# 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 |
|---|---|---|
| 87XX-P series | 4CH(4 POE) | Network Video Recorder |
| | 8CH(4 POE) | |
| | 8CH(8 POE) | |
| | 16CH(8 POE) | |
| | 16CH(16 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 ºC ~ 55 ºC, 14ºF ~ 131ºF.
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.

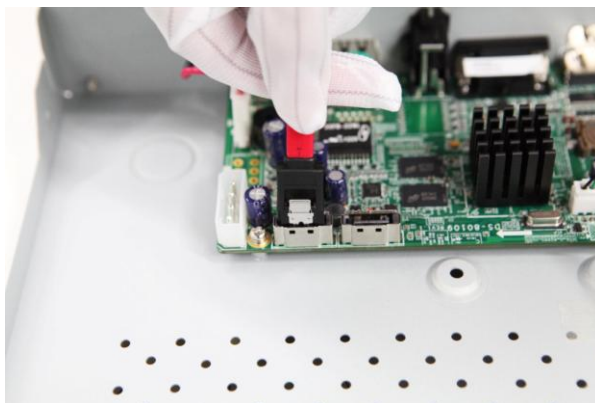**Tools Required:** Screwdriver.

*Steps (for 87XX 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.
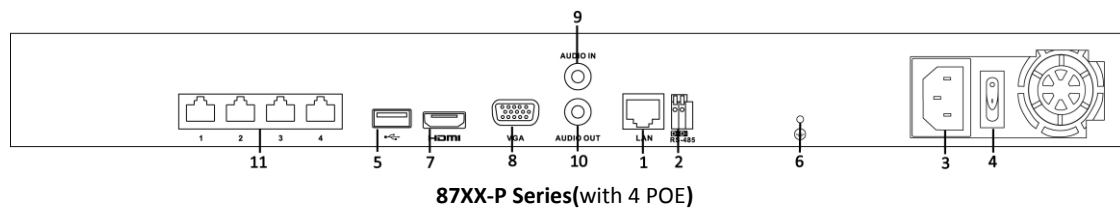


5. Re-install the cover of the NVR and fasten screws.

# Front Panel

**87XX-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



**87XX-P Series(**with 4 POE**)**

*Note:* The rear panels of others provide 8 POE/16 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- P8 | 16CH-P8 | 16CH-P16 |
|---|---|---|---|---|---|
| **Video/Audio input** | **IP video input** | 4-ch | 8-ch | 16-ch | 16-ch |
| | **Two-way audio input** | 1-ch, RCA (2.0 Vp-p, 1kΩ) | | | |
| **Bandwidth** | **Incoming bandwidth** | 25Mbps | 50Mbps | 100Mbps | 160Mbps |
| | **Output bandwidth** | 80Mbps | | | |
| **Video/Audio output** | **Decoding resolution** | 6MP/5MP/3MP/1080P/UXGA/720P/VGA/4CIF/DCIF/2CIF/CIF/QCIF | | | |
| | **HDMI/VGA output** | 1-ch, resolution:<br>1920 × 1080P /60Hz, 1600 × 1200 /60Hz, 1280 × 1024 /60Hz, 1280 × 720 /60Hz, 1024 × 768 /60Hz | | | |
| | **Audio output** | 1-ch, RCA (Linear, 1kΩ) | | | |
| | **Playback resolution** | 6MP/5MP/3MP/1080P/UXGA/720P/VGA/4CIF/DCIF/2CIF/CIF/QCIF | | | |
| | **Synchronous playback** | 4-ch, 720P<br>2-ch, 1080P | 8-ch@720P<br>6-ch@1080P | | 16-ch@4CIF,<br>12-ch@720P,<br>6-ch@1080P |
| **Hard disk** | **SATA** | 1 SATA interface for 1 HDD | 2 SATA interfaces for 2 HDDs | | |
| | **Capacity** | Up to 6TB for each disk | | | |
| **External interface** | **Network interface** | 1 RJ-45 10 /100 /1000 Mbps self-adaptive Ethernet interface | | | |
| | | 4/8/16 independent 10 /100 Mbps PoE Ethernet interfaces | | | |
| | **USB interface** | 2 × USB 2.0 | | | |
| **Others** | **Power supply** | 48V DC | 100~240VAC, 47~63Hz, 3A | | |
| | **Consumption** | ≤ 15 W (without hard disk) | | | |
| | **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<br>(12.4 ×9.1 × 1.8 inch) | 445 × 290 × 45mm (17.5 ×11.4 × 1.8 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 |
| 4096K | 1.8G |
| 8192K | 3.6G |
| 16384K | 7.2G |

*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
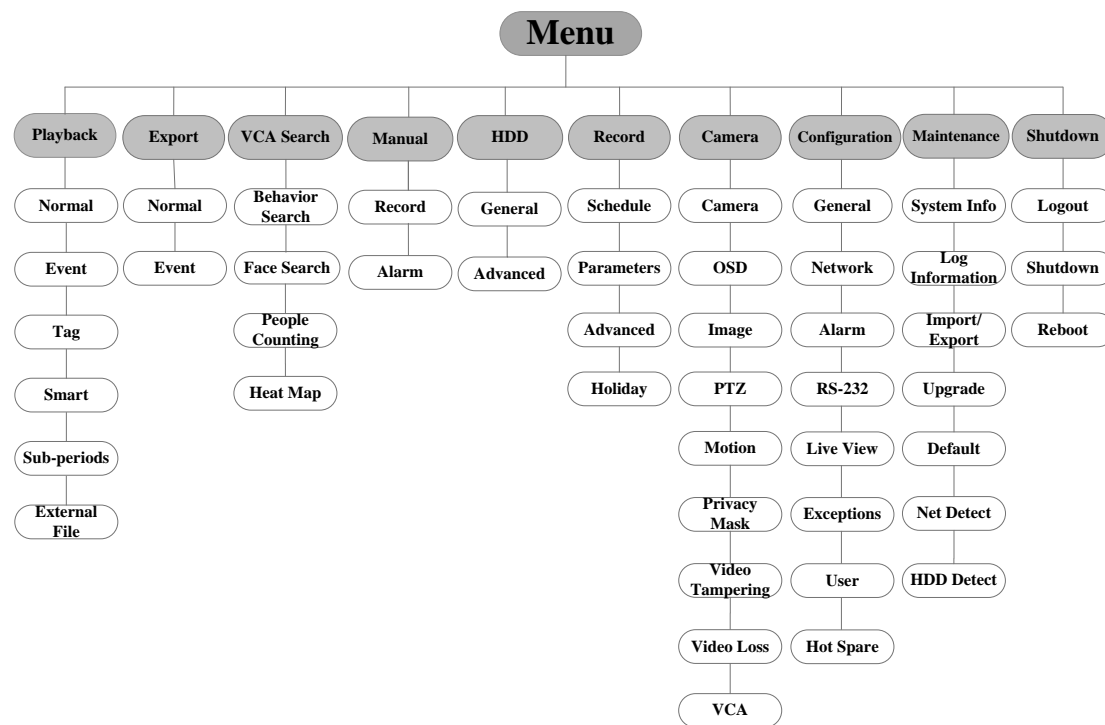


## Startup and Shutdown

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.
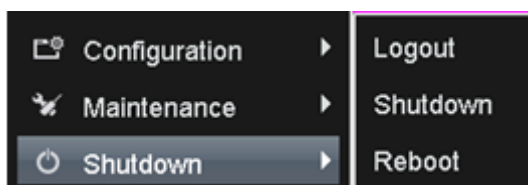
    Menu > Shutdown



Shutdown Menu

2. Select the **Shutdown** button.

3. Click the **Yes** button.

4. Shut the power switch down when the shutdown attention pops up.
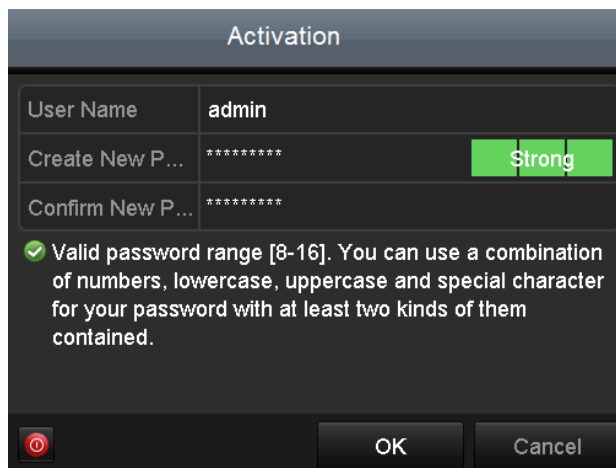
## Setting the Admin Password

*Purpose:*

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

*Steps:*

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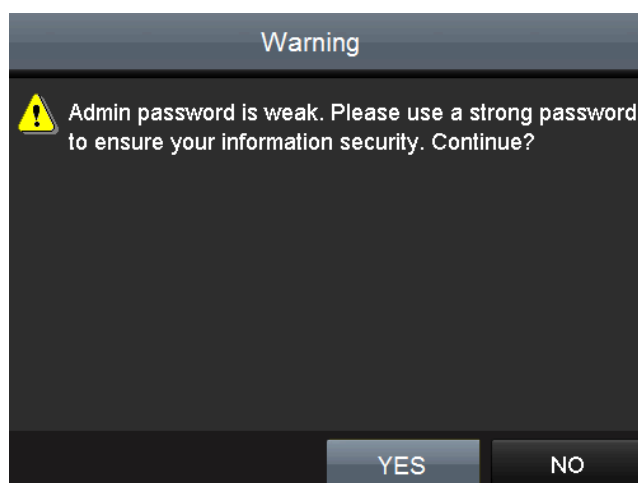


⚠ **STRONG PASSWORD RECOMMENDED**– *We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.*

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

NOTE

For the old version device, if you update it to the new version, the following dialog box will pop up once the device starts up. You can click **YES** and follow the wizard to set a strong password.

## Login and Logout

### User Login

*Purpose:*
If NVR has logged out, you must login the device before operating the menu and other functions.

*Steps:*

1. Select the **User Name** in the dropdown list.
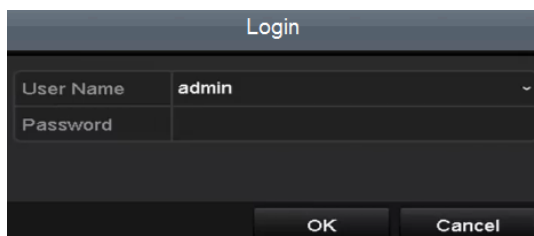


2. Input **Password**.

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



The device gets locked for 60 seconds if the admin user performs 7 failed password attempts (5 attempts for the guest/operator).
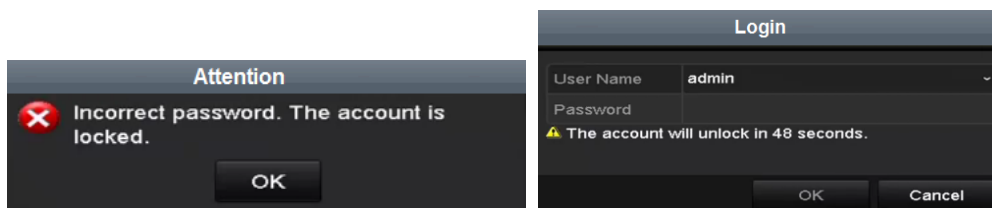


### User Logout

*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 tog in again.

*Steps:*

1. Enter the Shutdown menu.

   Menu > Shutdown
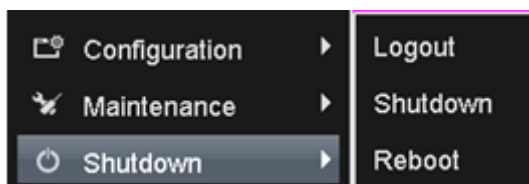


2. Click **Logout**.



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

## Using the Start Wizard

***Purpose:***

After admin password is set, the setup wizard pops up automatically. It can walk you through some basic settings of the NVR.
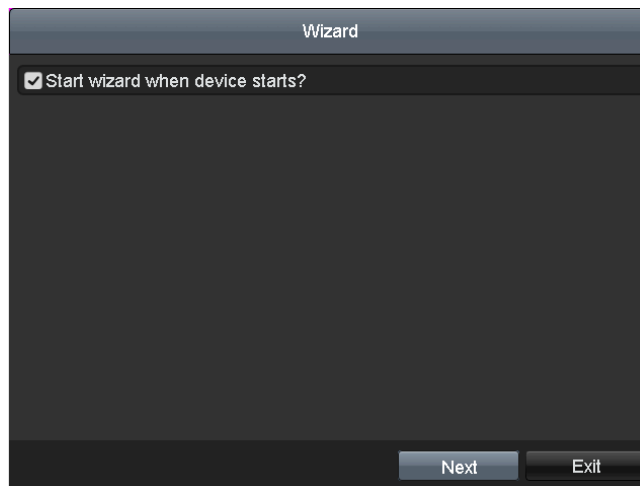


Start Wizard Interface

***Steps:***

1. If you don't want to use the setup wizard at that moment, click the **Exit** button. You can also choose to use the Setup Wizard next time by leaving the "Start wizard when the device starts?" checkbox checked.

2. Click the **Next** button to enter the **Date and Time Settings** interface.
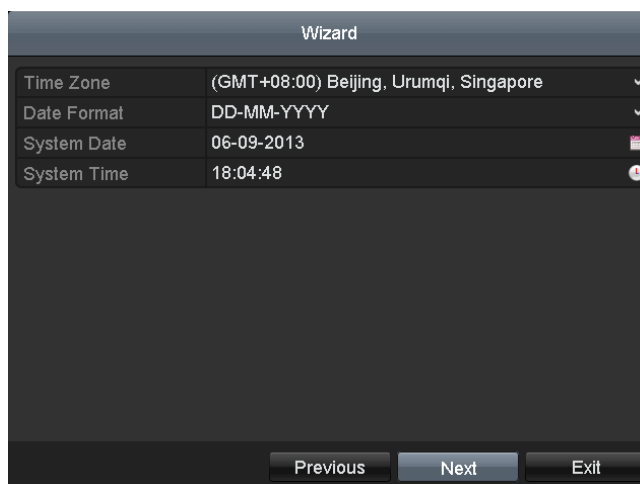


Date and Time Settings

3. After the time settings, click **Next** button which takes you back to the **Basic Network Setup Wizard** interface.

Network Configuration



- The dual-NIC network 10 /100/1000 Mbps self-adaptive Ethernet interfaces are provided for the DS-8600NI-E8 and DS-7700NI-E4 series NVR;one 10 /100 Mbps self-adaptive Ethernet interface for DS-7604/7608NI-E1(E2) series NVR; and one 10 /100/1000 Mbps self-adaptive Ethernet interface for other models.
- For the models have the PoE or built-in switch network interfaces, including DS-7600NI-E1(E2)/N, DS-7600NI-E1(E2)/P and DS-7700NI-E4/P series NVR, the internal NIC IPv4 address should be configured for the cameras connecting to the PoE or built-in switch network interface of the NVR.

4. Click **Next** button after you configured the basic network parameters. Then you will enter the **Cloud P2P** interface. Configure the Cloud P2P according to your need.


Advanced Network Parameters

5. Click **Next** button to enter the **Advanced Network Parameter** interface. You can enable PPPoE, enable DDNS and set other ports according to your need.

Advanced Network Parameters

6. After configuration finishes, click **Next** button to enter **HDD Management** interface.
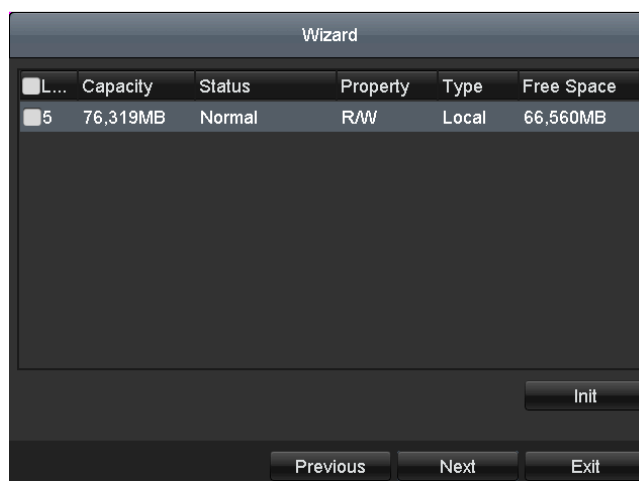


HDD Management

7. To initialize the HDD, click the **Init** button. Initialization removes all the data saved in the HDD.

8. Click **Next** button to enter the **IP Camera Management** interface.

9. Click **Search** to search the online IP Camera and the **Security** status shows whether it is active or inactive. Before adding the camera, make sure the IP camera to be added is in active status.
If the camera is in inactive status, you can click the inactive icon of the camera to set the password to activate it. You can also select multiple cameras from the list and click the **One-touch Activate** to activate the cameras in batch.
Click the **Add** to add the camera.
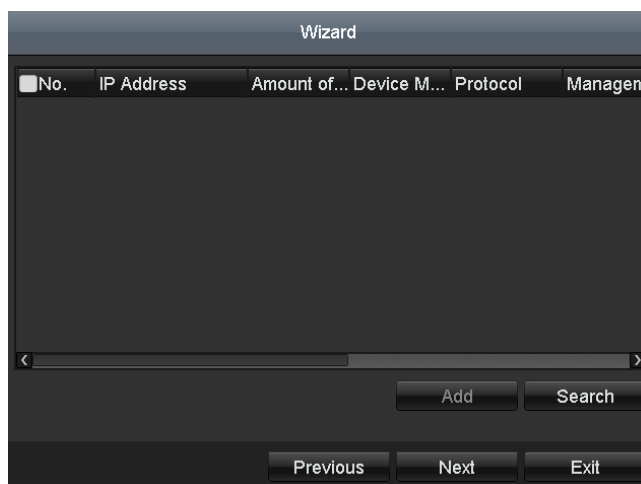
IP Camera Management

10. Click **Next** button. Configure the recording for the searched IP Cameras.
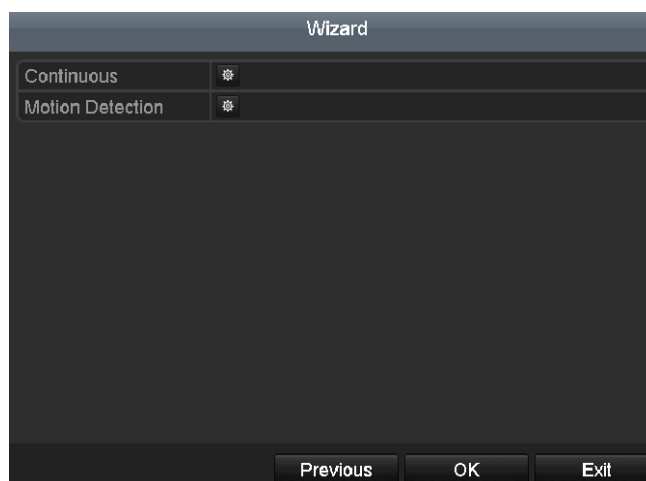

Record Settings

**11.** 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
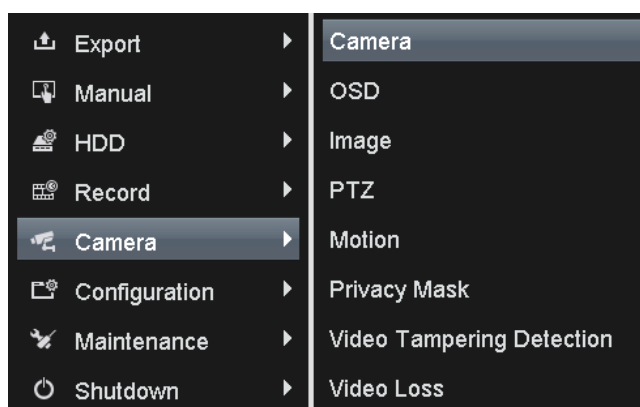


Main Menu

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

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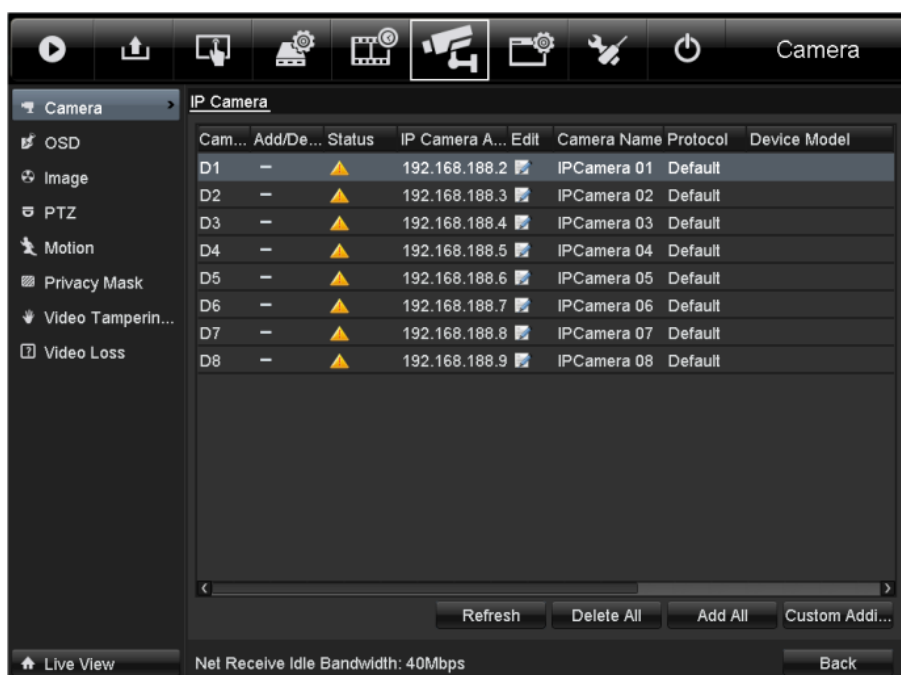


Camera Settings Interface

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.
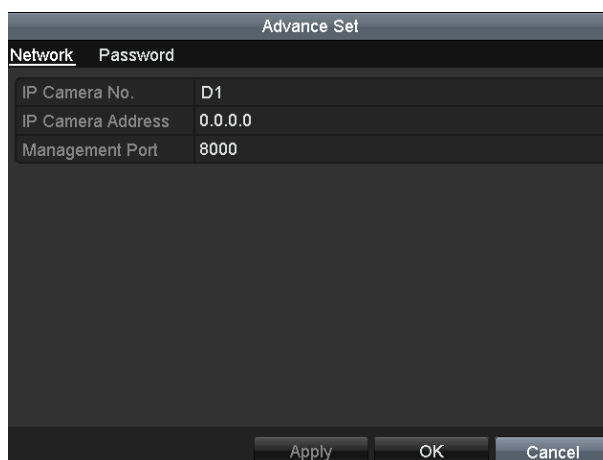


Network Configuration of the Camera

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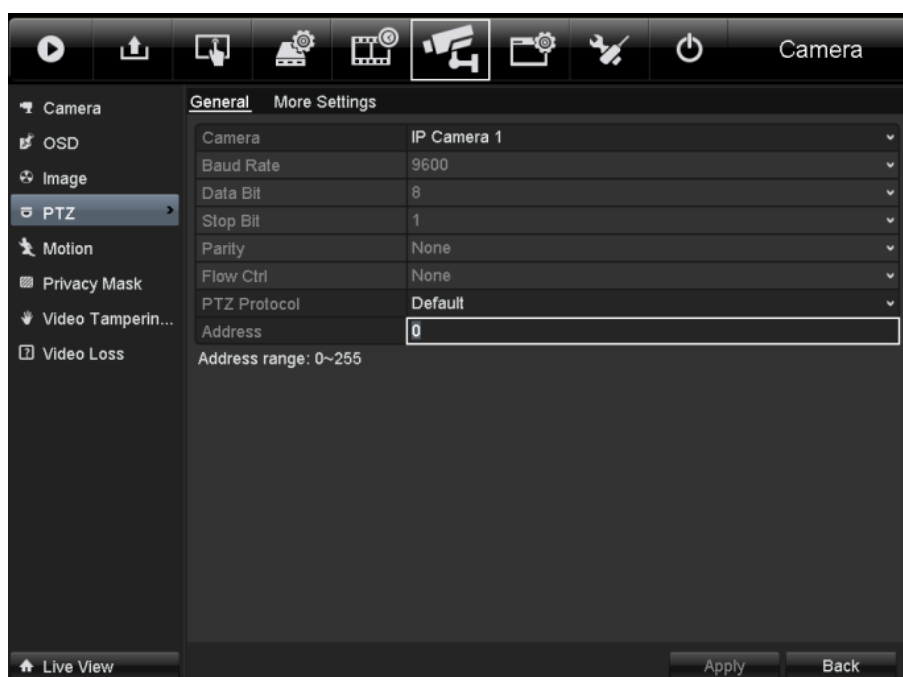Before you start, please check that the PTZ and the NVR are connected properly through RS-485 interface.

### 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 | Preset |
| Patrol | Patrol | Pattern | 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 ![icon] 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

**Playback by channel**

*Steps:*

1.    Enter the Playback menu.

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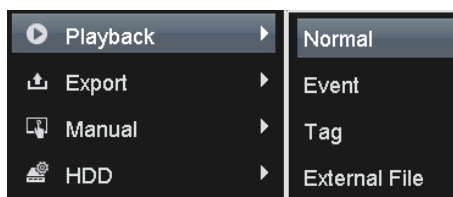


Right-click Menu under Live View

      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.

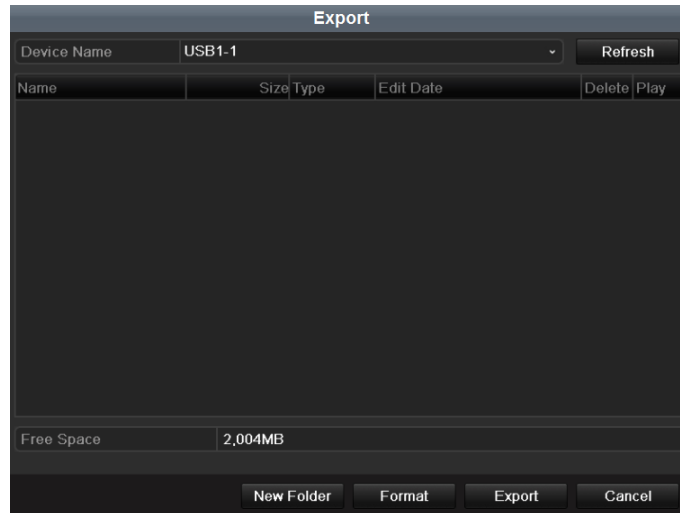    Choose the channel(s) you want to back up and click on the **Search** button.
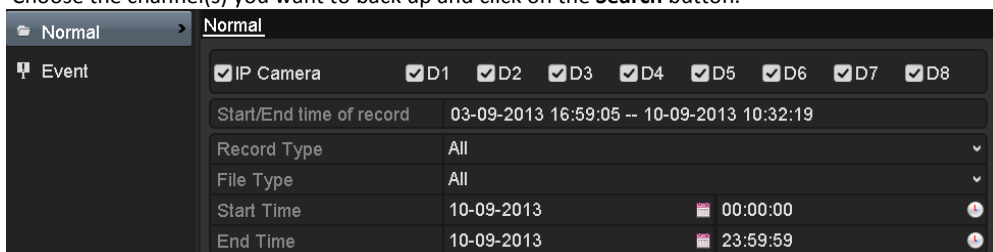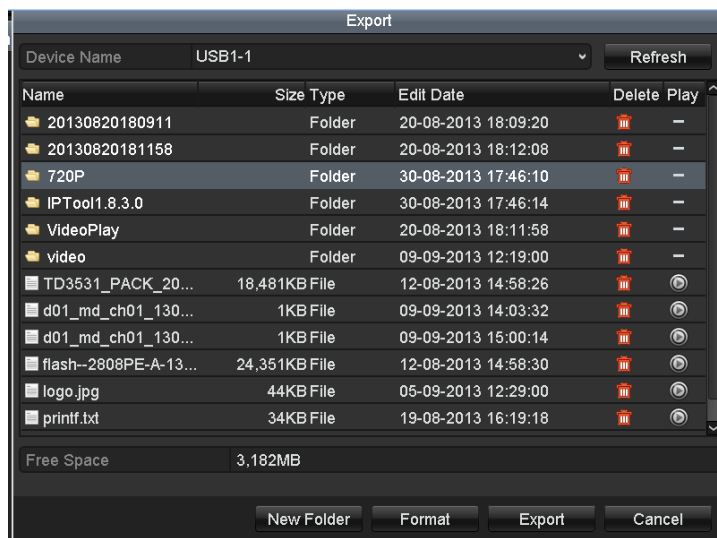


Quick Export Interface

2.  Check Search result.

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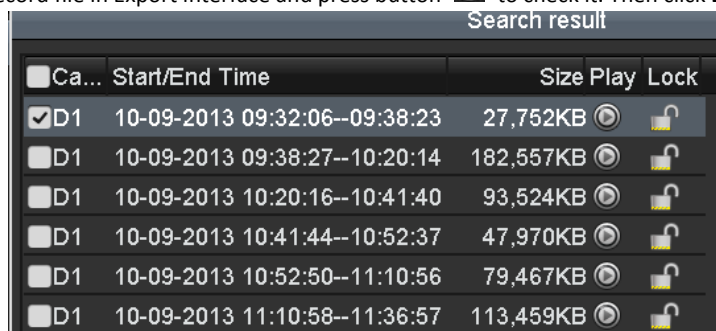


3.  Enter Export interface, choose backup device and press **Export** button to start exporting.

Quick Export using USB1-1



Checkup of Quick Export Result Using USB1-1

# 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.
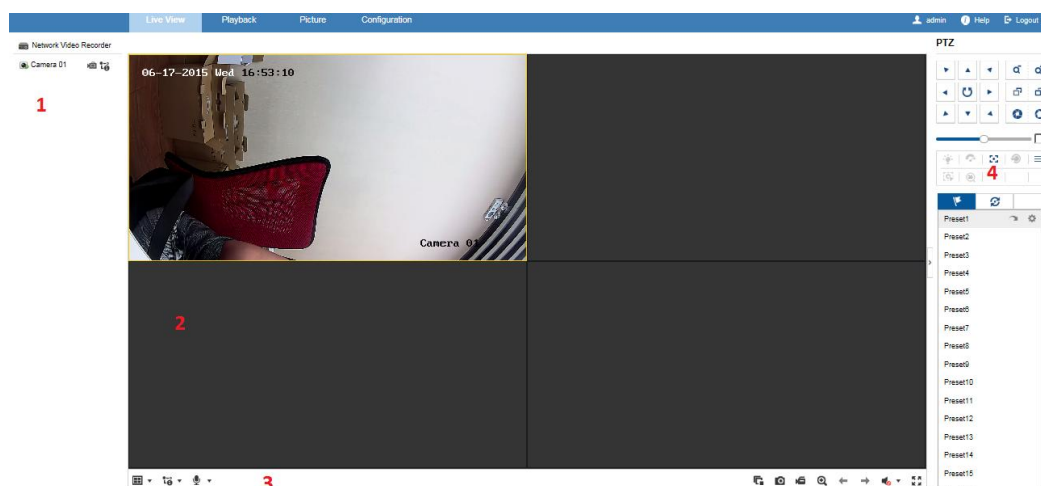


**Interface Introduction**

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.

**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 | ⬚ / ⬚ | Main/Sub Stream |

## 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.**

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

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

   3) Check the checkbox of **Select All** and click **Cop**y 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. Optionally, check the checkboxes of other cameras to copy the settings to.

8. Click **Save** to validate the above settings.

## Playback
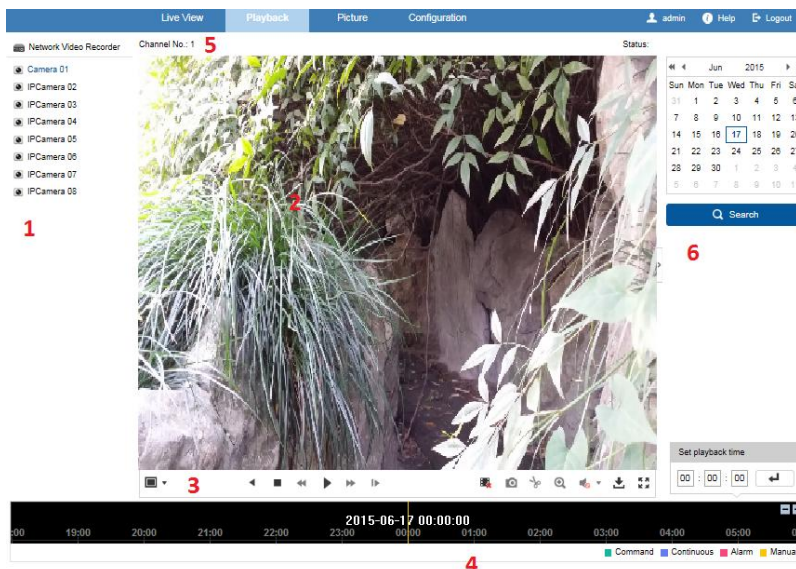


**Interface Introduction**

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 |
| I▶ | 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 `00 : 00 : 00 →` 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