Network Video Recorder

Quick Operation Guide
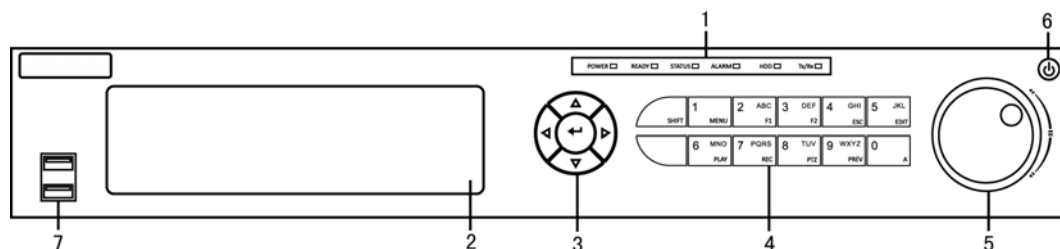
| No.	Name		Function Description
1	Status Indicators	POWER	Turns green when NVR is powered up.
		READY	The LED is green when the device is running normally.
		STATUS	The light is green when the IR remote control is enabled; The light is red when the function of the composite keys (SHIFT) are used; The light is out when none of the above condition is met.
		ALARM	The light is red when there is an alarm occurring.
		HDD	Blinks red when HDD is reading/writing.
		Tx/Rx	Blinks green when network connection is functioning normally.

No.	Name		Function Description
2	DVD-R/W		Slot for DVD-R/W.
3	Control Buttons	DIRECTION	In menu mode, the direction buttons are used to navigate between different fields and items and select setting parameters.
			In playback mode, the Up and Down buttons are used to speed up and slow down record playing, and the Left and Right buttons are used to move the recording 30s forwards or backwards.
			In the image setting interface, the up and down button can adjust the level bar of the image parameters.
			In live view mode, these buttons can be used to switch channels.
		ENTER	The Enter button is used to confirm selection in menu mode; or used to check checkbox fields and ON/OFF switch.
			In playback mode, it can be used to play or pause the video.
			In single-frame play mode, pressing the Enter button will play the video by a single frame.
			In auto sequence view mode, the buttons can be used to pause or resume auto sequence.
4	Composite Keys	SHIFT	Switch between the numeric or letter input and functions of the composite keys. (Input letter or numbers when the light is out; Realize functions when the light is red.)
		1/MENU	Enter numeral "1";
			Access the main menu interface.
		2/ABC/F1	Enter numeral "2";
			Enter letters "ABC";
			The F1 button when used in a list field will select all items in the list.
			In PTZ Control mode, it will turn on/off PTZ light and when the image is zoomed in, the key is used to zoom out.
		3/DEF/F2	Enter numeral "3";
			Enter letters "DEF";
			The F2 button is used to change the tab pages.
			In PTZ control mode, it zooms in the image.
		4/GHI/ESC	Enter numeral "4";
			Enter letters "GHI";
			Exit and back to the previous menu.
		5/JKL/EDIT	Enter numeral "5";
			Enter letters "JKL";
			Delete characters before cursor;
			Check the checkbox and select the ON/OFF switch;
			Start/stop record clipping in playback.
		6/MNO/PLAY	Enter numeral "6";
			Enter letters "MNO";
			Playback, for direct access to playback interface.
		7/PQRS/REC	Enter numeral "7";
			Enter letters "PQRS";
			Open the manual record interface.

No.	Name		Function Description
		8/TUV/PTZ	Enter numeral "8";
			Enter letters "TUV";
			Access PTZ control interface.
		9/WXYZ/PREV	Enter numeral "9";
			Enter letters "WXYZ";
			Multi-channel display in live view.
		0/A	Enter numeral "0";
			Shift the input methods in the editing text field. (Upper and lowercase, alphabet, symbols or numeric input).
			Double press the button to switch the main and auxiliary output.
5	**JOG SHUTTLE Control**		Move the active selection in a menu. It will move the selection up and down.
			In Live View mode, it can be used to cycle through different channels.
			In the Playback mode, it can be used to jump 30s forward/backward in video files.
			In PTZ control mode, it can control the movement of the PTZ camera.
6	**POWER ON/OFF**		Power on/off switch.
7	**USB Interfaces**		Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).

Rear Panel
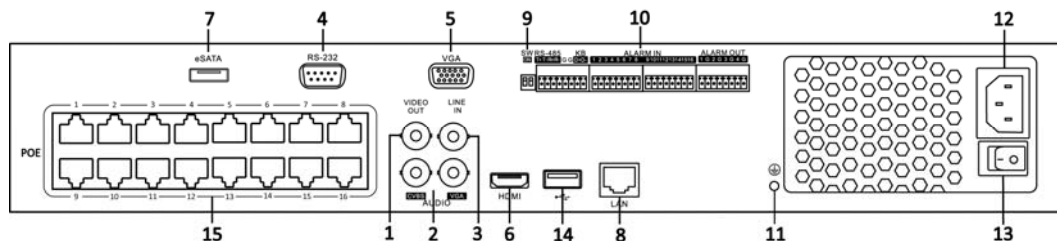
No.	Item	Description
1	**VIDEO OUT**	BNC connector for video output.
2	**CVBS AUDIO OUT**	BNC connector for audio output. This connector is synchronized with CVBS video output.
	VGA AUDIO OUT	BNC connector for audio output. This connector is synchronized with VGA video output.
3	**LINE IN**	BNC connector for audio input.
4	**RS-232 Interface**	Connector for RS-232 devices.
5	**VGA**	DB9 connector for VGA output. Display local video output and menu.
6	**HDMI**	HDMI video output connector.
7	**eSATA (Optional)**	Connects external SATA HDD, CD/DVD-RM.
8	**LAN Interface**	1 network interface provided for HNR50P6 series and 2 network interfaces for HNRT00 series
9	**Termination Switch**	RS-485 termination switch. Up position is not terminated. Down position is terminated with 120Ω resistance.
10	**RS-485 Interface**	Connector for RS-485 devices. T+ and T- pins connect to R+ and R- pins of PTZ receiver respectively.
	Controller Port	D+, D- pin connects to Ta, Tb pin of controller. For cascading devices, the first NVR's D+, D- pin should be connected with the D+, D- pin of the next NVR.
	ALARM IN	Connector for alarm input.
	ALARM OUT	Connector for alarm output.
11	**GROUND**	Ground(needs to be connected when NVR starts up).

No.	Item	Description
12	AC 100V ~ 240V	AC 100V ~ 240V power supply.
13	POWER	Switch for turning on/off the device.
14	USB interface	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
15	Network Interfaces with PoE function	Network interfaces for the cameras and to provide power over Ethernet.

Video/Audio input	**IP video input**	8-ch	16-ch	32-ch
	Two-way audio	1-ch, BNC (2.0 Vp-p, 1kΩ)		
Video/Audio output	**Recording resolution**	5MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF		
	Frame rate	Main stream: 25 fps (P) / 30 fps (N)		
		Sub-stream: 25 fps (P) / 30 fps (N)		
	CVBS output	1-ch, BNC (1.0 Vp-p, 75 Ω) Resolution: 704 × 576 (PAL); 704 × 480 (NTSC)		
	HDMI output	1-ch, resolution: 1920 × 1080P /60Hz, 1920 × 1080P /50Hz, 1600 × 1200 /60Hz, 1280 × 1024 /60Hz, 1280 × 720 /60Hz, 1024 × 768 /60Hz		
	VGA output	1-ch, resolution: 1920 × 1080P /60Hz, 1600 × 1200 /60Hz, 1280 × 1024 /60Hz, 1280 × 720 /60Hz, 1024 × 768 /60Hz		
	Audio output	2-ch, BNC (Linear, 600Ω)		
	Playback resolution	5MP /3MP /1080P /UXGA /720P /VGA /4CIF /DCIF /2CIF /CIF /QCIF		
	Synchronous playback	8-ch	16-ch	16-ch
Hard disk	**SATA**	4 SATA interfaces for 2 HDDs + 1 DVD-R/W (default), or 4HDDs		
	eSATA	1 eSATA interface		
	Capacity	Up to 4TB capacity for each HDD		
External interface	**Network interface**	1 RJ-45 10 /100 /1000 Mbps self-adaptive Ethernet interface		
		8 independent 100 Mbps PoE network interfaces	16 independent 100 Mbps PoE network interfaces	
	Serial interface	RS-232; RS-485; Keyboard		
	USB interface	3 × USB 2.0		
	Alarm in	16		
	Alarm out	4		
Others	**Power supply**	100 ~ 240 VAC, 6.3 A, 50 ~ 60 Hz		
	Consumption	≤ 45 W (without hard disk or DVD-R/W)		
	Working temperature	-10 ºC ~ +55 ºC		
	Working humidity	10 % ~ 90 %		
	Chassis	19-inch rack-mounted 2U chassis		
	Dimensions (W × D × H)	445 × 390 ×90 mm		
	Weight	≤ 4 Kg (8.8 lb) (without hard disk or DVD-R/W)		

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	1800M
8192K	3600M
16384K	7200M

NOTE

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.

- 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.

Interface Introduction

No.	Name	Description
1	Channel List	Displays the list of channels and the playing and recording status of each channel.

No.	Name	Description
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

Playback

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		

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.

To shut down the NVR:

1. Enter the Shutdown menu.

    Menu > Shutdown
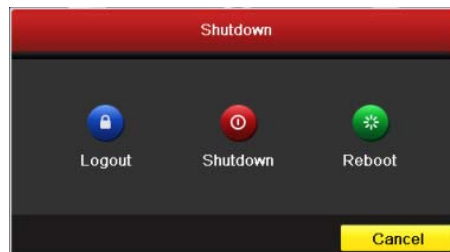
2. Select the **Shutdown** button.

3. Click the **Yes** button.

Live View

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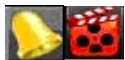
Live View Icons

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, schedule record, motion detection or alarm triggered record)

 Alarm & Record

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

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.

NOTE

> 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.
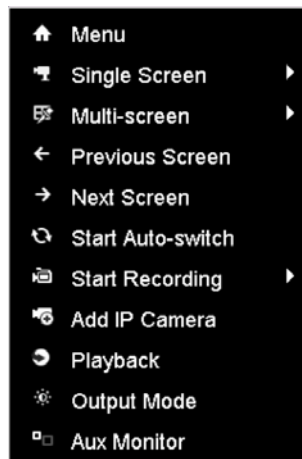
Front Panel: press PLAY button to play back record files of the channel under single-screen live view. Under multi-screen live view, record files of the selected channel will be played back.

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 the **Quick Export** button.

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

3. Check backup result.

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