



DS-7200-ST Series DVR

Quick Operation Guide

Version 1.3.0

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-7204HVI-ST, DS-7208HVI-ST, DS-7216HVI-ST; DS-7204HVI-ST/SE, DS-7208HVI-ST/SE, DS-7216HVI-ST/SE; DS-7204HFI-ST, DS-7208HFI-ST, DS-7216HFI-ST; DS-7204HFI-ST/SE, DS-7208HFI-ST/SE, DS-7216HFI-ST/SE; DS-7204HVI-ST/SN, DS-7208HVI-ST/SN, DS-7216HVI-ST/SN; DS-7204HFI-ST/SN, DS-7208HFI-ST/SN, DS-7216HFI-ST/SN; DS-7204HVI-ST/RW, DS-7208HVI-ST/RW, DS-7216HVI-ST/RW; DS-7204HFI-ST/RW, DS-7208HFI-ST/RW, DS-7216HFI-ST/RW; and DS-7204HVI-ST/L series DVR.**

Verify Contents

Verify that the package contents are correct by checking the items against the packing list.

Note: Please contact your dealer for damaged or missing items.

DVR Pre-Installation

The DS-7200-ST Series DVR is highly advanced surveillance equipment that should be installed with care. 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 (~0.75in) of space between racks mounted devices.
6. Ensure the DVR is grounded.
7. Environmental temperature should be within the range of -10 °C ~ 55 °C, 14°F ~ 131°F.
8. Environmental humidity should be within the range of 10% ~ 90%.

Hard Disk Installation

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.

Tools Required: Screwdriver.

To install a HDD on your DVR:

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



2. Install the HDD in the HDD rack using the provided screws. Fasten the screws on the button to fix the HDD.



3. Connect the HDD to the motherboard of the DVR with the included data cable.



4. Connect the power cable to the HDD.



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

Front Panel

DS-7204HVI-ST, DS-7204HVI-ST/SE, DS-7204HFI-ST, DS-7204HFI-ST/SE:



1. Status Indicators:

- **POWER:** the POWER indicator turns green when DVR is powered up.
- **STATUS:** the indicator lights when compound key switches to numeric/letter input mode.
- **Tx/Rx:** TX/RX indicator flickers green when network connection is functioning normally.

2. IR Receiver:

operation by IR remote control.

3. Compound Buttons:

- **1 MENU:** (1) Enter numeral “1”; (2) Access the main menu interface
- **2ABC/F1:** (1) Enter numeral “2”; (2) Enter letters “ABC”; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
- **3DEF/F2:** (1) Enter numeral “3”; (2) Enter letters “DEF”; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
- **4GHI/ESC:** (1) Enter numeral “4”; (2) Enter letters “GHI”; (3) Exit and back to the previous menu.
- **5JKL/EDIT:** (1) Enter numeral “5”; (2) Enter letters “JKL”; (3) Delete characters before cursor; (4) Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback.
- **6MNO/PLAY:** (1) Enter numeral “6”; (2) Enter letters “MNO”; (3) Playback, for direct access to playback interface.
- **7PQRS/REC:** (1) Enter numeral “7”; (2) Enter letters “PQRS”; (3) Manual record, for direct access to manual record interface; manually enable/disable record.
- **8TUV/PTZ:** (1) Enter numeral “8”; (2) Enter letters “TUV”; (3) Access PTZ control interface.
- **9WXYZ/PREV:** (1) Enter numeral “9”; (2) Enter letters “WXYZ”; (3) Multi-camera display in live view
- **0/A:** (1) Enter numeral “0”; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input).

4. SHIFT:

Switch of compound keys between the numeric/letter input and functional control.

5. Control Buttons:

- **Directional buttons:** 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 play, and the Left and Right buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
- **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select 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 advance the video by a single frame. And in auto sequence live view mode, the buttons can be used to pause / resume auto sequence.

6. USB Interface:

Connects USB mouse or USB flash memory devices.

DS-7208HVI-ST, DS-7208HVI-ST/SE, DS-7208HFI-ST, DS-7216HFI-ST, DS-7208HFI-ST/SE, DS-7216HFI-ST/SE:



1. **USB Interface:** Connects USB mouse or USB flash memory devices.
2. **Status Indicators:**
 - **POWER:** the indicator lights in green when DVR is powered up.
 - **READY:** the indicator lights in green when the device is running normally.
 - **STATUS:** the indicator lights when compound key switches to numeric/letter input mode.
 - **ALARM:** the indicator lights in red when there is sensor alarm occurring.
 - **HDD:** the indicator flickers in red when HDD is reading/writing.
 - **Tx/Rx:** TX/RX indicator flickers green when network connection is functioning normally.
3. **IR Receiver:** operation by IR remote control.
4. **Compound Buttons:**
 - **1 MENU:** (1) Enter numeral “1”; (2) Access the main menu interface.
 - **2ABC/F1:** (1) Enter numeral “2”; (2) Enter letters “ABC”; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
 - **3DEF/F2:** (1) Enter numeral “3”; (2) Enter letters “DEF”; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
 - **4GHI/ESC:** (1) Enter numeral “4”; (2) Enter letters “GHI”; (3) Exit and back to the previous menu.
 - **5JKL/EDIT:** (1) Enter numeral “5”; (2) Enter letters “JKL”; (3) Delete characters before cursor; (4) Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback.
 - **6MNO/PLAY:** (1) Enter numeral “6”; (2) Enter letters “MNO”; (3) Playback, for direct access to playback interface.
 - **7PQRS/REC:** (1) Enter numeral “7”; (2) Enter letters “PQRS”; (3) Manual record, for direct access to manual record interface; manually enable/disable record.
 - **8TUV/PTZ:** (1) Enter numeral “8”; (2) Enter letters “TUV”; (3) Access PTZ control interface.
 - **9WXYZ/PREV:** (1) Enter numeral “9”; (2) Enter letters “WXYZ”; (3) Multi-camera display in live view.
 - **0/A:** (1) Enter numeral “0”; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input).
5. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
6. **Control Buttons:**
 - **Directional buttons:** 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 play, and the Left and Right buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
 - **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select 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 advance the video by a single frame. And in auto sequence live view mode, the buttons can be used to pause / resume auto sequence.

DS-7216HVI-ST, DS-7216HVI-ST/SE:



1. **IR Receiver:** operation by IR remote control.
2. **USB Interface:** Connects USB mouse or USB flash memory devices.
3. **Status Indicators:**
 - **POWER:** the indicator lights in green when DVR is powered up.
 - **READY:** the indicator lights in green when the device is running normally.
 - **STATUS:** the indicator lights when the compound key switches to numeric/letter input mode.
 - **ALARM:** the indicator lights in red when there is sensor alarm occurring.
 - **HDD:** the indicator flickers in red when HDD is reading/writing.
 - **Tx/Rx:** TX/RX indicator flickers green when network connection is functioning normally.
4. **DVD-ROM:** Space for DVD-ROM.
5. **Control Buttons:**
 - **Directional buttons:** 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 play, and the Left and Right buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
 - **Enter:** The *Enter* button is used to confirm selection in menu mode; or used to select 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 advance the video by a single frame. And in auto sequence live view mode, the buttons can be used to pause / resume auto sequence.
6. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
7. **Compound Buttons:**
 - **1 MENU:** (1) Enter numeral "1"; (2) Access the main menu interface.
 - **2ABC/F1:** (1) Enter numeral "2"; (2) Enter letters "ABC"; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
 - **3DEF/F2:** (1) Enter numeral "3"; (2) Enter letters "DEF"; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
 - **4GHI/ESC:** (1) Enter numeral "4"; (2) Enter letters "GHI"; (3) Exit and back to the previous menu.
 - **5JKL/EDIT:** (1) Enter numeral "5"; (2) Enter letters "JKL"; (3) Delete characters before cursor; (4) Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback.
 - **6MNO/PLAY:** (1) Enter numeral "6"; (2) Enter letters "MNO"; (3) Playback, for direct access to playback interface.
 - **7PQRS/REC:** (1) Enter numeral "7"; (2) Enter letters "PQRS"; (3) Manual record, for direct access to manual record interface; manually enable/disable record.
 - **8TUV/PTZ:** (1) Enter numeral "8"; (2) Enter letters "TUV"; (3) Access PTZ control interface.
 - **9WXYZ/PREV:** (1) Enter numeral "9"; (2) Enter letters "WXYZ"; (3) Multi-camera display in live view.
 - **0/A:** (1) Enter numeral "0"; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input).
8. **JOG SHUTTLE Control:** The JOG SHUTTLE control can be used to move the active selection in a menu. The inner ring will move the selection up and down; the outer ring will move it left and right. In the Playback mode, the inner ring is used to jump 30 seconds forward/backward in a video. The outer ring can be used to speed up/slow down the video. In live view mode, it can be used to cycle through different channels.

DS-7200HVI-ST/SN, DS-7204HFI-ST/SN, DS-7208HFI-ST/SN:



1. Status Indicators:

- **POWER:** the POWER indicator turns green when DVR is powered up.
- **STATUS:** the indicator lights when the compound key switches to numeric/letter input mode.
- **Tx/Rx:** TX/RX indicator flickers green when network connection is functioning normally.

2. IR Receiver: operation by IR remote control.

3. USB Interface: Connects USB mouse or USB flash memory devices.

DS-7216HFI-ST/SN:



1. Status Indicators:

- **POWER:** the POWER indicator turns green when DVR is powered up.
- **STATUS:** the indicator lights when the compound key switches to numeric/letter input mode.
- **Tx/Rx:** TX/RX indicator flickers green when network connection is functioning normally.

2. IR Receiver: operation by IR remote control.

3. USB Interface: Connects USB mouse or USB flash memory devices.

DS-7200HVI-ST/RW, DS-7200HFI-ST/RW:



1. **USB Interface:** Connects USB mouse or USB flash memory devices.
2. **DVD-ROM:** Space for DVD-ROM.
3. **Status Indicators:**
 - **READY:** the indicator lights in green when the device is running normally.
 - **STATUS:** the indicator lights when the compound key switches to numeric/letter input mode.
 - **ALARM:** the indicator lights in red when there is sensor alarm occurring.
 - **RECORD:** the indicator lights in green when the unit is under recording.
 - **NETWORK:** the indicator flickers in green when network connection is functioning normally.
4. **Compound Buttons:**
 - **1 MENU:** (1) Enter numeral “1”; (2) Access the main menu interface.
 - **2ABC/F1:** (1) Enter numeral “2”; (2) Enter letters “ABC”; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
 - **3DEF/F2:** (1) Enter numeral “3”; (2) Enter letters “DEF”; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
 - **4GHI/ESC:** (1) Enter numeral “4”; (2) Enter letters “GHI”; (3) Exit and back to the previous menu.
 - **5JKL/EDIT:** (1) Enter numeral “5”; (2) Enter letters “JKL”; (3) Delete characters before cursor; (4) Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback.
 - **6MNO/PLAY:** (1) Enter numeral “6”; (2) Enter letters “MNO”; (3) Playback, for direct access to playback interface.
 - **7PQRS/REC:** (1) Enter numeral “7”; (2) Enter letters “PQRS”; (3) Manual record, for direct access to manual record interface; manually enable/disable record.
 - **8TUV/PTZ:** (1) Enter numeral “8”; (2) Enter letters “TUV”; (3) Access PTZ control interface.
 - **9WXYZ/PREV:** (1) Enter numeral “9”; (2) Enter letters “WXYZ”; (3) Multi-camera display in live view.
 - **0/A:** (1) Enter numeral “0”; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input)
5. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.
6. **Control Buttons:**
 - **Directional buttons:** 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 play, and the Left and Right buttons are used to select the recording 30s forwards or backwards. In live view mode, these buttons can be used to cycle through channels.
 - **Enter:** The Enter button is used to confirm selection in menu mode; or used to select 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 advance the video by a single frame. And in auto sequence live view mode, the buttons can be used to pause / resume auto sequence.
7. **IR Receiver:** Operation by IR remote control.
8. **PWR:** the indicator lights in green when DVR is powered up.
9. **Power On/Off:** press and hold the button to turn off the device.

DS-7204HVI-ST/L:



1. **LCD:** Display local menu and live video.
2. **USB Interface:** Universal Serial Bus (USB) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).
3. **Status Indicators:** Status indicators for different features of the DVR.
 - **POWER:** Power indicator turns green when DVR is powered up.
 - **STATUS:** Status indicator turns green when DVR is controlled by an IR remote.
 - **HDD:** HDD indicator blinks red when data is being read from or written to HDD.
 - **Tx/Rx:** TX/RX indicator blinks blue when network connection is functioning properly.
4. **IR Receiver:** Receiver for IR remote.
5. **DIRECTION/ENTER Buttons:**
 - **DIRECTION Buttons:** The DIRECTION buttons are used to navigate between different fields and items in menus. In Playback mode, the Up and Down button is used to speed up and slow down recorded video. The Left and Right button will jump 30s backward and forward in a video. In live view mode, these buttons can be used to cycle through channels.
 - **ENTER Button:** 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 Play mode, pressing the ENTER button will advance the video by a single frame.
6. **Control Buttons:**
 - **1 MENU:** (1) Enter numeral “1”; (2) Access the main menu interface.
 - **2ABC/F1:** (1) Enter numeral “2”; (2) Enter letters “ABC”; (3) The F1 button when used in a list field will select all items on the list. In PTZ Control mode, it will turn on/off PTZ light.
 - **3DEF/F2:** (1) Enter numeral “3”; (2) Enter letters “DEF”; (3) The F2 button is used to cycle through tab pages. It will also bring up the Channel & OSD Position settings.
 - **4GHI/ESC:** (1) Enter numeral “4”; (2) Enter letters “GHI”; (3) Exit and back to the previous menu.
 - **5JKL/EDIT:** (1) Enter numeral “5”; (2) Enter letters “JKL”; (3) Delete characters before cursor; (4) Select the checkbox and ON/OFF switch; (5) Start/stop record clipping in playback.
 - **6MNO/PLAY:** (1) Enter numeral “6”; (2) Enter letters “MNO”; (3) Playback, for direct access to playback interface.
 - **7PQRS/REC:** (1) Enter numeral “7”; (2) Enter letters “PQRS”; (3) Manual record, for direct access to manual record interface; manually enable/disable record.
 - **8TUV/PTZ:** (1) Enter numeral “8”; (2) Enter letters “TUV”; (3) Access PTZ control interface.
 - **9WXYZ/PREV:** (1) Enter numeral “9”; (2) Enter letters “WXYZ”; (3) Multi-camera display in live view.
 - **0/A:** (1) Enter numeral “0”; (2) switch between input methods (upper and lowercase alphabet, symbols and numeric input)
7. **SHIFT:** Switch of compound keys between the numeric/letter input and functional control.

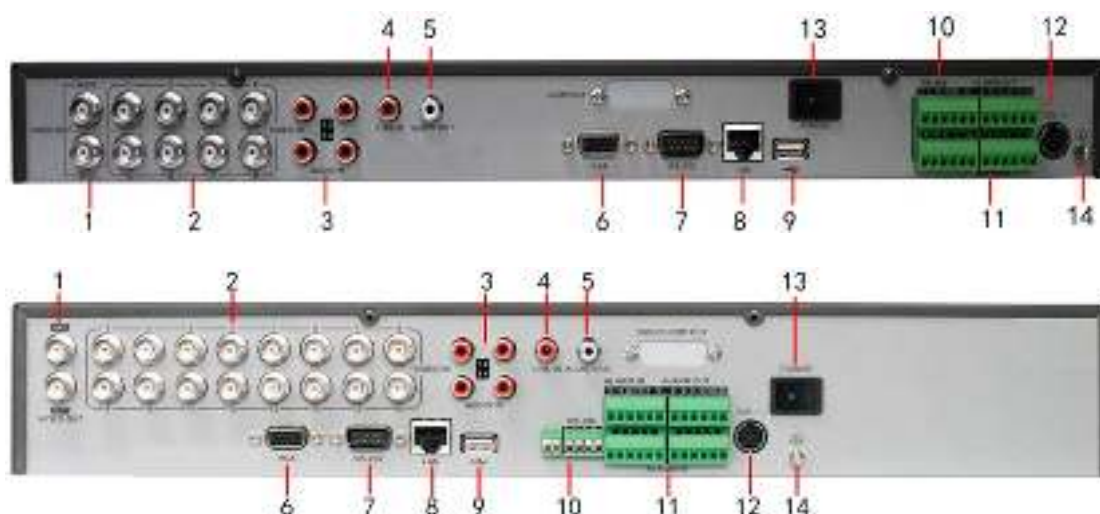
Note: It is important to note that you must click the EDIT button on either the remote or front panel on a text field before you are able to edit its content. After you're done entering text, you must hit the ENTER button to be able to move on to the next field.

Rear Panel

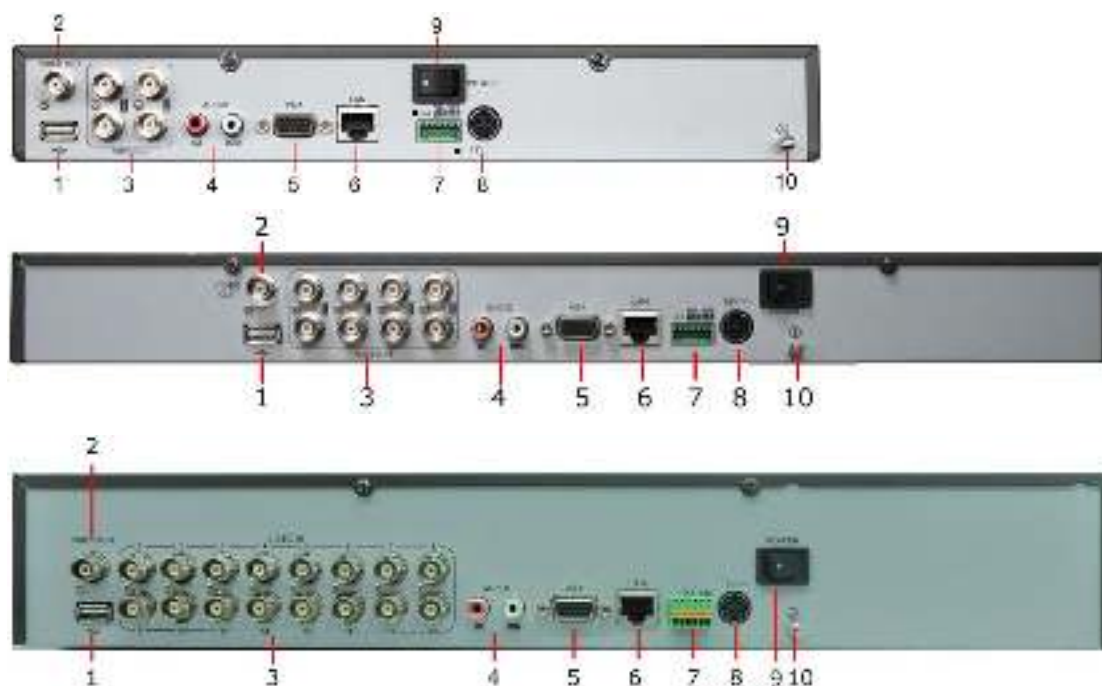
DS-7204HVI-ST:



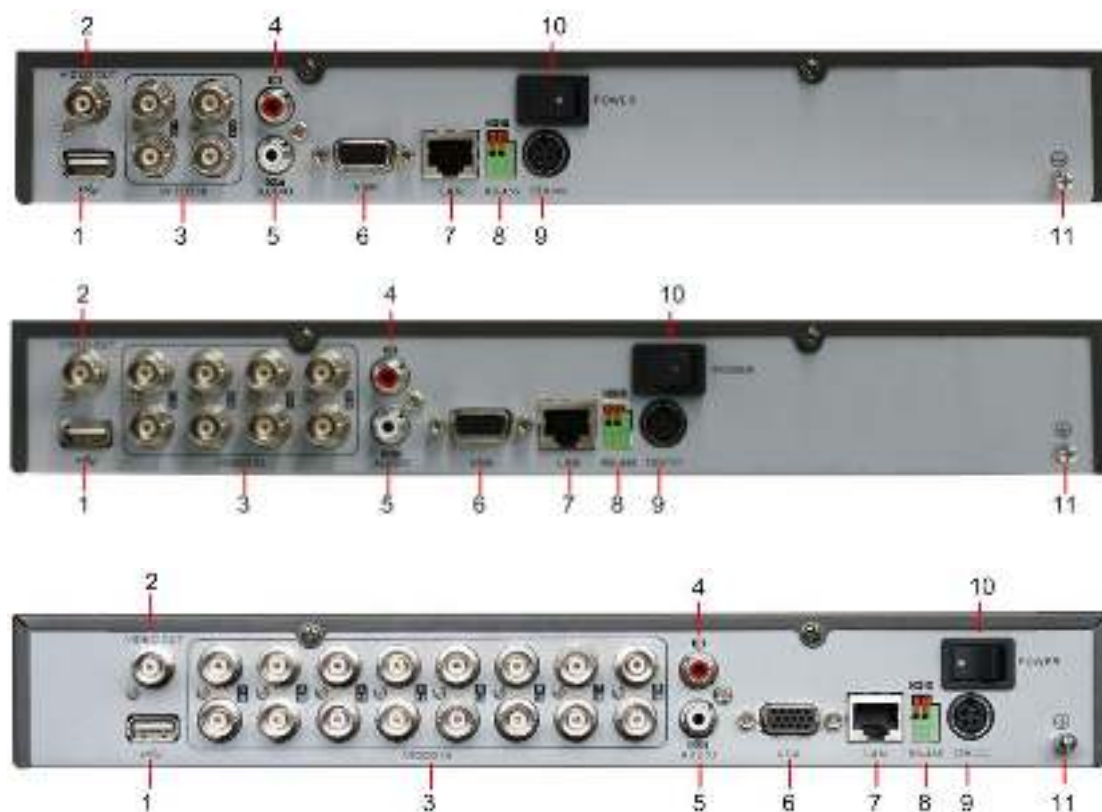
No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	BNC connector for video output.
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	LAN	Connector for LAN (Local Area Network)
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	USB	Connector for USB devices
9	RS-232 Interface	DB9 connector for RS232 devices
10	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	POWER	Switch for turn on/off the device
12	12V	12VDC power supply
13	GND	Ground(needs to be connected when DVR starts up)

DS-7208HVI-ST, DS-7216HVI-ST:

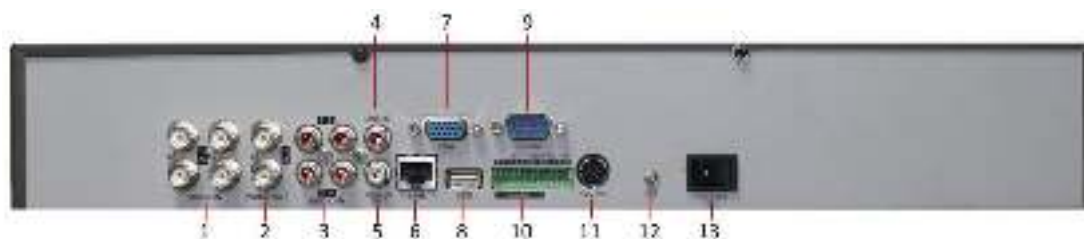
No.	Item	Description
1	MAIN VIDEO OUT	BNC connectors for main video out
	SPOT VIDEO OUT	BNC connectors for spot video out
2	VIDEO IN	BNC connectors for analog video input
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	RS-232 Interface	DB9 connector for RS-232 devices.
8	LAN	Connector for LAN (Local Area Network)
9	USB	Connector for USB devices
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
12	12V	12VDC power supply
13	POWER	Switch for turn on/off the device
14	GND	Ground(needs to be connected when DVR starts up)

DS-7204HVI-ST/SE, DS-7208HVI-ST/SE, DS-7216HVI-ST/SE:

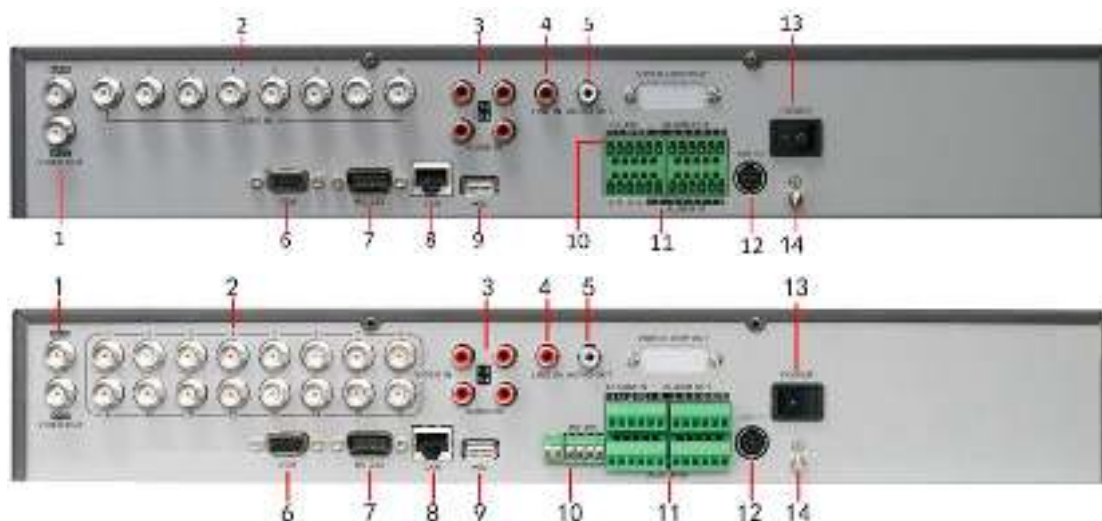
No.	Item	Description
1	USB	Connector for USB devices
2	VIDEO OUT	BNC connectors for video output
3	VIDEO IN	BNC connectors for analog video input
4	AUDIO IN	RCA connectors for analog audio input
	AUDIO OUT	RCA connector for audio output
5	VGA	DB15 connector for VGA output. Display local video output and menu
6	LAN	Connector for LAN (Local Area Network)
7	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
8	12V	12VDC power supply
9	POWER	Switch for turn on/off the device
10	GND	Ground(needs to be connected when DVR starts up)

DS-7204HVI-ST/SN, DS-7208HVI-ST/SN, DS-7216HVI-ST/SN:

No.	Item	Description
1	USB	Connector for USB devices
2	VIDEO OUT	BNC connectors for video output
3	VIDEO IN	BNC connectors for analog video input
4	AUDIO IN	RCA connectors for analog audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	LAN	Connector for LAN (Local Area Network)
8	RS-485 Interface	Connector for RS-485 devices. D+, D- pin connects to PTZ
9	12V	12VDC power supply
10	POWER	Switch for turn on/off the device
11	GND	Ground(needs to be connected when DVR starts up)

DS-7204HVI-ST/RW:

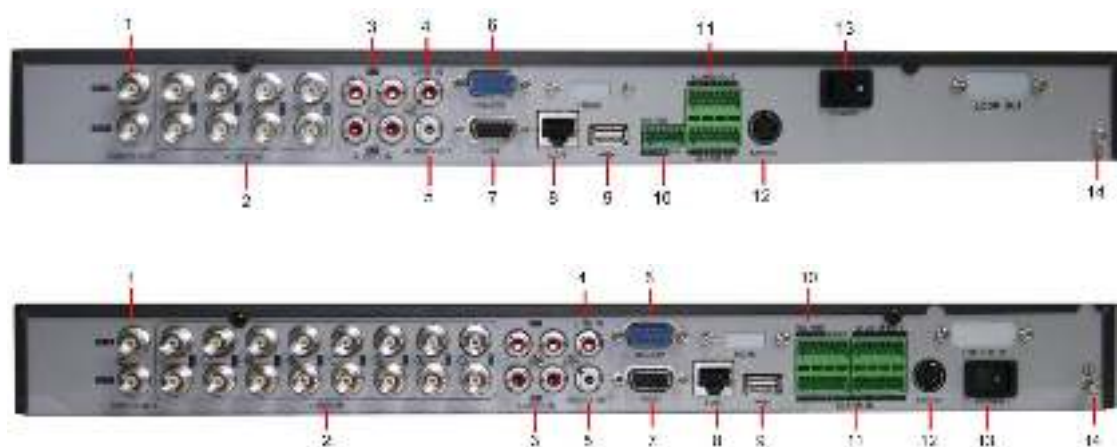
No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	VIDEO OUT1 is main video out, and VIDEO OUT2 is spot video out
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	LAN	Connector for LAN (Local Area Network)
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	USB	Connector for USB devices
9	RS-232 Interface	DB9 connector for RS-232 devices
10	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	12V	12VDC power supply
12	GND	Ground(needs to be connected when DVR starts up)
13	POWER	Switch for turn on/off the device

DS-7208HVI-ST/RW, DS-7216HVI-ST/RW:

No.	Item	Description
1	MAIN VIDEO OUT	BNC connectors for main video out
	SPOT VIDEO OUT	BNC connectors for spot video out
2	VIDEO IN	BNC connectors for analog video input
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	RS-232 Interface	DB9 connector for RS-232 devices
8	LAN	Connector for LAN (Local Area Network)
9	USB	Connector for USB devices
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
12	12V	12VDC power supply
13	POWER	Switch for turn on/off the device
14	GND	Ground(needs to be connected when DVR starts up)

DS-7204HFI-ST:

No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	BNC connector for video output.
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	LAN	Connector for LAN (Local Area Network)
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	USB	Connector for USB devices
9	RS-232 Interface	DB9 connector for RS232 devices
10	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	POWER	Switch for turn on/off the device
12	12V	12VDC power supply
13	GND	Ground(needs to be connected when DVR starts up)

DS-7208HFI-ST, DS-7216HFI-ST:

No.	Item	Description
1	MAIN VIDEO OUT	BNC connectors for main video out
	SPOT VIDEO OUT	BNC connectors for spot video out
2	VIDEO IN	BNC connectors for analog video input
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	RS-232 Interface	DB9 connector for RS-232 devices
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	LAN	Connector for LAN (Local Area Network)
9	USB	Connector for USB devices
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
12	12V	12VDC power supply
13	POWER	Switch for turn on/off the device
14	GND	Ground(needs to be connected when DVR starts up)

DS-7204HFI-ST/SE, DS-7208HFI-ST/SE, DS-7216HFI-ST/SE:

No.	Item	Description
1	USB	Connector for USB devices
2	VIDEO OUT	BNC connectors for video output
3	VIDEO IN	BNC connectors for analog video input
4	AUDIO IN	RCA connectors for analog audio input
	AUDIO OUT	RCA connector for audio output
5	VGA	DB15 connector for VGA output. Display local video output and menu
6	LAN	Connector for LAN (Local Area Network)
7	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
8	12V	12VDC power supply
9	POWER	Switch for turn on/off the device
10	GND	Ground(needs to be connected when DVR starts up)

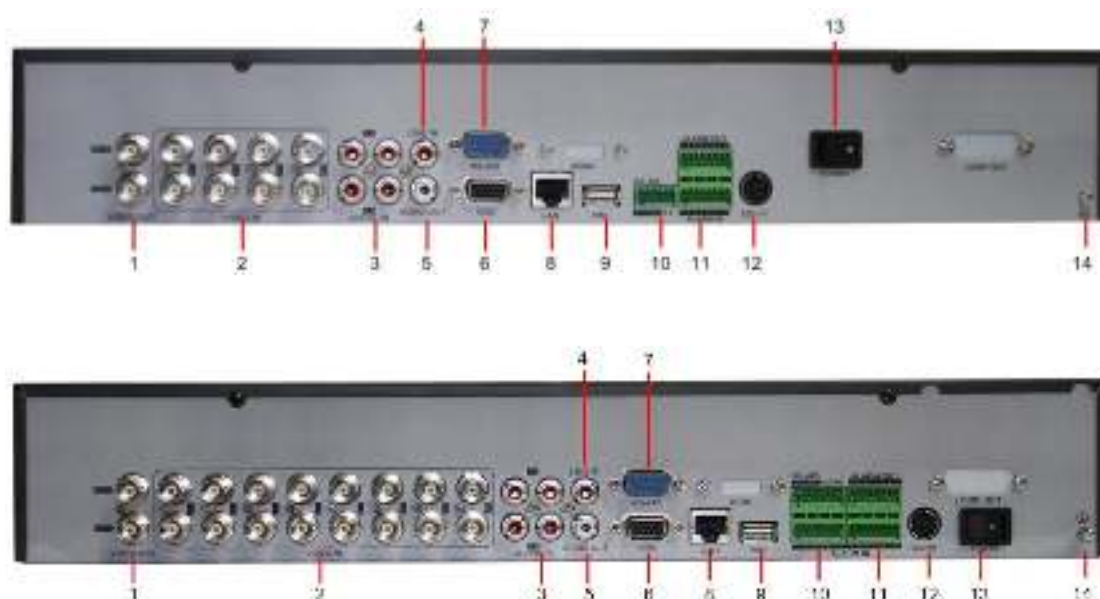
DS-7204HFI-ST/SN, DS-7208HFI-ST/SN, DS-7216HFI-ST/SN:



No.	Item	Description
1	USB	Connector for USB devices
2	VIDEO OUT	BNC connectors for video output
3	VIDEO IN	BNC connectors for analog video input
4	AUDIO IN	RCA connectors for analog audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	LAN	Connector for LAN (Local Area Network)
8	RS-485 Interface	Connector for RS-485 devices. D+, D- pin connects to PTZ
9	12V	12VDC power supply
10	POWER	Switch for turn on/off the device
11	GND	Ground(needs to be connected when DVR starts up)

DS-7204HFI-ST/RW:

No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	VIDEO OUT1 is main video out, and VIDEO OUT2 is spot video out
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	LAN	Connector for LAN (Local Area Network)
7	VGA	DB15 connector for VGA output. Display local video output and menu
8	USB	Connector for USB devices
9	RS-232 Interface	DB9 connector for RS-232 devices
10	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	12V	12VDC power supply
12	GND	Ground(needs to be connected when DVR starts up)
13	POWER	Switch for turn on/off the device

DS-7208HFI-ST/RW, DS-7216HFI-ST/RW:

No.	Item	Description
1	MAIN VIDEO OUT	BNC connectors for main video out
	SPOT VIDEO OUT	BNC connectors for spot video out
2	VIDEO IN	BNC connectors for analog video input
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
5	AUDIO OUT	RCA connector for audio output
6	VGA	DB15 connector for VGA output. Display local video output and menu
7	RS-232 Interface	DB9 connector for RS-232 devices.
8	LAN	Connector for LAN (Local Area Network)
9	USB	Connector for USB devices
10	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
11	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
12	12V	12VDC power supply
13	POWER	Switch for turn on/off the device
14	GND	Ground(needs to be connected when DVR starts up)

DS-7204HVI-ST/L:

No.	Item	Description
1	VIDEO IN	BNC connectors for analog video input
2	VIDEO OUT	VIDEO OUT1 is main video out, and VIDEO OUT2 is spot video out
3	AUDIO IN	RCA connectors for analog audio input
4	LINE IN	RCA connector for audio input
	AUDIO OUT	RCA connector for audio output
5	LAN	Connector for LAN (Local Area Network)
6	USB	Connector for USB devices
7	ALARM IN	Connector for alarm input
	ALARM OUT	Connector for alarm output
	RS-485 Interface	Connector for RS-485 devices. T+, T- pin connects to PTZ
8	VGA	DB15 connector for VGA output. Display local video output and menu
9	RS-232 Interface	DB9 connector for RS-232 devices
10	12V	12VDC power supply
11	POWER	Switch for turn on/off the device

Peripheral Connections

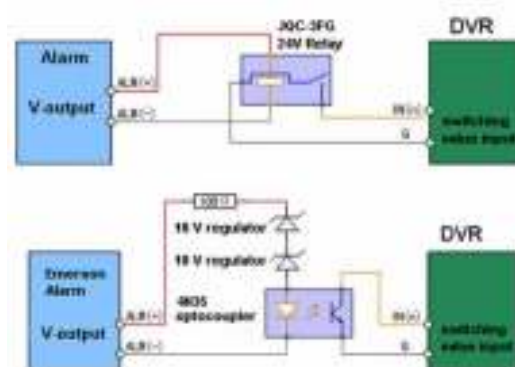
Connecting to Alarm Input / Output Device

Note: The DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models provide no alarm in/out.

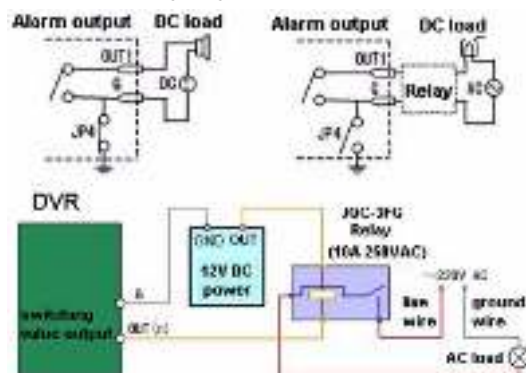
The alarm input/output interface of the DVR is shown below (taking DS-7204HVI-ST model as example):



The alarm input is an open/closed relay. If the input is not an open/closed relay, follow the connection diagram below:



To connect to an AC/DC load, use the following diagram:



For DC load, JP4 can be used within the limit of 12V/1A safely. If the interface is connected to an AC load, JP4 should be left open. Use an external relay for safety (as shown in the figure above).

There are 4 jumpers (JP4, JP5, JP6, and JP7) on the motherboard, each corresponding with one alarm output. By default, jumpers are connected. To connect an AC load, jumpers should be removed.

Note: An external relay is needed to prevent electric shock when connecting to an AC load.

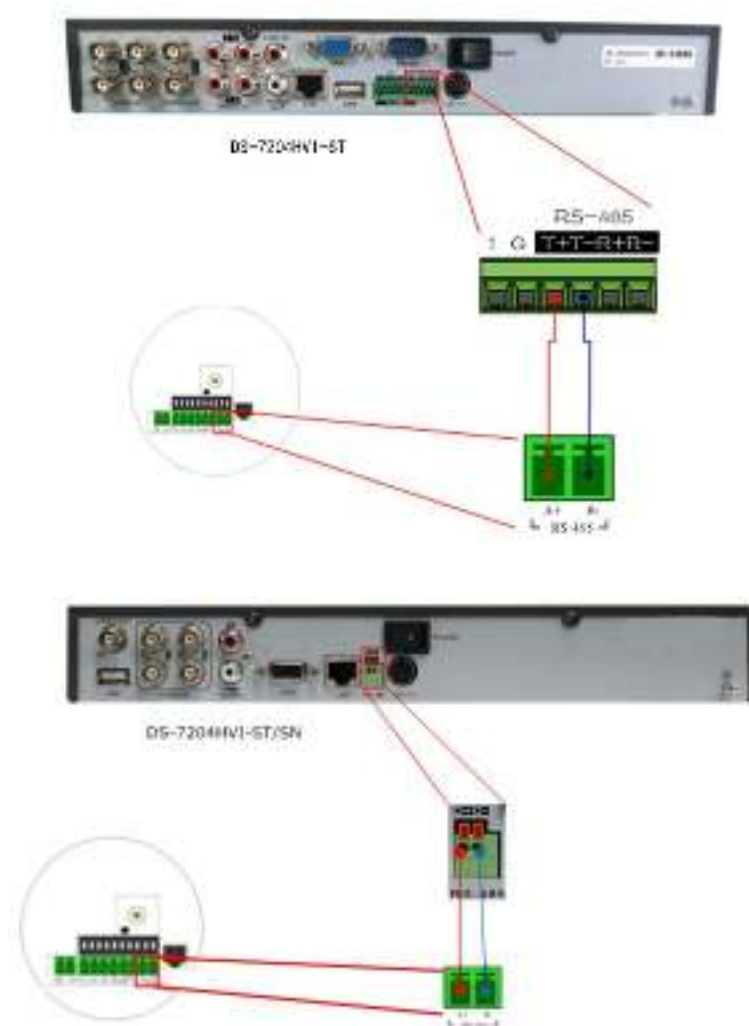
Alarm Connection

Note: The DS-7200HVI-ST/SE, DS-7200HFI-ST/SE, DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models provide no alarm in/out.

To connect alarm devices to the DVR:

1. Disconnect *pluggable block* from the ALARM IN /ALARM OUT terminal block.
2. Unfasten stop screws from the *pluggable block*, insert signal cables into slots and fasten stop screws. Ensure signal cables are in tight.
3. Connect *pluggable block* back into terminal block.

RS-485 Connection



To connect RS-485 devices to the DVR:

1. Disconnect *pluggable block* from the RS-485 terminal block.
2. Unfasten stop screws from the *pluggable block*, insert signal cables into slots and fasten stop screws. Ensure signal cables are in tight.
3. Connect *pluggable block* back into terminal block.

Note: Make sure the pan/tilt receiver unit is connected to the *T+* and *T-* terminals (or *D+* and *D-* terminals of DS-7200HVI-ST/SN and DS-7200HFI-ST/SN) of the DVR.

Specifications

DS-7200HVI-ST:

Model	DS-7204HVI-ST		DS-7208HVI-ST	DS-7216HVI-ST
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch	8-ch	16-ch
	Video interface	BNC connector (1.0 Vp-p, 75 Ω); PAL / NTSC adaptive		
	Audio compression	G.711		
	Audio input	4-ch, RCA connector (2.0 Vp-p, 1 kΩ)		
	Voice talk input	1-ch, RCA (2.0 Vp-p, 1 kΩ)		
	VGA output	1-ch, resolution: 1280 × 1024 / 60 Hz, 1024 × 768 / 60 Hz		
	CVBS output	2-ch, BNC connector (1.0 Vp-p, 75 Ω); Resolution: PAL: 704 × 576, NTSC: 704 × 480		
	Audio output	1-ch, RCA connector (Linear, 1 kΩ)		
Video/Audio output	Recording resolution	4CIF/2CIF/CIF		
	Frame rate	Main stream: 4CIF / 2CIF@12 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@8 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@6 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)
	Video bit rate	32 kbps ~ 2048 kbps, or user-defined (Max. 3072 kbps)		
	Stream type	Video/ Video & Audio		
	Audio bit rate	64 kbps		
	Dual stream	Support		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Type	1 SATA interface	2 SATA interface	2 SATA interfaces
	Capacity	Up to 4TB capacity for each interface		
External interface	Network interface	1, RJ45 10 M / 100 M adaptive Ethernet interface		
	Serial interface	1 RS-485 interface, 1 RS-232 interface		
	USB interface	2, USB 2.0		
	Alarm in	4	8	16
	Alarm out	1	4	4
Others	Power supply	12 VDC		
	Consumption	≤10 W (without hard disk or DVD-R/W)	≤10 W (without hard disk or DVD-R/W)	≤15 W (without hard disk or DVD-R/W)
	Working temperature	-10 °C ~ +55 °C		
	Working humidity	10% ~ 90%		
	Chassis	Stand-alone 1U chassis	19-inch rack-mounted 1U chassis	19-inch rack-mounted 1.5U chassis
	Dimensions (W × D × H)	315 × 230 × 45 mm	445 × 290 × 45 mm	445 × 390 × 70 mm
	Weight	≤2 kg (without hard disk or DVD-R/W)	≤4 kg (without hard disk or DVD-R/W)	≤8 kg (without hard disk or DVD-R/W)

DS-7200HVI-ST/SE:

Model		DS-7204HVI-ST/SE	DS-7208HVI-ST/SE	DS-7216HVI-ST/SE
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch	8-ch	16-ch
	Video interface	BNC connector (1.0 Vp-p, 75 Ω); PAL / NTSC adaptive		
	Audio compression	G.711		
	Audio input	1-ch, RCA connector (2.0 Vp-p, 1 kΩ)		
	Voice talk input	1-ch, RCA (2.0 Vp-p, 1 kΩ)		
	VGA output	1-ch, resolution: 1280 × 1024 / 60 Hz, 1024 × 768 / 60 Hz		
	CVBS output	1-ch, BNC connector (1.0 Vp-p, 75 Ω); Resolution: PAL: 704 × 576, NTSC: 704 × 480		
	Audio output	1-ch, RCA connector (Linear, 1 kΩ)		
Video/Audio output	Recording resolution	4CIF/2CIF/CIF		
	Frame rate	Main stream: 4CIF / 2CIF@12 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@8 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@6 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)
	Video bit rate	32 kbps ~ 2048 kbps, or user-defined (Max. 3072 kbps)		
	Stream type	Video/ Video & Audio		
	Audio bit rate	64 kbps		
	Dual stream	Support		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Type	1 SATA interface	1 SATA interface	2 SATA interfaces
	Capacity	Up to 4TB capacity for each interface		
External interface	Network interface	1, RJ45 10 M / 100 M adaptive Ethernet interface		
	Serial interface	1 RS-485 interface		
	USB interface	2, USB 2.0		
Others	Power supply	12 VDC		
	Consumption	≤10 W (without hard disk or DVD-R/W)	≤10 W (without hard disk or DVD-R/W)	≤15 W (without hard disk or DVD-R/W)
	Working temperature	-10 °C ~ +55 °C		
	Working humidity	10% ~ 90%		
	Chassis	Stand-alone 1U chassis	19-inch rack-mounted 1U chassis	19-inch rack-mounted 1.5U chassis
	Dimensions (W × D × H)	315 × 230 × 45 mm	445 × 290 × 45 mm	445 × 390 × 70 mm
	Weight	≤2 kg (without hard disk or DVD-R/W)	≤4 kg (without hard disk or DVD-R/W)	≤8 kg (without hard disk or DVD-R/W)

DS-7200HVI-ST/SN:

Model		DS-7204HVI-ST/SN	DS-7208HVI-ST/SN	DS-7216HVI-ST/SN
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch	8-ch	16-ch
	Video input interface	BNC connector (1.0 Vp-p, 75 Ω); PAL / NTSC adaptive		
	Audio compression	G.711		
	Audio input	1-ch, RCA connector (2.0 Vp-p, 1 k Ω)		
	Voice talk input	1-ch, RCA (2.0 Vp-p, 1 k Ω) (Using AUDIO IN)		
	VGA output	1-ch, resolution: 1280 \times 1024 / 60 Hz, 1024 \times 768 / 60 Hz		
	CVBS output	1-ch, BNC connector (1.0 Vp-p, 75 Ω); Resolution: PAL: 704 \times 576, NTSC: 704 \times 480		
	Audio output	1-ch, RCA connector (Linear, 1 k Ω)		
Video/Audio output	Recording resolution	4CIF / 2CIF / CIF		
	Frame rate	Main stream: 4CIF / 2CIF@12 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@8 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@6 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)
	Video bit rate	32 kbps ~ 2048 kbps, or user-defined (Max. 3072 kbps)		
	Stream type	Video/ Video & Audio		
	Audio bit rate	64 kbps		
	Dual stream	Support		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Type	1 SATA interface		
	Capacity	Up to 4TB capacity for each interface		
External interface	Network interface	1, RJ45 10 M / 100 M adaptive Ethernet interface		
	Serial interface	1 RS-485 half-duplex interface		
	USB interface	2, USB 2.0		
Others	Power supply	12 VDC		
	Consumption	≤ 10 W (without hard disk or DVD-R/W)	≤ 10 W (without hard disk or DVD-R/W)	≤ 15 W (without hard disk or DVD-R/W)
	Working temperature	-10 $^{\circ}$ C ~ +55 $^{\circ}$ C		
	Working humidity	10% ~ 90%		
	Dimensions (W \times D \times H)	315 \times 230 \times 45 mm		
	Weight	≤ 2 kg (without hard disk or DVD-R/W)	≤ 4 kg (without hard disk or DVD-R/W)	≤ 4 kg (without hard disk or DVD-R/W)

DS-7200HVI-ST/RW:

Model		DS-7204HVI-ST/RW	DS-7208HVI-ST/RW	DS-7216HVI-ST/RW
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch	8-ch	16-ch
	Video interface	BNC connector (1.0 Vp-p, 75 Ω); PAL / NTSC adaptive		
	Audio compression	G.711		
	Audio input	4-ch, RCA connector (2.0 Vp-p, 1 kΩ)		
	Voice talk input	1-ch, RCA (2.0 Vp-p, 1 kΩ)		
	VGA output	1-ch, resolution: 1280 × 1024 / 60 Hz, 1024 × 768 / 60 Hz		
	CVBS output	2-ch, BNC connector (1.0 Vp-p, 75 Ω); Resolution: PAL: 704 × 576, NTSC: 704 × 480		
	Audio output	1-ch, RCA connector (Linear, 1 kΩ)		
Video/Audio output	Recording resolution	4CIF/2CIF/CIF		
	Frame rate	Main stream: 4CIF / 2CIF@12 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@8 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@up to 25 fps (P) / 30 fps (N)	Main stream: 4CIF / 2CIF@6 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@ up to 25 fps (P) / 30 fps (N)
	Video bit rate	32 kbps ~ 2048 kbps, or user-defined (Max. 3072 kbps)		
	Stream type	Video/ Video & Audio		
	Audio bit rate	64 kbps		
	Dual stream	Support		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Type	2 SATA interface	2 SATA interface	2 SATA interfaces
	Capacity	Up to 4TB capacity for each interface		
External interface	Network interface	1, RJ45 10 M / 100 M adaptive Ethernet interface		
	Serial interface	1 RS-485 interface, 1 RS-232 interface		
	USB interface	2, USB 2.0		
	Alarm in	4	8	16
	Alarm out	1	4	4
Others	Power supply	12 VDC		
	Consumption	≤10 W (without hard disk or DVD-R/W)	≤10 W (without hard disk or DVD-R/W)	≤15 W (without hard disk or DVD-R/W)
	Working temperature	-10 °C ~ +55 °C		
	Working humidity	10% ~ 90%		
	Chassis	19-inch rack-mounted 1.5U chassis		
	Dimensions (W × D × H)	440 × 390 × 70 mm		
	Weight	≤8 Kg (without hard disk or DVD-R/W)		

DS-7200HFI-ST:

Model		DS-7204HFI-ST	DS-7208HFI-ST	DS-7216HFI-ST
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch	8-ch	16-ch
	Video input interface	BNC connector (1.0 Vp-p, 75 Ω); PAL / NTSC adaptive		
	Audio compression	G.711		
	Audio input	4-ch, RCA connector (2.0 Vp-p, 1 kΩ)		
	Voice talk input	1-ch, RCA (2.0 Vp-p, 1 kΩ)		
	VGA output	1-ch, resolution: 1280 × 1024 / 60 Hz, 1024 × 768 / 60 Hz		
	CVBS output	2-ch, BNC connector (1.0 Vp-p, 75 Ω); Resolution: PAL: 704 × 576, NTSC: 704 × 480		
	Audio output	1-ch, RCA connector (Linear, 1 kΩ)		
Video/Audio output	Recording resolution	4CIF / 2CIF / CIF		
	Frame rate	Main stream: 4CIF / 2CIF / CIF@25 fps (P) / 30 fps (N) Sub stream: CIF@6 fps, QCIF@25 fps (P) / 30 fps (N)		
	Video bit rate	32 kbps ~ 2048 kbps, or user-defined (Max. 3072 kbps)		
	Stream type	Video/ Video & Audio		
	Audio bit rate	64 kbps		
	Dual stream	Support		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Type	1 SATA interface	2 SATA interfaces	2 SATA interfaces
	Capacity	Up to 4TB capacity for each interface		
External interface	Network interface	1, RJ45 10 M / 100 M adaptive Ethernet interface		
	Serial interface	1 RS-485 full-duplex interface, 1 RS-232 interface		
	USB interface	2, USB 2.0		
	Alarm in	4	8	16
	Alarm out	1	4	4
Others	Power supply	12 VDC		
	Consumption	≤10 W (without hard disk or DVD-R/W)	≤15 W (without hard disk or DVD-R/W)	≤20 W (without hard disk or DVD-R/W)
	Working temperature	-10 °C ~ +55 °C		
	Working humidity	10% ~ 90%		
	Chassis	Stand-alone 1U chassis	19-inch rack-mounted 1U chassis	19-inch rack-mounted 1U chassis
	Dimensions (W×D×H)	315 × 230 × 45 mm	445 × 290 × 45 mm	445 × 290 × 45 mm
	Weight	≤ 2 kg (without hard disk or DVD-R/W)	≤ 4 kg (without hard disk or DVD-R/W)	≤ 4 kg (without hard disk or DVD-R/W)

DS-7200HFI-ST/SE:

Model		DS-7204HFI-ST/SE	DS-7208HFI-ST/SE	DS-7216HFI-ST/SE
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch	8-ch	16-ch
	Video interface	BNC connector (1.0 Vp-p, 75 Ω); PAL / NTSC adaptive		
	Audio compression	G.711		
	Audio input	1-ch, RCA connector (2.0 Vp-p, 1 kΩ)		
	Voice talk input	1-ch, RCA (2.0 Vp-p, 1 kΩ) (Using AUDIO IN)		
	VGA output	1-ch, resolution: 1280 × 1024 / 60 Hz, 1024 × 768 / 60 Hz		
	CVBS output	1-ch, BNC connector (1.0 Vp-p, 75 Ω); Resolution: PAL: 704 × 576, NTSC: 704 × 480		
	Audio output	1-ch, RCA connector (Linear, 1 kΩ)		
Video/Audio output	Recording resolution	4CIF/2CIF/CIF		
	Frame rate	Main stream: 4CIF / 2CIF / CIF@25 fps (P) / 30 fps (N) Sub stream: CIF@6 fps, QCIF@25 fps (P) / 30 fps (N)		
	Video bit rate	32 kbps ~ 2048 kbps, or user-defined (Max. 3072 kbps)		
	Stream type	Video/ Video & Audio		
	Audio bit rate	64 kbps		
	Dual stream	Support		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Type	1 SATA interface	2 SATA interfaces	2 SATA interfaces
	Capacity	Up to 4TB capacity for each interface		
External interface	Network interface	1, RJ45 10 M / 100 M adaptive Ethernet interface		
	Serial interface	1 RS-485 full-duplex interface		
	USB interface	2, USB 2.0		
Others	Power supply	12 VDC		
	Consumption	≤10 W (without hard disk or DVD-R/W)	≤15 W (without hard disk or DVD-R/W)	≤20 W (without hard disk or DVD-R/W)
	Working temperature	-10 °C ~ +55 °C		
	Working humidity	10% ~ 90%		
	Chassis	Stand-alone 1U chassis	19-inch rack-mounted 1U chassis	19-inch rack-mounted 1U chassis
	Dimensions (W × D × H)	315 × 230 × 45 mm	445 × 290 × 45 mm	445 × 290 × 45 mm
	Weight	≤2 kg (without hard disk or DVD-R/W)	≤4 kg (without hard disk or DVD-R/W)	≤4 kg (without hard disk or DVD-R/W)

DS-7200HFI-ST/SN:

Model		DS-7204HFI-ST/SN	DS-7208HFI-ST/SN	DS-7216HFI-ST/SN
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch	8-ch	16-ch
	Video input interface	BNC connector (1.0 Vp-p, 75 Ω); PAL / NTSC adaptive		
	Audio compression	G.711		
	Audio input	1-ch, RCA connector (2.0 Vp-p, 1 k Ω)		
	Voice talk input	1-ch, RCA (2.0 Vp-p, 1 k Ω) (Using AUDIO IN)		
	VGA output	1-ch, resolution: 1280 \times 1024 / 60 Hz, 1024 \times 768 / 60 Hz		
	CVBS output	1-ch, BNC connector (1.0 Vp-p, 75 Ω); Resolution: PAL: 704 \times 576, NTSC: 704 \times 480		
	Audio output	1-ch, RCA connector (Linear, 1 k Ω)		
Video/Audio output	Recording resolution	4CIF / 2CIF / CIF		
	Frame rate	Main stream: 4CIF / 2CIF / CIF@25 fps (P) / 30 fps (N) Sub stream: CIF@6 fps, QCIF@25 fps (P) / 30 fps (N)		
	Video bit rate	32 kbps ~ 2048 kbps, or user-defined (Max. 3072 kbps)		
	Stream type	Video/ Video & Audio		
	Audio bit rate	64 kbps		
	Dual stream	Support		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Type	1 SATA interface	1 SATA interface	2 SATA interfaces
	Capacity	Up to 4TB capacity for each interface		
External interface	Network interface	1, RJ45 10 M / 100 M adaptive Ethernet interface		
	Serial interface	1 RS-485 half-duplex interface		
	USB interface	2, USB 2.0		
Others	Power supply	12 VDC		
	Consumption	≤ 10 W (without hard disk or DVD-R/W)	≤ 15 W (without hard disk or DVD-R/W)	≤ 20 W (without hard disk or DVD-R/W)
	Working temperature	-10 $^{\circ}$ C ~ +55 $^{\circ}$ C		
	Working humidity	10% ~ 90%		
	Chassis	Stand-alone 1U chassis	Stand-alone 1U chassis	19-inch rack-mounted 1U chassis
	Dimensions (W \times D \times H)	315 \times 230 \times 45 mm	315 \times 230 \times 45 mm	445 \times 290 \times 45 mm
	Weight	≤ 2 kg (without hard disk or DVD-R/W)	≤ 2 kg (without hard disk or DVD-R/W)	≤ 4 kg (without hard disk or DVD-R/W)

DS-7200HFI-ST/RW:

Model		DS-7204HFI-ST/RW	DS-7208HFI-ST/RW	DS-7216HFI-ST/RW
Video/Audio input	Video compression	H.264		
	Analog video input	4-ch	8-ch	16-ch
	Video input interface	BNC connector (1.0 Vp-p, 75 Ω); PAL / NTSC adaptive		
	Audio compression	G.711		
	Audio input	4-ch, RCA connector (2.0 Vp-p, 1 k Ω)		
	Voice talk input	1-ch, RCA (2.0 Vp-p, 1 k Ω)		
	VGA output	1-ch, resolution: 1280 \times 1024 / 60 Hz, 1024 \times 768 / 60 Hz		
	CVBS output	2-ch, BNC connector (1.0 Vp-p, 75 Ω); Resolution: PAL: 704 \times 576, NTSC: 704 \times 480		
	Audio output	1-ch, RCA connector (Linear, 1 k Ω)		
Video/Audio output	Recording resolution	4CIF / 2CIF / CIF		
	Frame rate	Main stream: 4CIF / 2CIF / CIF@25 fps (P) / 30 fps (N) Sub stream: CIF@6 fps, QCIF@25 fps (P) / 30 fps (N)		
	Video bit rate	32 kbps ~ 2048 kbps, or user-defined (Max. 3072 kbps)		
	Stream type	Video/ Video & Audio		
	Audio bit rate	64 kbps		
	Dual stream	Support		
	Synchronous playback	4-ch	8-ch	16-ch
Hard disk	Type	2 SATA interfaces		
	Capacity	Up to 4TB capacity for each interface		
External interface	Network interface	1, RJ45 10 M / 100 M adaptive Ethernet interface		
	Serial interface	1 RS-485 full-duplex interface, 1 RS-232 interface		
	USB interface	2, USB 2.0		
	Alarm in	4	8	16
	Alarm out	1	4	4
Others	Power supply	12 VDC		
	Consumption	≤ 10 W (without hard disk or DVD-R/W)	≤ 15 W (without hard disk or DVD-R/W)	≤ 20 W (without hard disk or DVD-R/W)
	Working temperature	-10 $^{\circ}$ C ~ +55 $^{\circ}$ C		
	Working humidity	10% ~ 90%		
	Chassis	19-inch rack-mounted 1.5U chassis		
	Dimensions (W \times D \times H)	440 \times 390 \times 70 mm		
	Weight	≤ 8 kg (without hard disk or DVD-R/W)		

DS-7204HVI-ST/L:

Model	DS-7204HVI-ST/L	
Video/Audio input	Video compression	H.264
	Analog video input	4-ch, BNC connector (1.0Vp-p, 75Ω); PAL/NTSC adaptive
	Audio compression	G.711
	Audio input	4-ch, RCA connector (2.0Vp-p, 1kΩ)
	VGA output	1-ch, resolution: 1280 × 1024 / 60 Hz, 1024 × 768 / 60 Hz
	CVBS output	2-ch, BNC connector (1.0Vp-p, 75Ω); Resolution: PAL: 704×576, NTSC:704×480
	Audio output	1-ch, RCA connector (Linear, 1kΩ)
	Recording resolution	4CIF/2CIF/CIF
	Frame rate	Main stream: 4CIF / 2CIF@12 fps, CIF@25 fps (P) / 30 fps (N) Sub stream: CIF / QCIF@up to 25 fps (P) / 30 fps (N)
	Video bit rate	32Kbps~2048Kbps, or user-defined (Max. 3072Kbps)
	Stream type	Video/ Video & Audio
	Audio bit rate	64kbps
	Dual stream	Support
	Synchronous playback	4-ch
	Voice talk input	1-ch, RCA(2.0Vp-p, 1kΩ)
Hard disk	Type	1 SATA interface
	Capacity	Up to 4TB capacity
External interface	Network interface	1, RJ45 10M/100M adaptive Ethernet interface
	Serial interface	1 RS-485 interface, 1 RS-232 interface
	USB interface	2, USB2.0
	Alarm in	4
General	Alarm out	1
	Power supply	12VDC
	Consumption	≤10 W (without hard disk or DVD-R/W)
	Working temperature	-10 °C ~ +55 °C
	Working humidity	10% ~ 90%
	Chassis	Chassis for ATM DVR
	Dimensions (W × D × H)	180 × 280 × 180 mm
	Weight	≤5 kg (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.

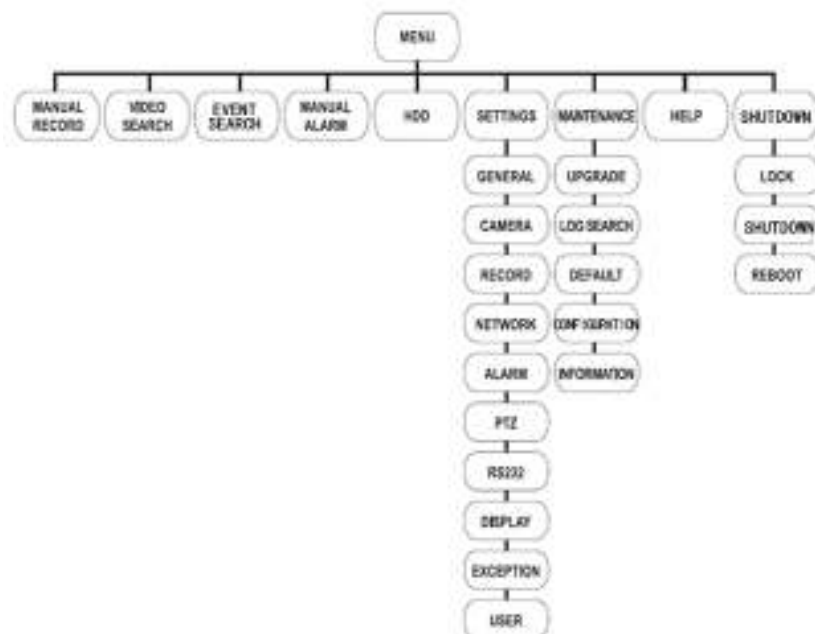
Bit Rate	Storage Used
96K	42M
128K	56M
160K	70M
192K	84M
224K	98M
256K	112M
320K	140M
384K	168M
448K	196M
512K	225M
640K	281M
768K	337M
896K	393M
1024K	450M
1280K	562M
1536K	675M
1792K	787M
2048K	900M

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

The menu structure of the DS-7200-ST Series DVR is as following:



Startup and Shutdown

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

To start your DVR:

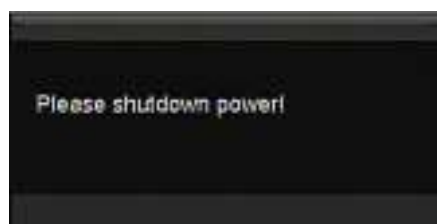
1. Ensure the power supply is plugged into an electrical outlet. It is **HIGHLY** recommended that an Uninterruptible Power Supply (UPS) is used in conjunction with the unit.
2. Press the POWER switch on the rear panel. After the power has been started up, the POWER indicator will light green.

To shut down the DVR:

1. Enter the Shutdown menu by clicking on Menu > ShutDown.



2. Select the *ShutDown* button.
3. Click the *Yes* button in the pop-up attention box to confirm the shutdown.
4. For the DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models, you are allowed to power off the unit only when the following interface appears:



Using the Setup Wizard

By default, the Setup Wizard will start once the DVR has loaded. The Setup Wizard will walk you through some of the more important settings of your DVR. If you do not wish to use the Setup Wizard at this time, click the Cancel button. You may also choose to use the Setup Wizard at a later time by leaving the “**Start Wizard when DVR starts?**” checkbox checked.

To start using the Setup Wizard:

1. Click the *Next* button on the Wizard window. This will take you to the **User Permission** window.
2. Navigate to the **Admin Password** input field. Enter the admin password into the **Admin Password** input field. By default, the password is 12345.
3. To change the admin password, check the **New Admin Password** checkbox. Enter the new password and confirm the password in the given fields.



4. Click the *Next* button. This will take you to the **HDD Management** window.
5. To start HDD management, click the *Enter* button.
6. If a new HDD was recently installed, select the HDD from the list to initialize it. Initializing the HDD will format and remove all data from it.
7. After the HDD has been initialized, click the *OK* button which will take you back to the **Setup Wizard** window.



8. Click the *Next* button. This will take you to the **Record Settings** Window.



9. To enter the Record Settings window, click the *Enter* button.
10. Select the **Schedule** tab.
11. Click the **Edit** button. This will open up a new recording schedule.
12. Check both the **Enable Schedule** and **All Day** checkbox. This will enable the recording schedule and have it record continuously all day.
13. Click the *OK* button. This will take you back to the **Schedule** tab. To copy the schedule to a different channel,

select the channel or all under *Copy To* and click the *Copy* button.



14. Click the *Next* button. This will take you to the **Network Settings** window.

15. To configure network settings, click the *Enter* button.

16. Enter the **IP Address**, **Subnet Mask** and Default **Gateway**.

17. Click the *OK* button to return to the Setup Wizard.



18. Click the *Next* button. This will take you to the **Camera Management** window.

19. Select *Add* to add IP camera, and click *OK* to return to Setup Wizard.

20. If all the settings are entered as desired, click the *Done* button to finish the Setup Wizard.

21. If you have not initialized or formatted the HDD, the following prompt will pop up to remind you to initialize the HDD.

You can click the **Enter** button to enter the HDD Management interface and select the HDD for initialization, or you can click **Cancel** to exit the Setup Wizard.



Setting Date & Time

It is extremely important to setup the system date and time to accurately timestamp recordings and events.

To set date and time:

1. Enter **General Settings** menu by clicking Menu> Settings > General.
2. Enter the correct date and time under **System Time**.
3. Click the *Apply* button to save the setting.



Live View

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



Main Output



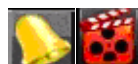
Aux Output



Event Alarm: Indicates video loss, video tampering, motion detection or relay alarm.



Record: Indicates the current channel is recording. The recording may have been started manually, from a schedule, and/or triggered from motion or alarm.



Event Alarm & Record

PTZ Control

Settings for a PTZ camera must be configured before it is used. Before proceeding, verify that the PTZ and RS-485 of the DVR are connected properly.

PTZ Settings

To configure PTZ settings:

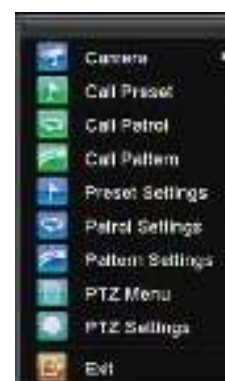
1. Click Menu > Settings > PTZ to enter the **PTZ Settings** menu.
2. Select channel where PTZ camera is installed next to Camera label.
3. Configure the settings of baud rate, data bit, stop bit, parity, flow control, PTZ protocol and address.
4. Click **OK** to save settings and exit the PTZ Settings menu.



PTZ Control

The PTZ control panel in the live view window provides a series of PTZ control buttons, as shown in the following figure:

1. **Directional Pad/Auto-scan Buttons:** Controls the movements and directions of the PTZ. The center button is also used to start auto-scan of PTZ.
2. **Zoom:** Used to zoom in and out with the PTZ.
3. **Focus:** Used to adjust the focus of the PTZ.
4. **Iris:** Used to open up or close the iris of the PTZ.
5. **Speed:** Adjusts the movement speed of the PTZ.
6. **Light:** Turns PTZ light (if applicable) on and off.
7. **Wiper:** Turns PTZ wiper (if applicable) on and off.
8. **Zoom In:** Instantly zooms PTZ in.
9. **Center:** Centers PTZ. Camera: Select a PTZ camera.



Live View Menu

Call Preset: Call a PTZ preset.

Call Patrol: Call a PTZ patrol.

Call Pattern: Call a PTZ pattern.

Preset Settings: Enter PTZ preset configuration menu.

Patrol Settings: Enter PTZ patrol configuration menu.

Pattern Settings: Enter PTZ pattern configuration menu.

PTZ Menu: Enter PTZ menu.

PTZ Settings: Enter PTZ settings menu.



Playback

Playback by Video Search

To play back files from a general search:

1. Enter into the **Video Search** menu by clicking Menu > Video Search.
2. Select General tab, and Set the search parameters by selecting cameras to search, video/file type and the start/end time.
3. Click the *Play* button to start playback of all the files found with the specified search criteria or click the *Search* button to bring up the list of search results. After search results are presented, select the file you would like to playback and press *Play* to enter synchronous playback cameras selection.

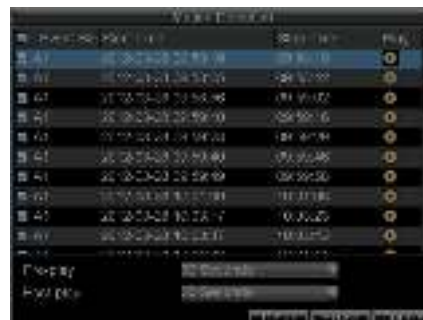


4. Recordings will automatically be played back in the **Playback** interface.

Playback by Event Search

To play back video files recorded by event type (e.g., motion detection):

1. Click Menu > Event Search to enter the Event Search menu.
2. Select the event type to search, and set the start/end time.
3. Click **Search** to start searching the video files, and the searching results will be listed.



4. Select a video file click the Play button to play it.



Playback in Live View Mode

You may also instantly playback from a channel while watching a Live View. The playback will be of recordings from the past 5 minutes.

To play back from a channel instantly in Live View:

- **Using a Mouse:**

1. Right-click the mouse on desired channel and select the *Playback* button.
2. Recordings from the selected channel will start playing back in the Playback interface. An Attention message will appear if there are no recordings found from the previous 5 minutes. You may also press the Play button to view the day's recording for the selected channel.



3. You may also select additional channels for playback from the channel list on the right hand side of the Playback interface.

- **Using the Front Panel/Remote:**

1. Press the PLAY button. This will take you into the **Playback** interface.
2. Enter the channel you would like to view recordings for on the front panel or remote (i.e. press 'SHIFT', the STATUS light will turn green, then press '1' for channel 1, press '2' for channel 2).
3. Recordings will begin for the selected channel.

Note: The DS-7200HVI-ST/SN and DS-7200HFI-ST/SN models do not provide operating buttons on front panel.

Playback by System Log

You may also playback recordings from the System Log.
To playback video from the System Log:

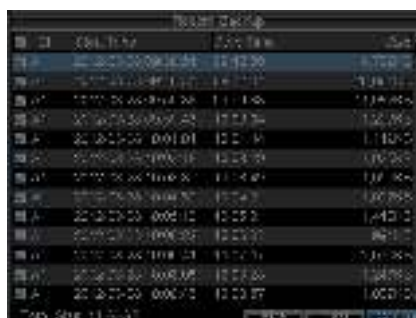
1. Enter the Log Search menu by clicking Menu> Maintenance > Log Search.
2. Set **Major Type** setting to *Information*.
3. Set **Minor Type** setting to *Start Record* or *End Record*.
4. Set **Start Time** and **End Time**.
5. Click the Search button.
6. A list of results with your search criteria will be displayed. Select the video log to playback and click Play.
7. The recording will begin to play in the Playback interface.



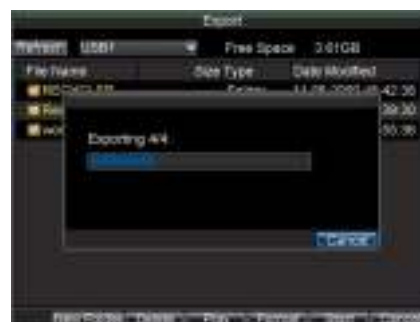
Backup

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

1. Click Menu > Video Search to enter the Video Search menu
2. Select desired parameters to search for files to export.
3. Press the *Export* button. This will take you to the **Record Backup** menu.



4. Select the files to export. You may also click the Play button to verify that these files are indeed the ones you would like to export.
5. The size of the currently selected files is displayed in the lower-left corner of the window. Select the Next button to enter the **Export** menu.
6. Select device to export to from drop-down list (USB Flash Drive, USB HDD, and DVD Writer). If backup device is not recognized:
 - Click the *Refresh* button.
 - Reconnect device.
 - Check for compatibility from vendor.



7. Click *Start* to begin backup process.
8. After the backup process has completed, you may select the files from your device and click the *Play* button to verify that it has been exported successfully.

Note: Video Player software will automatically be copied on to the device that the recorded files were exported on.