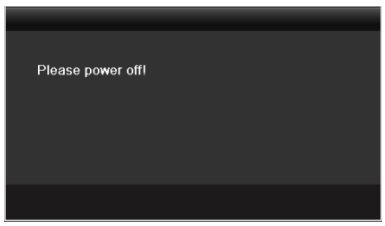
To shut down the NVR:

Steps:

1. Enter the Shutdown menu.

   Menu > Shutdown

2. Select the **Shutdown** button.
3. Click the **Yes** button.
4. Turn off the power switch on the rear panel when the attention pops up.



Live View

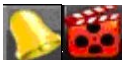
Some icons are provided on screen in Live View mode to indicate different camera status. These icons include:

Live View Icons

In the live view mode, there are icons at the upper-right corner of the screen for each channel, showing the status of the record and alarm in the channel, so that you can find problems as soon as possible.

Alarm (video loss, tampering, motion detection or sensor alarm)

Record (manual record, continuous record, motion detection or alarm triggered record)

 Alarm & Record

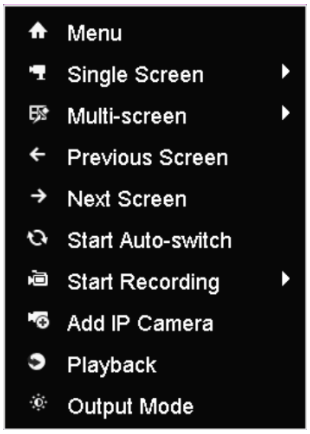
Event/Exception (event and exception information, appears at the lower-left corner of the screen.)

Adding IP Cameras

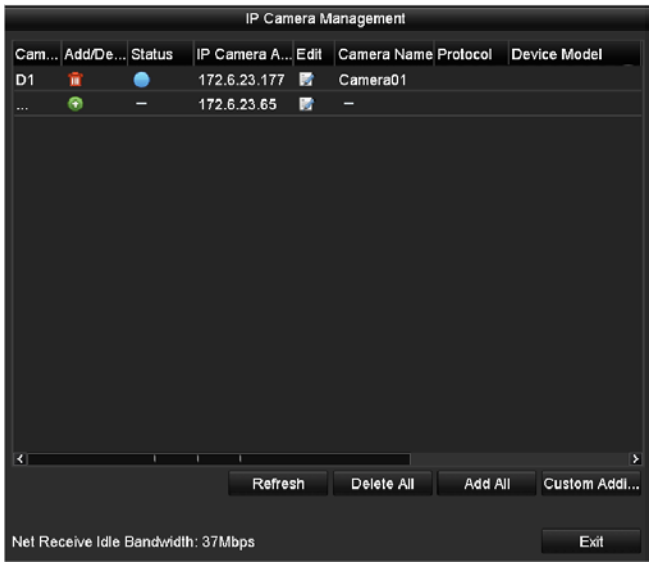
You should add and configure the online IP cameras to enable the live view and recording function.

Steps:

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



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



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

NOTE

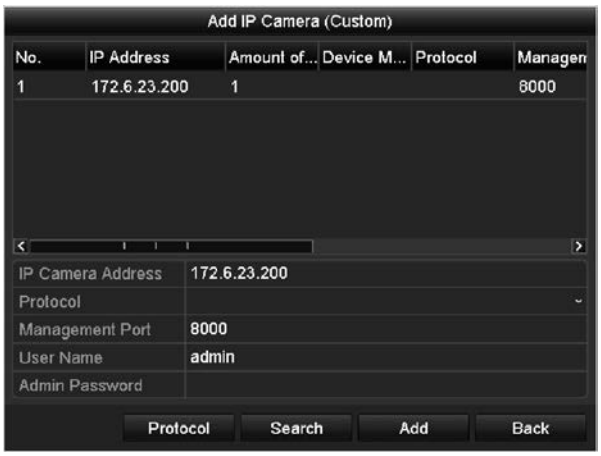
The added camera is marked in white while the camera has not been added is marked in yellow.

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.

4. To add other IP cameras:

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

4) (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.

Recording

Before you start:

Make sure that the HDD has already been installed. If not, please install a HDD and initialize it. You can refer to the user manual for detailed information.

Purpose:

Two kinds of record types are introduced in the following section, including Instant Record and All-day Record. And for other record types, you may refer to the user manual for detailed information.

NOTE

After rebooting all the manual records enabled are canceled.

Instant Recording

On the live view window of each channel, there is a quick setting toolbar which shows on the bottom of the window when you click on it.

Click the icon to enable the record, and the icon turns to . And click icon to disable the record, then the icon turns to .

All-day Recording

Steps:

1. On the live view window, right lick the window and move the cursor to the **Start Recording** option, and select **Continuous Record** or **Motion Detection Record** on your demand.
2. And click the **Yes** button in the popup Attention message box to confirm the settings.
   Then all the channels will start to record in the selected mode.

Playback

Play back the record files of a specific channel in the live view menu. Channel switch is supported.

- **Option 1:**

Choose a channel under live view using the mouse and click the button in the shortcut operation menu.

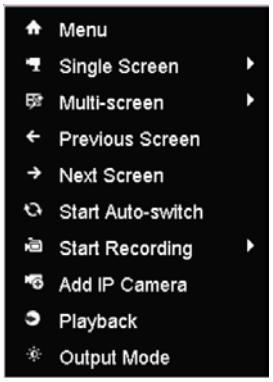
Only record files recorded during the past five minutes on this channel will be played back.

- **Option 2:**

Steps:

1. Enter the Playback menu.

   Mouse: right click a channel in live view mode and select Playback from the menu.



   Front Panel (if available): press PLAY button to play back record files of the channel under single-screen live view.

   Under multi-screen live view, record files of the selected channel will be played back.

Pressing numerical buttons will switch playback to related channels during playback process.

2. Playback management.

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

Just check the channel or channels if you want to switch playback to another channel or execute simultaneous playback of multiple channels.

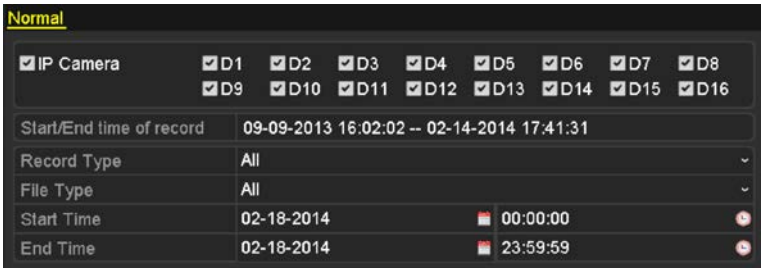
Backup

Recorded files can be backed up to various devices, such as USB flash drives, USB HDDs or a DVD writer.

Steps:

1. Enter Video Export interface.

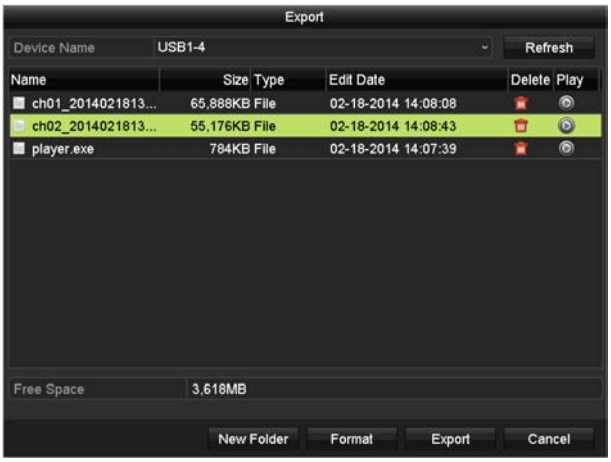
   Choose the channel(s) you want to back up and click on the **Quick Export** button.



2. Enter Export interface, choose backup device and click **Export** button to start exporting.

3. Check backup result.

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


Export
Device Name
USB1-4
Refresh
Name
Size
Type
Edit Date
Delete
Play
ch01_2014021813...
65,888KB
File
02-18-2014 14:08:08
ch02_2014021813...
55,176KB
File
02-18-2014 14:08:43
player.exe
784KB
File
02-18-2014 14:07:39
Free Space
3,618MB
New Folder
Format
Export
Cancel