

Digital 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 DS-7204HFHI-ST, DS-7208HFHI-ST, DS-7204HFHI-SE and DS-7208HFHI-SE

DVR Pre-Installation

The DS-7200HFHI-ST&SE DVR is highly advanced surveillance equipment that should be installed carefully. Please take into consideration the following precautionary steps before installation of the DVR.

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

DVR Installation

During the installation of the DVR:

- 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 DVR is grounded.
- 7. Environmental temperature should be within the range of -10 $\mathbb{C} \sim 55 \mathbb{C}$, 14 $\mathbb{F} \sim 131 \mathbb{F}$.
- **8.** Environmental humidity should be within the range of $10\% \sim 90\%$.

Hard Disk Installation

Before you start:

Before installing a hard disk drive (HDD), please make sure the power is disconnected from the DVR. A factory recommended HDD should be used for this installation.

For the HDD installation steps between DS-7200HFHI-ST&SE devices are similar, here we take the steps of DS-7204HFHI-ST as example.

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

Tools Required: Screwdriver.

Steps (for DS-7200HFHI-ST&SE):

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



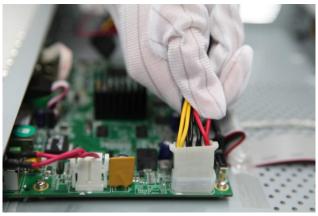


2. Connect one end of the data cable to the motherboard of DVR and the other end to the HDD.





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 DVR and fasten screws.

Front Panels



Front Panel of DS-7200HFHI-ST
Description of Control Panel Buttons

No.	Name Function Description			
	POWER		Power indicator turns yellow once the power switch turns on.	
	READY		Ready indicator turns yellow when system is running.	
S		TATUS	Status indicator turns red when SHIFT mode is on.	
1	A	LARM	Alarm indicator turns red when a sensor alarm is detected.	
1	HDD		HDD indicator blinks red when data is being read from or written to HDD.	
	Т	X/RX	TX/RX indictor blinks yellow when network connection is functioning properly.	
2	IR	Receiver	Receiver for IR remote.	
3	USB	Interface	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).	
		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.	
	Composite Keys	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";	
4			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.	
			Enter numeral "5";	
		5/JKL/EDIT	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 all-day playback interface.	

			Futon
	7/DODS/DEC		Enter numeral "7";
		7/PQRS/REC	Enter letters "PQRS";
			Open the manual record interface.
			Enter numeral "8";
	8/TUV/PTZ		Enter letters "TUV";
			Access PTZ control interface.
			Enter numeral "9";
		9/WXYZ/PREV	Enter letters "WXYZ";
			Multi-channel display in live view.
			Enter numeral "0";
		0/A	Shift the input methods in the editing text field. (Upper and
			lowercase, alphabet, symbols or numeric input).
			The DIRECTION buttons are used to navigate between different
			fields and items in menus.
	DIRECTION		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
5			camera.
			The ENTER button is used to confirm selection in any of the menu
			modes.
	ENTER		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.
			In Auto-switch mode, it can be used to stop /start auto switch.

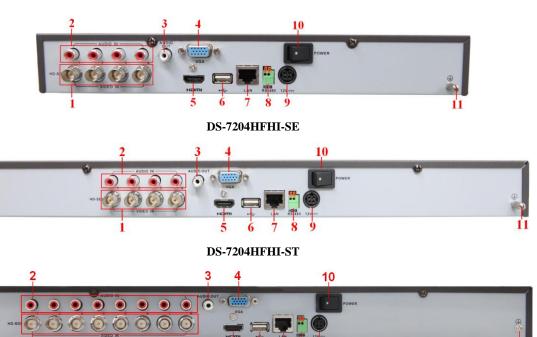


Front Panel of DS-7200HFHI-SE

Description of Front Panel

No.	Name	Function Description		
	POWER	Power indicator turns yellow when the power switch on the real panel is turned on.		
1	STATUS	Status indicator blinks red when data is being read from or written to HDD.		
	TX/RX	TX/RX indictor blinks yellow when network connection is functioning properly.		
2	IR Receiver	IR Receiver Receiver for IR remote		
3	USB Interfaces	Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).		

Rear Panels



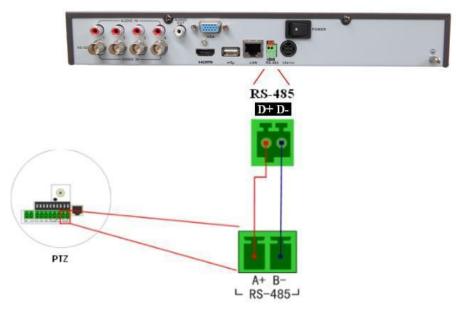
DS-7208HFHI-ST&SE

No.	Item Description	
1	VIDEO IN	HD-SDI interface for video input.
2	AUDIO IN	RCA connector
3	AUDIO OUT	RCA connector
4	VGA DB9 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	

Peripheral Connections

RS-485 Connection





To connect RS-485 devices to the DVR:

- 1. Disconnect pluggable block from the RS-485 terminal block.
- **2.** Press and hold the orange part of the *pluggable block*; insert signal cables into slots and release the orange part. Ensure signal cables are in tight.
- 3. Connect *pluggable block* back into terminal block.

Note: The RS-485 unit can be used as T+ and T- when it's working in the output mode, and R+ and R- when it's working in the input mode. We take the RS-485 connection of DS-7204HFHI-SE as an example.

Specifications

Table 1 Specification for DS-7204HFHI-ST

Model		DS-7204HFHI-ST	DS-7208HFHI-ST
	Video compression	H.264	
	HD-SDI video	4-ch	8-ch
	input	HD-SDI interface (800 mVp-p,	75 Ω)
Video/Audio input	Supported HD-SDI camera types	1080I60, 1080I50, 1080P30, 1080P25, 720P60, 720P50, 720P30, 720P25	
	Audio compression	G.711u	
	Audio input	4-ch	8-ch
	Audio input	RCA (2.0 Vp-p, 1 KΩ)	
	Two-way audio in	1-ch, RCA (2.0 Vp-p, 1 KΩ), (1	using the 1 st channel of audio
	2 110 11 4 144 144	input)	
	HDMI / VGA	1920 ×1080 / 60 Hz,1280 ×1024 / 60 Hz, 1280 ×720 / 60 H	
	output	1024 ×768 / 60 Hz	
	Encoding	Main stream: 1080P / 720P / VGA / 4CIF / CIF	
	resolution	Sub-stream: 4CIF(non-real-time) / CIF / QCIF / QVGA	
	_	Main stream: 1/16 fps ~ Real time frame rate	
	Frame rate	Sub-stream: 1/16 fps ~ Real tin	ne frame rate
¥7* 1 /A 1*	Video bitrate	32 Kbps-16 Mbps	
Video/Audio output	Audio output	1-ch, RCA (Linear, 1KΩ)	
output	Audio bitrate	64 Kbps	
	Dual-stream	Support	
	Stream type	Video, Video & Audio	
	Synchronous	4-ch	8-ch
	playback	(up to 2-ch 1080P real time)	(up to 2-ch 1080P real time)
	Playback resolution	1080P / 720P / VGA / 4CIF / CIF / QVGA / QCIF	
	Output bandwidth	128Mbps	
Remote access	Remote connection	128	
Network management	Network protocols	TCP/IP, PPPoE, DHCP, DNS, DDNS, NTP, SADP, SMTP, SNMP, NFS, iSCSI, UPnPTM	
Hard disk	SATA	2 SATA interfaces	
Taru uisk	Capacity	Up to 4 TB capacity for each disk	
External	Network interface	1; 10M / 100M / 1000M self-adaptive Ethernet interface	
interfaces	Serial interface	1; standard RS-485 serial interface, half-duplex	

	USB port	2 ×USB2.0	
	Alarm in / out	4/1 (optional)	
	Power supply	12V DC	
	Consumption (without hard disks)	Max. 15 W	Max. 20 W
General	Working temperature	-10 °C ~ +55 °C (14 °F ~ 131 °F)	
	Working humidity	10% ~ 90%	
	Chassis	19-inch rack-mounted 1U chassis	
	Dimensions	445 × 290 × 45 mm (17.5 × 11.4 × 1.8 inch)	
	(W × D × H) Weight	4 kg / 8.8lb (without hard disk)	

Table 2 Specification for DS-7200HFHI-SE

Model		DS-7204HFHI-SE	DS-7208HFHI-SE	
	Video compression	H.264		
	HD-SDI video	4-ch	8-ch	
	input	HD-SDI interface (800 mVp-p,	, 75 Ω)	
Video/Audio input	Supported HD-SDI camera types	1080I60, 1080I50, 1080P30, 1080P25, 720P60, 720P50, 720P30, 720P25		
	Audio compression	G.711u		
	Audio input	4-ch	8-ch	
		RCA (2.0 Vp-p, 1 KΩ)		
	Two-way audio in	1-ch, RCA (2.0 Vp-p, 1 K Ω), (using the 1 st channel of audio input)		
	HDMI / VGA output	1920 × 1080 / 60 Hz,1280 × 1024 / 60 Hz, 1280 × 720 / 60 Hz, 1024 × 768 / 60 Hz		
	Encoding resolution	Main stream: 1080P@12fps / 720P / VGA / 4CIF / CIF		
		Sub-stream: 4CIF(non-real-time) / CIF / QCIF / QVGA		
Video/Audio	Frame rate	Main stream: 1/16 fps ~ Real time frame rate		
output	Trume ruce	Sub-stream: 1/16 fps ~ Real time frame rate		
•	Video bitrate	32 Kbps-16 Mbps		
	Audio output	1-ch, RCA (Linear, 1KΩ)		
	Audio bitrate	64 Kbps		
	Dual-stream	Support		
	Stream type	Video, Video & Audio		

	Synchronous	4-ch	8-ch
	playback	(up to 2-ch 720P real time)	(up to 2-ch 720P real time)
Playback resolution		1080P / 720P / VGA / 4CIF / CIF / QVGA / QCIF	
	Output bandwidth	128Mbps	
Remote access	Remote connection	128	
Network management	Network protocols	TCP/IP, PPPoE, DHCP, DNS, DDNS, NTP, SADP, SMTP, SNMP, NFS, iSCSI, UPnP™	
Hard disk	SATA	1 SATA interface	2 SATA interfaces
Haru uisk	Capacity	Up to 4 TB capacity for each disk	
	Network interface	1; 10M / 100M / 1000M self-adaptive Ethernet interface	
External	Serial interface	1; standard RS-485 serial interface, half-duplex	
interfaces	USB port	2 ×USB2.0	
	Alarm in / out	4 / 1 (optional)	
	Power supply	12V DC	
	Consumption (without hard disk)	Max. 15 W	Max. 20 W
	Working temperature	-10 ℃ ~+55 ℃ (14 ℉ ~ 131 ℉)	
General	Working humidity	10% ~ 90%	
General	Chassis	Stand-alone 1U chassis	19-inch rack-mounted 1U chassis
	Dimensions	315×230×45 mm	445×290×45mm
	$(\mathbf{W} \times \mathbf{D} \times \mathbf{H})$	(12.3×9.0×1.8 inch)	(17.3×11.3×1.8 inch)
	Weight (without hard disks)	2 kg / 4.4lb	4 kg / 8.8lb

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 are just for reference. Storage space used is 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.

Note: 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.

Note: The supported resolutions include 1024*768 and above.

Note: The default IP address is 192.0.0.64.



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

Note: The default user name is admin, and password is 12345.

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 Channel List: Displays the list of channels and the playing and recording status of each channel.
- 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 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		
-	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		
40-	Open/Close audio		
V	Start/Stop two-way Audio		
	Adjust volume		
Q / Q	Enable/Disable digital zoom		

Recording

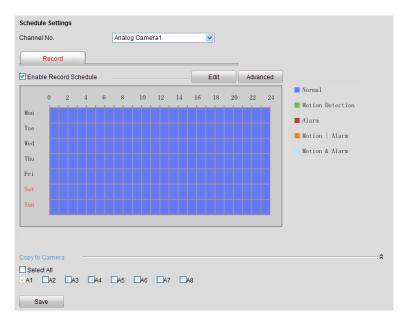
Before you start

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.

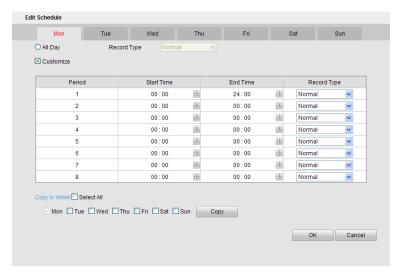
Two recording types can be configured: Manual and Scheduled. The following section introduces the configuration of scheduled recording.

Steps:

- 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 Segment 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 Segment Record 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.

- 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 **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.
- Click Advanced to configure advanced record parameters.

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

Playback



Interface Introduction

- 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.
- S 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
II	Play/Pause		Stop
*	Slow down	>>	Speed up
1	Play by single frame	0	Capture
	Stop all playback	Ŧ	Download
***	Video clip		Open/Close audio

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.



Log

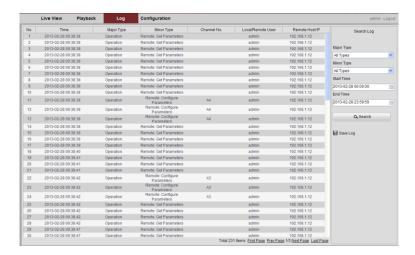
You can view and export the log files at any time, including operation, alarm, exception and information of device.

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.



- 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.

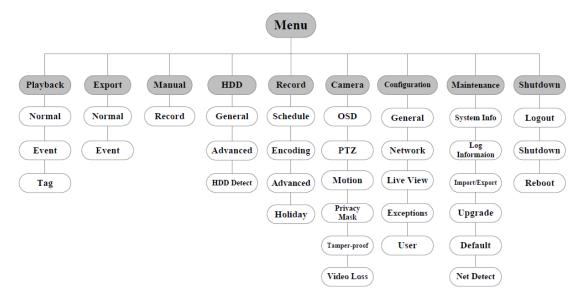
Note: Up to 100 log files can be displayed each time.

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

Menu Operation

Menu Structure

The menu structure of the DVR is shown below:



Startup and Shutdown

Proper startup and shutdown procedures are crucial to expand the service time of the DVR. To start the DVR:

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. Turn on the power switch on the rear panel; the Power indicator LED on the front panel should be yellow.

To shut down the DVR:

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 note appears (for DS-7200HFHI-SE series only).



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.

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.





Recording (manual record, schedule record, motion detection or alarm triggered record)



Alarm & Recording

Record Settings

Before you start:

Make sure that the HDD has already been installed. If not, please install a HDD and initialize it. You may 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 Record

Option 1:

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 icon to disable the

record, then the icon turns to

• Option 2:

Steps:

1. Enter the Manual settings interface.

Menu> Manual



2. Enable manual record.

Click the status icon before camera number to change it to Or click the status icon of **Analog** to enable manual record of all channels.

3. Disable manual record.

Click the status icon to change it to

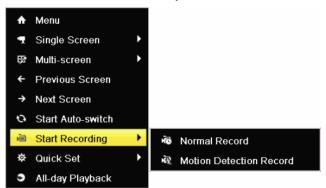
Or click the status icon of **Analog** to disable manual record of all channels.

All-day Record

Perform the following steps to set the all-day recording.

Option 1:

On the live view window, right lick the window and move the cursor to the Start Recording option, and select Normal Record or Motion Detection Record on your demand.



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.

Option 2:

Steps:

1. Enter the Manual settings interface.

Menu> Manual



2. Click the icon of corresponding record types to set all-day record of that type, Normal and Motion Detection are selectable.

3. And click the Yes button in the popup Attention message box to confirm the settings.

Playback

Play back the record files of a specific channel in the live view menu.

Instant playback by channel

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

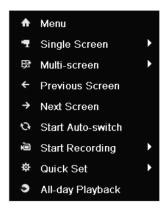
Note: Only record files recorded during the last five minutes on this channel will be played back.



All-day Playback by channel

1. Enter the All-day Playback menu.

Mouse: right click a channel in live view mode and select All-day 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 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.



The channel and time selection menu will display by moving the mouse to the right of the playback interface. Just tick 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 USB DVD writers. To export recorded files:

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 the **Export** button to start exporting.



3. Check backup result.

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



