

# **Network Video Recorder**

## **Quick Operation Guide**

Thank you for purchasing our product. If there is any question or request, please do not hesitate to contact dealer. This manual is applicable to the models listed in the following table.

Series	Model	Type
8700-P series	4CH(4 POE)	Network Video Recorder
	8CH(4 POE)	
	8CH(8 POE)	
	16CH(8 POE)	

## NVR Pre-Installation

This series NVR are 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 installing 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 ℃ ~ 55 ℃, 14 ℉ ~ 131 ℉.
8. Environmental humidity should be within the range of 10% ~ 90%.

## Hard Disk Installation

### *Before you start:*

Before installing a hard disk drive (HDD), please make sure the power is disconnected from the NVR. 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.

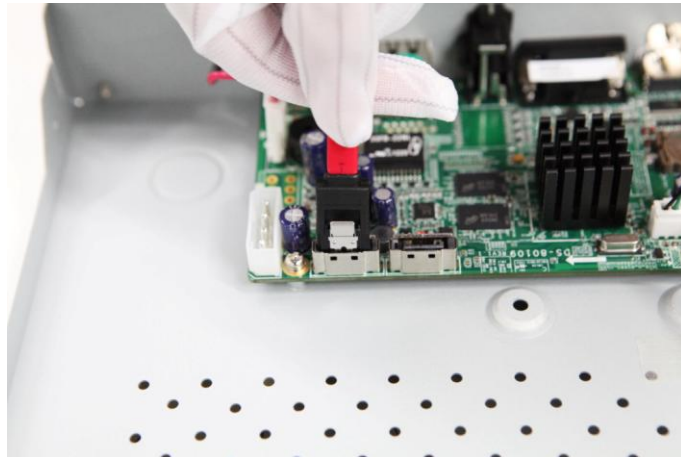
### *Steps (for 8700 Series):*

**Note:** The installation steps of 8/16 Series is the same as 4ch series, so we take the installation steps of 4ch as example.

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



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.

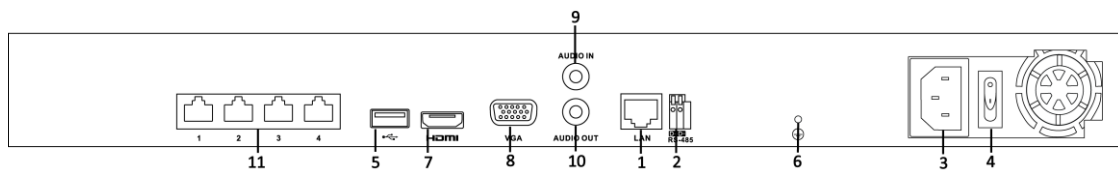
## Front Panel

### 8700-P Series



- ① Status Indicators (Alarm, Ready, Status, HDD, power, Tx/Rx)
- ② USB Interfaces
- ③ Composite Keys
- ④ SHIFT
- ⑤ Compound Buttons

## Rear Panel



8700-P Series(with 4 POE)

**Note:** The rear panels of others provide 8 POE interfaces.

No.	Item	Description
1	LAN Network Interface	Connector for LAN (Local Area Network).
2	RS-485 Interface	Connects to RS-485 devices.
3	Power Supply	100~240VAC power supply
4	Power Switch	Switch for turning on/off the device.
5	USB Interface	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
6	GND	Ground (needs to be connected when NVR starts up).
7	HDMI Interface	HDMI video output connector.
8	VGA Output	DB9 connector for VGA output. Display local video output and menu.
9	Audio In	RCA connector for voice talk input
10	Audio Out	RCA connector for audio output
11	Network Interfaces with PoE function (for B Series)	Network interface for the cameras and to provide power over Ethernet.

## Specifications

Model		4CH-P4	8CH-P4/P8	16CH-P8
Video/Audio input	IP video input	4-ch	8-ch	16-ch
	Two-way audio input	1-ch, RCA (2.0 Vp-p, 1kΩ)		
Bandwidth	Incoming bandwidth	20Mbps	40Mbps	80Mbps
	Output bandwidth	40Mbps		
Video/Audio output	Decoding resolution	5MP/3MP/1080p/UXGA/720p/VGA/4CIF/DCIF/2CIF/CIF/QCIF		
	HDMI/VGA output	1-ch, resolution: 1920 × 1080P /60Hz, 1600 × 1200 /60Hz, 1280 × 1024 /60Hz, 1280 × 720 /60Hz, 1024 × 768 /60Hz		
	CVBS	1-ch, BNC (1.0 Vp-p, 75 Ω) Resolution: 704 × 576 (PAL); 704 × 480 (NTSC) (optional)		
	Audio output	1-ch, RCA (Linear, 1kΩ)		
	Playback resolution	5MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF		
	Synchronous playback	4-ch, 720P / 2-ch, 1080P / 1-ch, 5MP	8-ch 4CIF /4-ch, 720P / 2-ch, 1080P / 1-ch, 5MP	
Hard disk	SATA	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		
		4/8 independent 10 /100 Mbps PoE Ethernet interfaces		
	Serial interface	1 RS-485 half-duplex interface		
	USB interface	2 × USB 2.0		
	Alarm in/out	4/1 (optional)		
Others	Power supply	100~240VAC, 47~63Hz, 3A		
	Consumption	≤ 15 W (without hard disk)		
	Working temperature	-10 ℃ ~ +55 ℃ (14 ℉ ~ 131 ℉)		
	Working humidity	10 % ~ 90 %		
	Chassis	19-inch rack-mounted 1U chassis		
	Dimensions (W × D × H)	445 × 290 × 45mm (175.2 × 114.2 × 17.7 inch)		
	Weight	≤ 2 Kg (4.4 lb) (without hard disk)		

## HDD Storage Calculation Chart

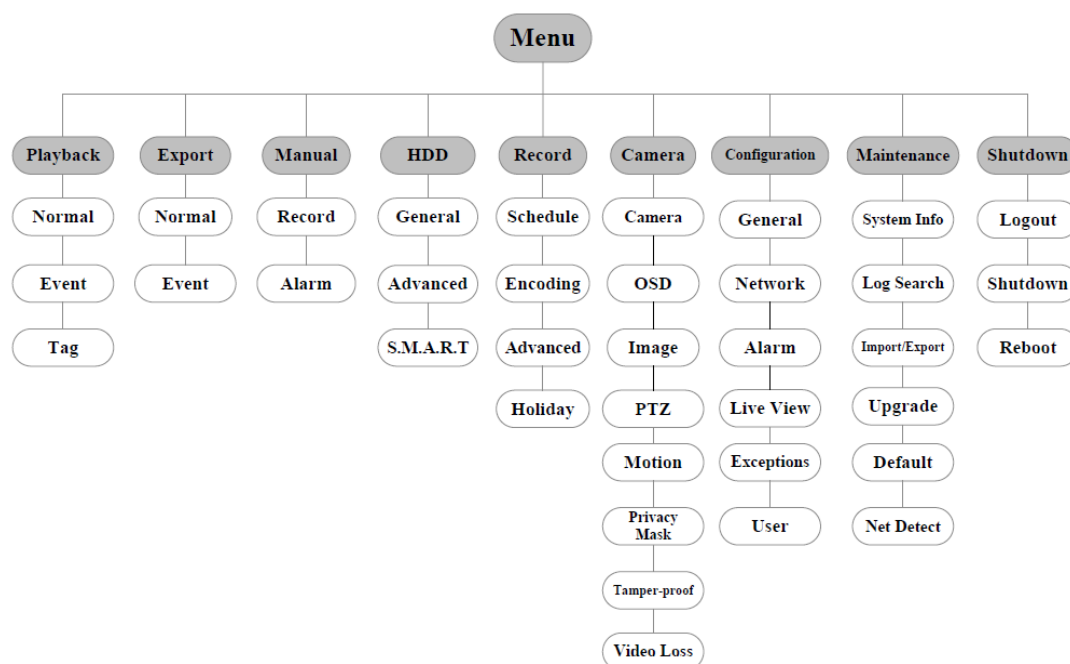
The following chart shows an estimation of storage space used based on recording at one channel for an hour at a fixed bit rate.

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

**Note:** Please note that supplied values for storage space used is just for reference. Storage space used is estimated by formulas and may have some deviation from actual value.

# Menu Operation

## Menu Structure



## Startup and Shutdown

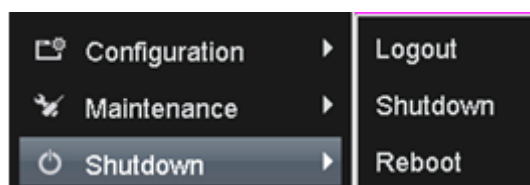
Proper startup and shutdown procedures are crucial to expanding the life of the NVR.

To start your NVR:

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. The Power indicator LED on the front panel should be red, indicating the device gets the power supply.
2. Turn on the power switch on the rear panel to start the NVR immediately.

To shut down the NVR:

1. Enter the Shutdown menu.  
Menu > Shutdown



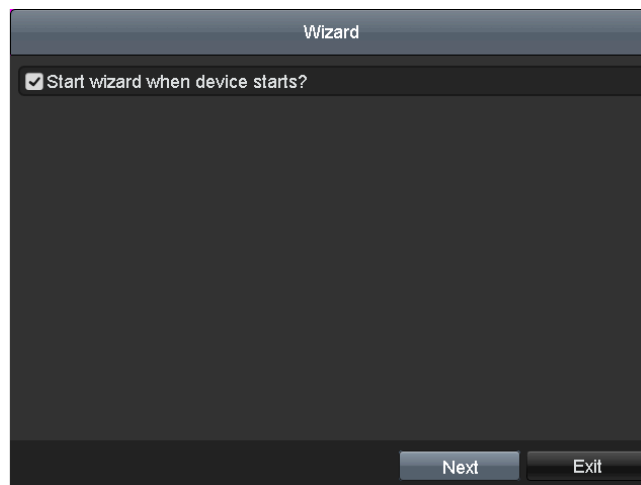
Shutdown Menu

2. Select the **Shutdown** button.
3. Click the **Yes** button.
4. Shut the power switch down when the shutdown attention pops up.



## Using the Start Wizard

By default, the Setup Wizard starts once the NVR has loaded, as shown in Figure below.

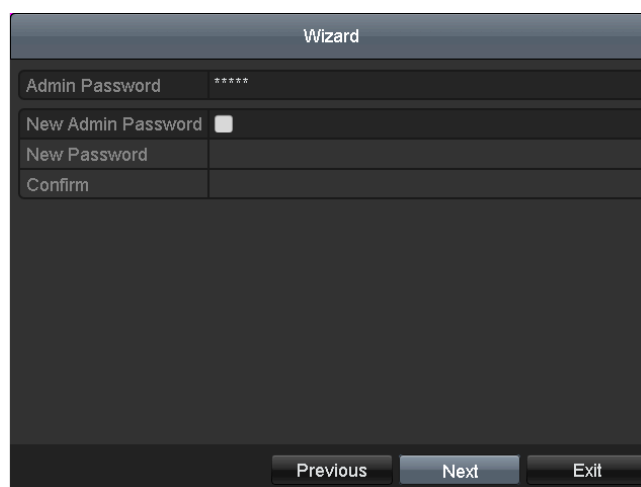


Start Wizard Interface

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Operating the Setup Wizard:

1. The Setup Wizard can walk you through some important settings of the NVR. If you don't want to use the Setup Wizard at that moment, click the **Cancel** button. You can also choose to use the Setup Wizard next time by leaving the "Start wizard when NVR starts?" checkbox checked.
2. Click **Next** button on the Wizard window to enter the **Login** window.



Login Window

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

The screenshot shows a 'Wizard' window with a dark background. It contains four rows of settings: 'Time Zone' set to '(GMT+08:00) Beijing, Urumqi, Singapore' with a dropdown arrow; 'Date Format' set to 'DD-MM-YYYY' with a dropdown arrow; 'System Date' set to '06-09-2013' with a calendar icon; and 'System Time' set to '18:04:48' with a clock icon. At the bottom, there are three buttons: 'Previous', 'Next', and 'Exit'.

Wizard	
Time Zone	(GMT+08:00) Beijing, Urumqi, Singapore
Date Format	DD-MM-YYYY
System Date	06-09-2013
System Time	18:04:48

### Date and Time Settings

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6. After the time settings, click **Next** button which takes you back to the Network Setup Wizard window.

The screenshot shows a 'Wizard' window with a dark background. It contains several rows of network settings: 'NIC Type' set to '10M/100M/1000M Self-adaptive' with a dropdown arrow; 'Enable DHCP' with an unchecked checkbox; 'IPv4 Address' set to '192.168.1.250'; 'IPv4 Subnet Mask' set to '255.255.255.0'; 'IPv4 Default Gateway' set to '192.168.10.1'; 'Preferred DNS Serv...' and 'Alternate DNS Server' as empty text fields; and 'Internal NIC IPv4 Ad...' set to '192.168.188.1'. At the bottom, there are three buttons: 'Previous', 'Next', and 'Exit'.

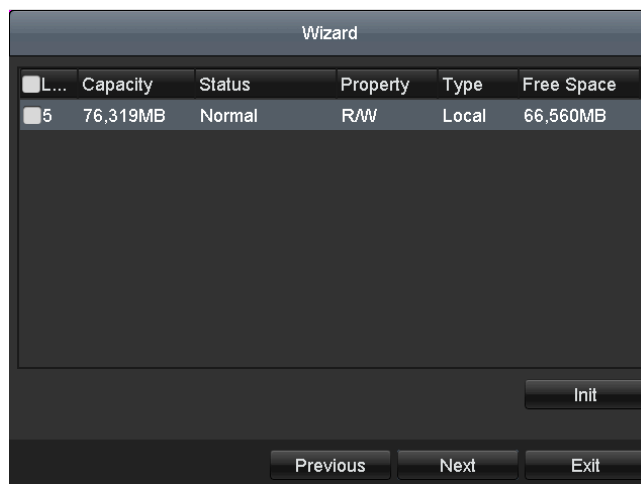
Wizard	
NIC Type	10M/100M/1000M Self-adaptive
Enable DHCP	<input type="checkbox"/>
IPv4 Address	192.168.1.250
IPv4 Subnet Mask	255.255.255.0
IPv4 Default Gateway	192.168.10.1
Preferred DNS Serv...	
Alternate DNS Server	
Internal NIC IPv4 Ad...	192.168.188.1

### Network Configuration

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**Note:** For A Series, B Series and C Series series NVR, the internal NIC IPv4 address should be configured for the cameras connecting to the PoE network interface or the built-in switch of the NVR.

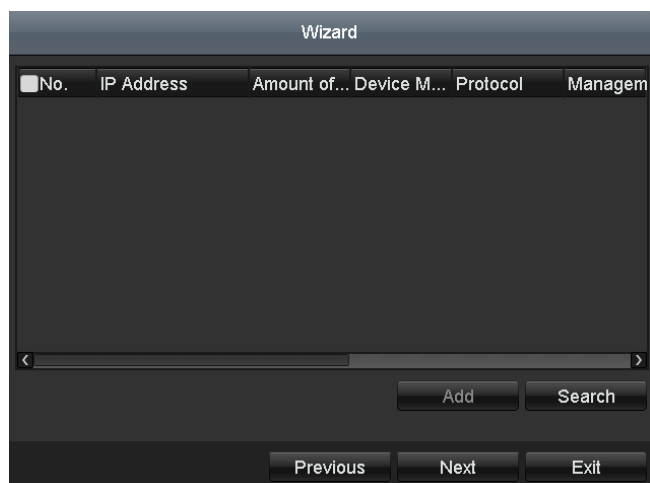
7. Click Next button after you configured the network parameters, which takes you to the HDD Management window.



### HDD Management

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8. To initialize the HDD, click the Init button. Initialization removes all the data saved in the HDD.
9. Click Next button. You enter the Adding IP Camera interface.
10. Click Search to find online IP Camera. Select the IP camera to be added, and click the Add button.



### Search for IP Cameras

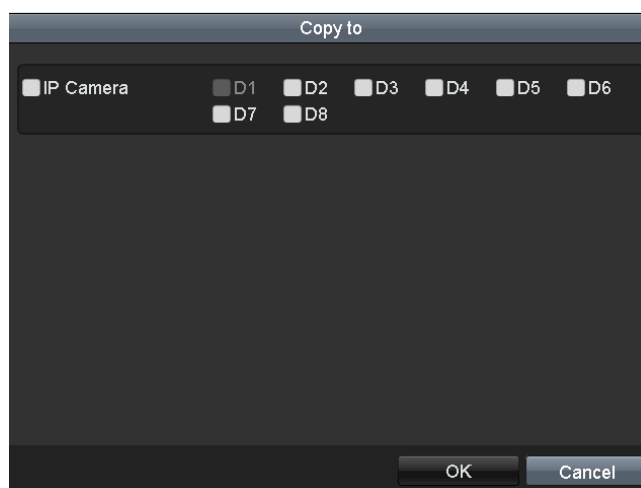
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11. Click Next button. Configure the recording for the searched IP Cameras.



Record Settings

12. Click Copy to copy the settings to other channels.



Copy Record Settings

13. Click OK to complete the startup Setup Wizard.

## 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 right top 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, schedule record, motion detection or alarm triggered record)



Alarm & Record

## Adding and Configuring IP Cameras

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

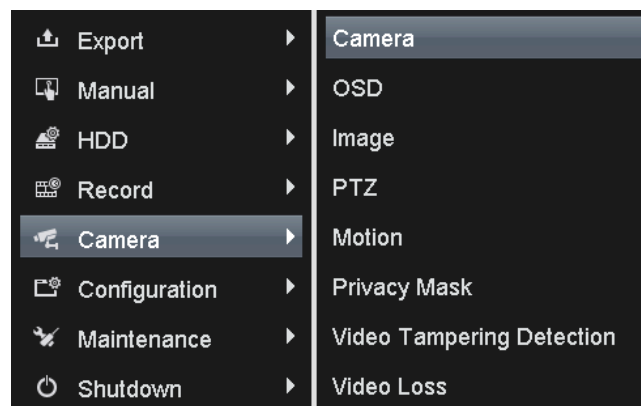
### Adding IP Cameras

You can search and add the online IP cameras by following the startup wizard, or according to the following steps.

#### Steps:

1. Enter the Camera Management interface.

Menu> Camera> Camera



Main Menu

2. To add the online cameras with same network segment:

- 1) Click **Search** to search the online cameras.



Camera Settings Interface

- 2) Check the checkbox of certain cameras to be added.
- 3) Click **Quick Add** to add the camera.


3. To add other IP cameras:
  - 1) On the left side of the interface, you can enter the IP address, protocol, management port, and other information of the IP camera to be added.
  - 2) Click **Add** to add the camera.

**Note:** If you check the Synchronize IP Camera checkbox, the default settings of the NVR for the IP camera is applied to the added camera.

### Configuring Basic Parameters of IP Cameras

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

#### Steps:

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

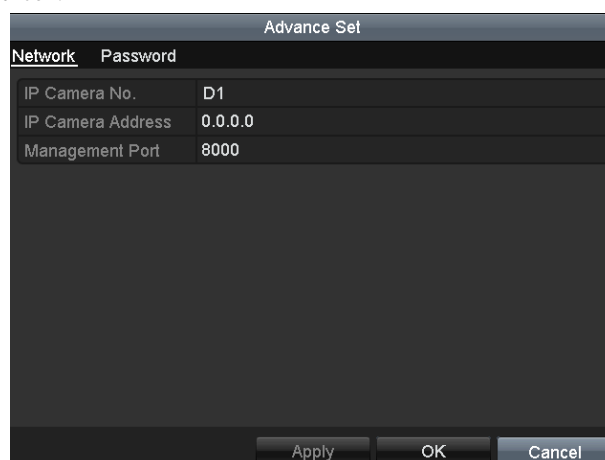


Edit the Parameters

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

To edit more parameters:

1. Click the **Advance Set** icon.



Network Configuration of the Camera

2. You can edit the network information and the password of the camera.
3. Click **Apply** to save the settings and click **OK** to exit the interface.

Explanation of the icons:

	
Edit basic parameters of the camera	Get the live view of the camera

## PTZ Control

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

Before you start, please check that the PTZ and the NVR are connected properly through RS-485 interface.

## PTZ Settings

*Steps:*

1. Enter the PTZ Settings interface.

Menu >Camera> PTZ



Camera Settings Interface

2. Choose the camera for PTZ setting next to **Camera** label.
3. Enter the parameters of the PTZ camera.  
*Note:* All the parameters should be exactly the same as the PTZ camera parameters.
4. Click **Copy** if you want to configure same settings to other PTZ cameras.
5. Click the **Apply** button to save and exit the interface.

## PTZ Control

In the Live View mode, you can press the PTZ Control button on the front panel or on the remote, or choose the

PTZ Control icon  to enter the PTZ toolbar.



PTZ Control Bar

Description of the PTZ toolbar icons

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




## Playback

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

### Instant playback by channel

#### Steps:

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

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



Instant Playback Interface

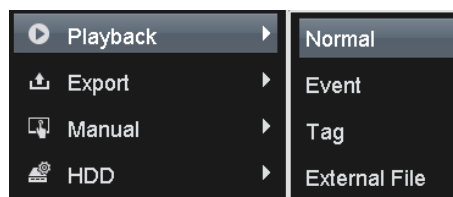
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### Playback by channel

#### Steps:

1. Enter the Playback menu.

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



Right-click Menu under Live View

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Front Panel: 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 top left channel (not masked) will be played back.

**Note:** 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.



Playback Interface

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

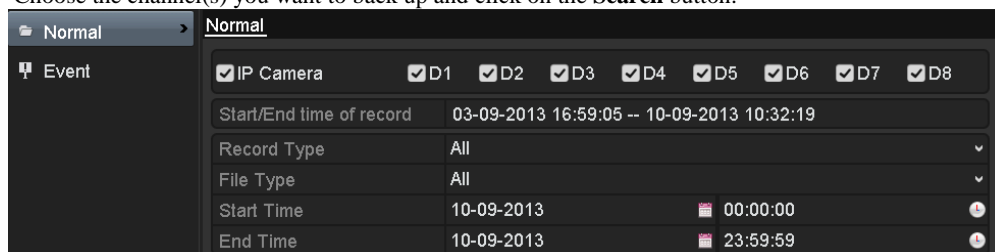
## Export

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.

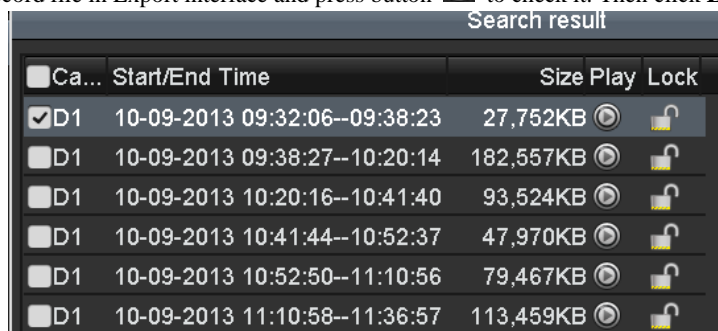
Choose the channel(s) you want to back up and click on the **Search** button.



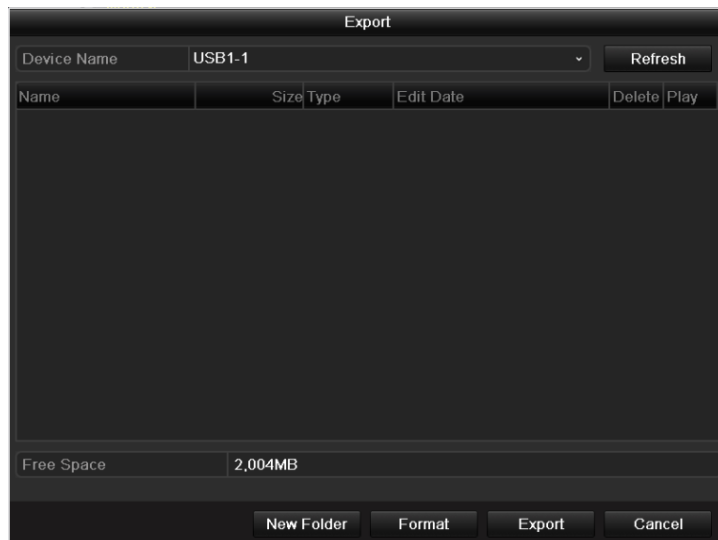
Quick Export Interface

2. Check Search result.

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

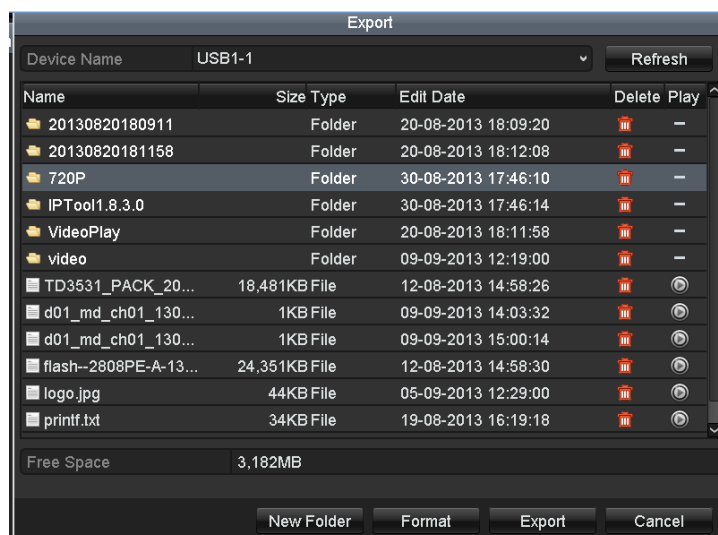


3. Enter Export interface, choose backup device and press **Export** button to start exporting.



Quick Export using USB1-1

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Checkup of Quick Export Result Using USB1-1

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## Accessing by Web Browser

### Logging In

If the device has successfully connected to the network, 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.

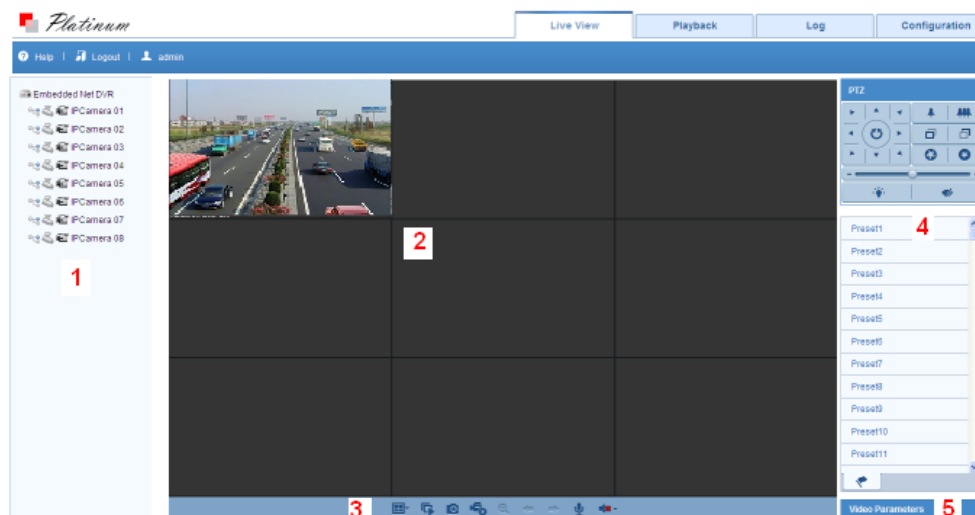
#### Notes:

1. The default IP address is 192.0.0.64.
2. The default user name is admin, and password is 12345.
3. 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.
4. 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.



#### Interface Introduction


- ① Camera List: Displays the list of cameras and the playing and recording status of each camera.
- ② Live View Window: Displays the image of camera, 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 other parameters of the image can be modified.

## 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		Start/Stop all live view
	Capture pictures in the live view mode		Start/Stop all recording
	Previous page		Next page
	Open/Close audio		Start/Stop two-way audio
	Adjust volume		Enable/Disable digital zoom
	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 Record Schedule** to enable recording schedule.
4. Click **Edit** to edit record schedule.
5. Choose the day in a week to configure scheduled recording.
  - 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**.
6. Click **Advanced** to configure advanced record parameters.
7. Optionally, check the checkboxes of other cameras to copy the settings to.
8. Click **Save** to validate the above settings.

**Note:** The time of each segment can't be overlapped. Up to 8 segments can be configured.

## Playback



### Interface Introduction


- ① Camera List: Displays the list of cameras and the playing status of each camera.
- ② Playback Window: Displays the video of camera.
- 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 camera No. 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**.

**Note:** The day with record will be marked like 9.

4. Click the  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		

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.

Command  Schedule Recording  Alarm Recording  Manual Recording

## 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. And make sure the HDD or network disk has been initialized for the first time to use.


### 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 shown below.

**Note:** Up to 100 log files can be displayed on each page.

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