



DS-7200HVI-ST Series DVR

Quick Operation Guide

Version 1.0.4

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-7200HVI-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 -10C ~ 55C, 14F ~ 131F.
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.



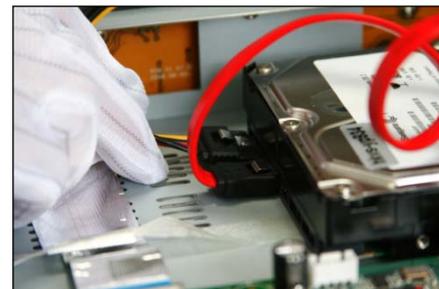
2. Install the HDD in the HDD rack using the provided screws. Fasten the screws on the button to fix the HDD.



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 Front Panel



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 preview
- **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 preview 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 preview 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 Front Panel



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 preview.
 - **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 preview 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 preview mode, the buttons can be used to pause / resume auto sequence.

DS-7216HVI-ST Front Panel



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 preview 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 preview 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 preview.
 - **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 Preview mode, it can be used to cycle through different channels.

DS-7200HVI-ST/RW Front Panel



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 preview.
 - **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 preview 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 preview 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 Front Panel



1. **LCD:** Display local menu and preview.
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 Preview 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 Button:** The 1/MENU button works as numeric [1]. Pressing this button will return the user to the Main menu (after successful login).
 - **2/ABC:** The 2ABC button works as numeric [2] and letter [ABC].
 - **3/DEF:** The 3DEF button works as numeric [3] and letter [DEF]. It is also used to cycle through tab pages.
 - **4GHI/ESC:** The 4GHI/ESC button works as numeric [4] and letter [GHI], it is also used to escape to the previous menu.
 - **5JKL/EDIT:** The 5JKL/EDIT button works as numeric [5] and letter [JKL]. The 5JKL/EDIT button is used to edit text fields. When editing text fields, it will also function as a Backspace button to delete the character in front of the cursor. On checkbox fields, pressing the EDIT/IRIS+ button will *tick* the checkbox. In Playback mode, it can be used to generate video clips for backup.
 - **6MNO/PLAY:** The 6MNO/PLAY button works as numeric [6] and letter [MNO]. It is used to enter the Playback menu. It is also used to turn audio on/off in the Playback menu.
 - **7PQRS/REC:** The 7PQRS/REC button works as numeric [7] and letter [PQRS]. It is also used to enter the

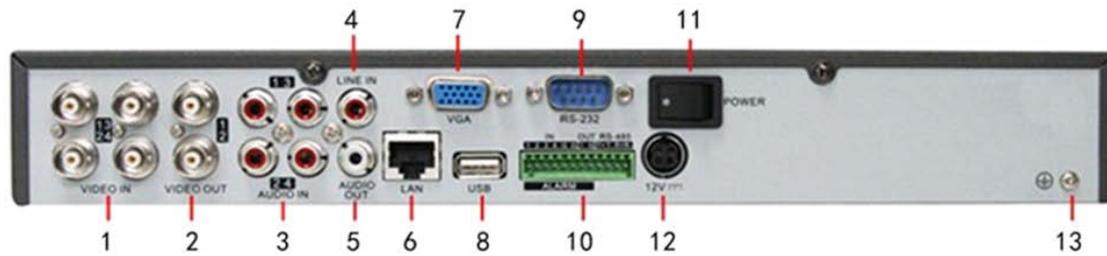
Manual Record interface.

- **8TUV/PTZ:** The 8TUV/PTZ button works as numeric [8] and letter [TUV]. It is also used to enter the PTZ Control mode.
 - **9WXYZ/PREV:** The 9WXYZ/PREVIEW button works as numeric [9] and letter [WXYZ]. It is also used to switch between single screen and multi-screen mode.
 - **0/A:** The 0/A button works as numeric [0]. It is also used to switch between input methods (upper and lowercase alphabet, symbols and numeric input). It can also be used to clear entire masked areas, such as in the Motion Detection and Privacy Mask menus.
7. **SHIFT:** The SHIFT button is used for switch button action between numeric button and control button.

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 Rear Panel



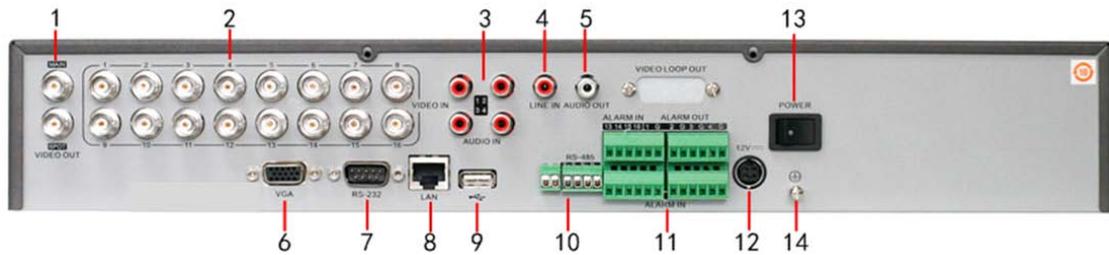
| No. | Item | Description |
|-----|------------------|--|
| 1 | VIDEO IN | BNC connectors for analog video input |
| 2 | VIDEO OUT | BNC connector for video output. |
| 3 | AUDIO IN | RCA connectors for analog audio input |
| 4 | LINE IN | RCA connector for audio input |
| 5 | AUDIO OUT | RCA connector 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 Rear Panel



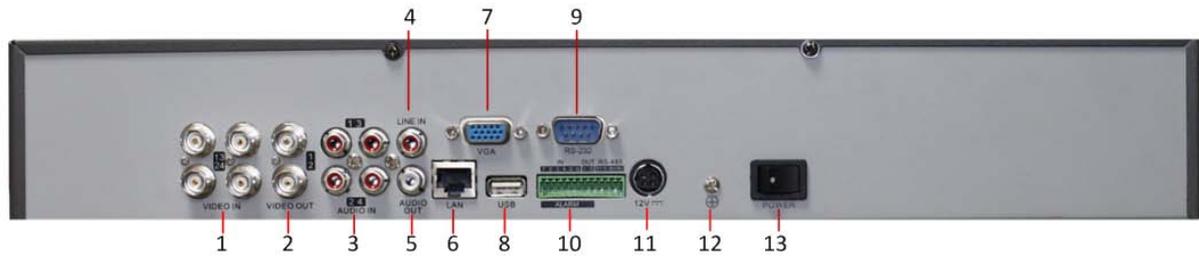
| No. | Item | Description |
|-----|------------------|--|
| 1 | MAIN VIDEO OUT | BNC connectors for main video out |
| | SPOT VIDEO OUT | BNC connectors for spot video out |
| 2 | VIDEO IN | BNC connectors for analog video input |
| 3 | AUDIO IN | RCA connectors for analog audio input |
| 4 | LINE IN | 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 | POWER | Switch for turn on/off the device |
| 11 | 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 |
| 12 | 12V | 12VDC power supply |
| 13 | GND | Ground(needs to be connected when DVR starts up) |

DS-7216HVI-ST Rear Panel



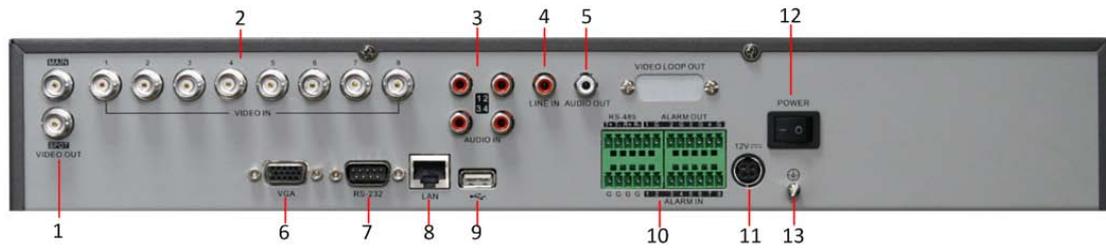
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| 11 | ALARM IN | Connector for alarm input |
| | ALARM OUT | Connector for alarm output |
| 12 | 12V | 12VDC power supply |
| 13 | POWER | Switch for turn on/off the device |
| 14 | GND | Ground(needs to be connected when DVR starts up) |

DS-7204HVI-ST/RW Rear Panel



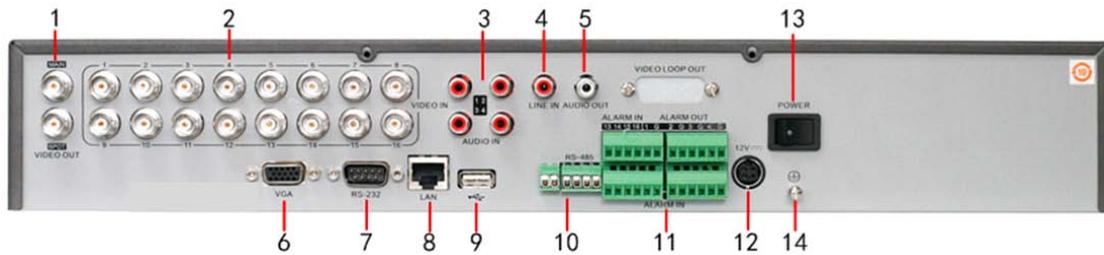
| No. | Item | Description |
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| 2 | VIDEO OUT | VIDEO OUT1 is main video out, and VIDEO OUT2 is spot video out |
| 3 | AUDIO IN | RCA connectors for analog audio input |
| 4 | LINE IN | RCA connector for audio input |
| 5 | AUDIO OUT | RCA connector for audio output |
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DS-7208HVI-ST/RW Rear Panel



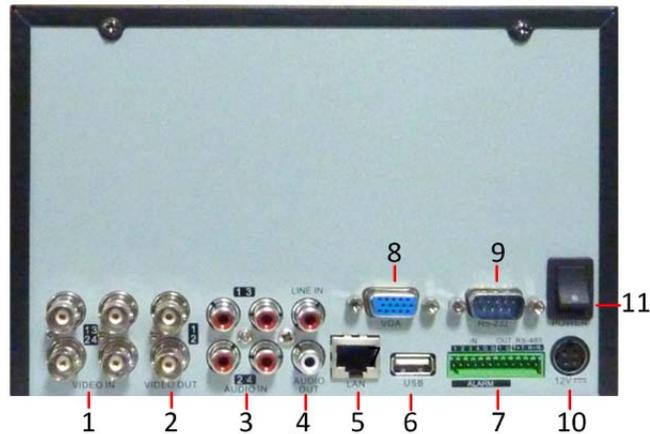
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| 9 | USB | Connector for USB devices |
| 10 | RS-485 Interface | Connector for RS-485 devices. T+, T- pin connects to PTZ |
| 11 | ALARM IN | Connector for alarm input |
| | ALARM OUT | Connector for alarm output |
| 12 | 12V | 12VDC power supply |
| 13 | POWER | Switch for turn on/off the device |
| 14 | GND | Ground(needs to be connected when DVR starts up) |

DS-7204HVI-ST/L Rear Panel

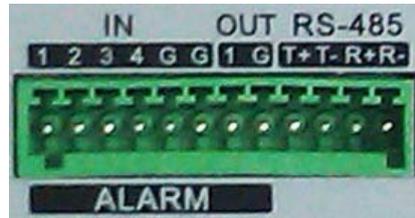


| No. | Item | Description |
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| 1 | VIDEO IN | BNC connectors for analog video input |
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| 3 | AUDIO IN | RCA connectors for analog audio input |
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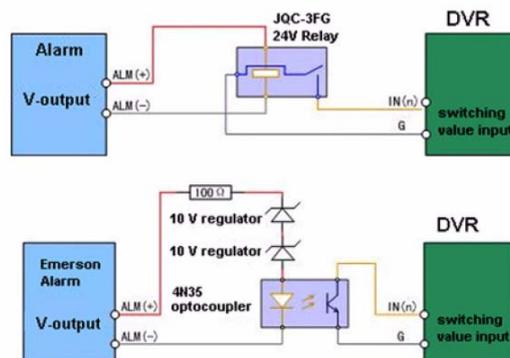
Peripheral Connections

Connecting to Alarm Input / Output Device

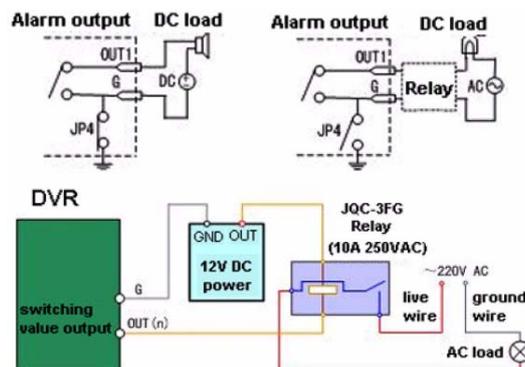
The alarm input/output interface of the DVR is shown below (taking DS-7204HVI-ST model as example):



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.

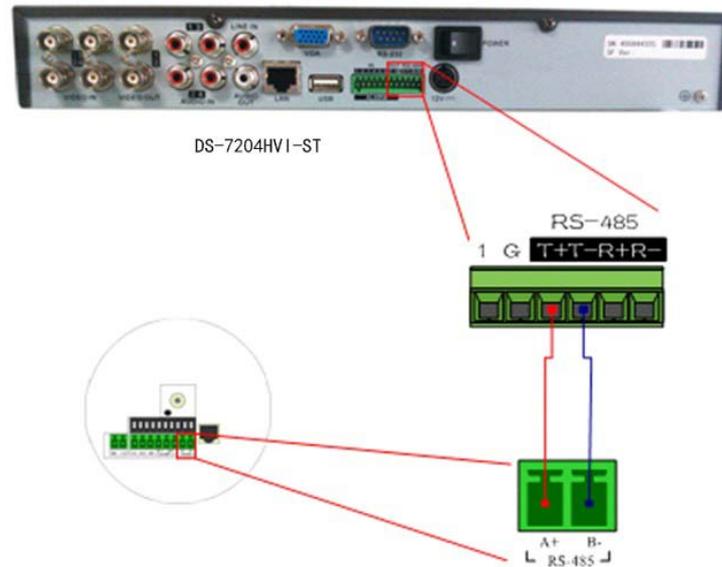
Note: An external relay is needed to prevent electric shock when connecting to an AC load.

Alarm Connection

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- of the DVR.

Specifications

| Model | | DS-7204HVI-ST | DS-7204HVI-ST/RW | |
|--------------------|-------------------------------|--|-----------------------------------|--|
| Video/Audio input | Video compression | H.264 | | |
| | Analog video input | 4-ch, BNC connector (1.0Vp-p, 75Ω); PAL/NTSC adaptive | | |
| | Audio compression | Ogg Vorbis | | |
| | Audio input | 4-ch, RCA connector (2Vp-p, 1kΩ) | | |
| | VGA output | 1-ch, resolution: 1024×768/60Hz | | |
| | 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/CIF/QCIF | | |
| | Frame rate | 4CIF: 12fps CIF/QCIF: 25fps(P)/30fps(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 | 2 SATA interfaces | |
| | Capacity | Up to 2TB capacity for each interface | | |
| 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 | | |
| | Alarm out | 1 | | |
| General | Power supply | 12VDC | | |
| | Consumption | ≤10W (without hard disk or DVD-R/W) | | |
| | Working temperature | -10~+55℃ | | |
| | Working humidity | 10%~90% | | |
| | Chassis | 19-inch rack-mounted 1U chassis | 19-inch rack-mounted 1.5U chassis | |
| | Size(mm) | 45mm(H) × 315mm(W) ×230mm(D) | 70mm(H) ×440mm(W) ×390mm(D) | |
| Weight | 2 Kg (without HDD or DVD-R/W) | 6.8Kg (without DVD-R/W) 7.5Kg (with DVD-R/W) | | |

| Model | | DS-7208HVI-ST | DS-7208HVI-ST/RW | |
|--------------------|------------------------------|---|-----------------------------------|--|
| Video/Audio input | Video compression | H.264 | | |
| | Analog video input | 8-ch, BNC connector (1.0Vp-p, 75Ω); PAL/NTSC adaptive | | |
| | Audio compression | OggVorbis | | |
| | Audio input | 4-ch, RCA connector (2Vp-p, 1kΩ) | | |
| | VGA output | 1-ch, resolution: 1024×768/60Hz | | |
| | CVBS output | 2-ch, BNC connector (1.0Vp-p, 75Ω); Resolution: PAL: 704×576, NTSC:704×480 | | |
| | Audio output | 1-ch, RCA connector (Linear, 1 kΩ) | | |
| | Recording resolution | 4CIF/CIF/QCIF | | |
| | Frame rate | 4CIF: 8fps CIF/QCIF: 25fps(P)/30fps(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 | 8-ch | | |
| Voice talk input | 1-chRCA(2.0Vp-p, 1kΩ) | | | |
| Hard disk | Type | 2 SATA interfaces | | |
| | Capacity | Up to 2TB capacity for each interface | | |
| 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 | 8 | | |
| | Alarm out | 4 | | |
| General | Power supply | 12VDC | | |
| | Consumption | ≤10W (without hard disk or DVD-R/W) | | |
| | Working temperature | -10~+55℃ | | |
| | Working humidity | 10%~90% | | |
| | Chassis | 19-inch rack-mounted 1U chassis | 19-inch rack-mounted 1.5U chassis | |
| | Size(mm) | 44mm(H) ×445mm(W) ×290mm(D) | 70mm(H) ×440mm(W) ×390mm(D) | |
| Weight | 4Kg (without HDD or DVD-R/W) | 7.3Kg (without DVD-R/W) 8Kg (with DVD-R/W) | | |

| Model | | DS-7216HVI-ST | DS-7216HVI-ST/RW |
|--------------------|------------------------------------|--|---|
| Video/Audio input | Video compression | H.264 | |
| | Analog video input | 16-ch, BNC connector (1.0Vp-p, 75Ω); PAL/NTSC adaptive | |
| | Audio compression | G.711 | |
| | Audio input | 4-ch, RCA connector (2Vp-p, 1kΩ) | |
| | Voice talk input | 1-chRCA(2.0Vp-p, 1 KΩ) | |
| | VGA output | 1-ch, resolution: 1024768/60Hz | |
| | CVBS output | 2-ch, BNC connector (1.0Vp-p, 75Ω); Resolution: PAL: 704×576, NTSC:704×480 | |
| Audio output | 1-ch, RCA connector (Linear, 1 kΩ) | | |
| Video/Audio output | Recording resolution | 4CIF/CIF/QCIF | |
| | Frame rate | 4CIF: 6fps CIF/QCIF: 25fps(P)/30fps(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 | 16-ch | |
| Hard disk | Type | 2 SATA interfaces | |
| | Capacity | Up to 2TB capacity for each interface | |
| 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 | 16 | |
| | Alarm out | 4 | |
| Others | Power supply | 12VDC | |
| | Consumption | ≤15W (without hard disk or DVD-R/W) | |
| | Working temperature | -10~+55℃ | |
| | Working humidity | 10%~90% | |
| | Chassis | 19-inch rack-mounted 1.5U chassis | |
| | Size(mm) | 70mm(H) ×440mm(W) ×390mm(D) | |
| | Weight | 8Kg(without HDD or DVD-R/W) | 7.8Kg (without DVD-R/W) 8.5Kg (with DVD-R/W) |

| 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 | OggVorbis |
| | Audio input | 4-ch, RCA connector (2Vp-p, 1kΩ) |
| | VGA output | 1-ch, resolution: 1024×768/60Hz |
| | 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/CIF/QCIF |
| | Frame rate | 4CIF: 12fps CIF/QCIF: 25fps(P)/30fps(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 2TB 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 |
| | Alarm out | 1 |
| General | Power supply | 12VDC |
| | Consumption | ≤10W (without hard disk or DVD-R/W) |
| | Working temperature | -10~+55℃ |
| | Working humidity | 10%~90% |
| | Chassis | Chassis for ATM DVR |
| | Size(mm) | 180mm(H)×180mm(W)×280mm(D) |
| Weight | ≤5Kg (without hard disk or DVD-R/W) | |

HDD Storage Calculation Chart

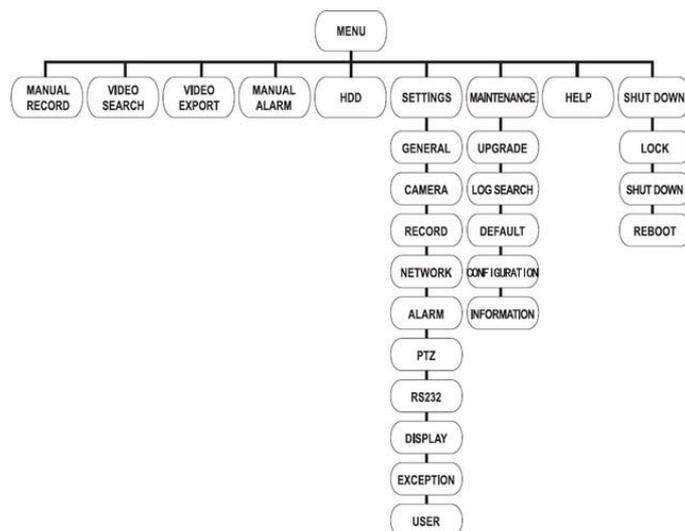
The following chart shows an estimation of storage space used based on recording at one channel for an hour at a fixed bit rate.

| 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 Structure

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



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.

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.



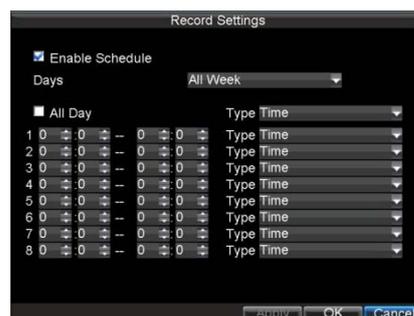
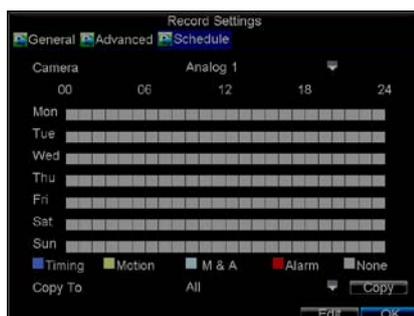
4. Click the *Next* button. This will take you to the **HDD Management** window.
5. To start HDD management, click the *Enter* button.
6. If a new HDD was recently installed, select the HDD from the list to initialize it. Initializing the HDD will format and remove all data from it.
7. After the HDD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

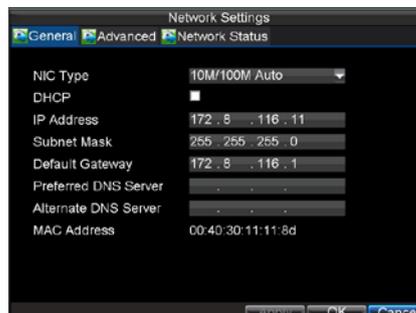


9. To enter the Record Settings window, click the *Enter* button.
10. Select the **Schedule** tab.
11. Click the **Edit** button. This will open up a new recording schedule.
12. Check both the **Enable Schedule** and **All Day** checkbox. This will enable the recording schedule and have it record continuously 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.



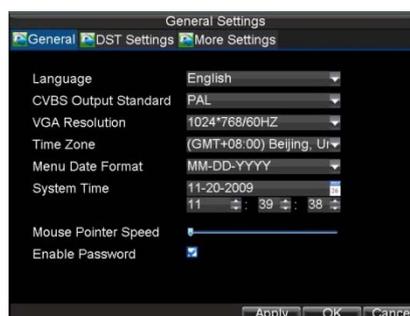
18. Click the *Next* button. This will take you to the **Camera Management** window.
 19. Select *Add* to add IP camera, and click *OK* to return to Setup Wizard.
 20. If all the settings are entered as desired, click the *Done* button to finish and exit the Setup Wizard.
- Congratulations! You've completed the Setup Wizard. The next step in the initial setup process is to setup the system date and time.

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 Preview mode to indicate different camera status. These icons include:



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:

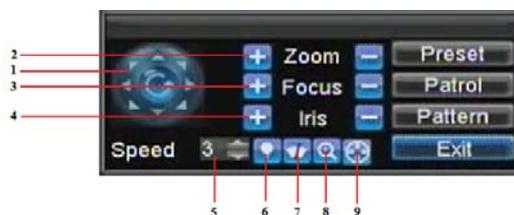
1. Click Menu > Settings > PTZ to enter the **PTZ Settings** menu.
2. Select channel where PTZ camera is installed next to Camera label.
3. Configure the settings of baud rate, data bit, stop bit, parity, flow control, PTZ protocol and address.
4. Click *OK* to save settings and exit the PTZ Settings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



PTZ Control

The PTZ control panel in the live preview 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.



Preview Menu

Call Preset: Call a PTZ preset.

Call Patrol: Call a PTZ patrol.

Call Pattern: Call a PTZ pattern.

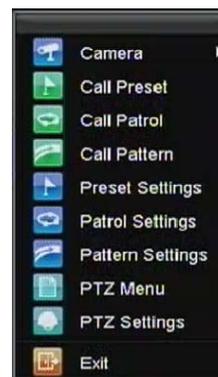
Preset Settings: Enter PTZ preset configuration menu.

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.

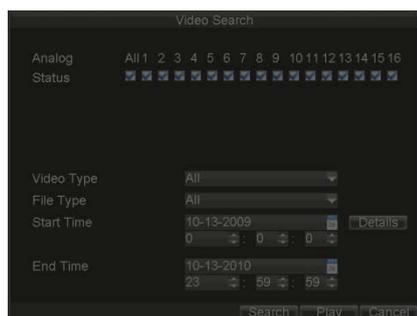


Playback

Playback by Search

To playback 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 from Live Preview

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

To playback from a channel instantly in Live Preview:

• **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:**

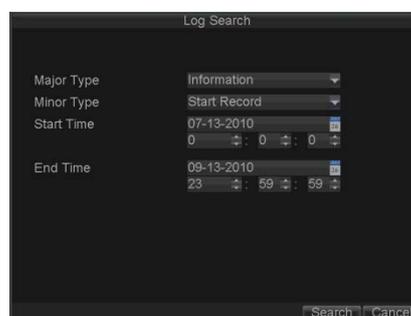
1. Press the PLAY button. This will take you into the **Playback** interface.
2. Enter the channel you would like to view recordings for on the front panel or remote (i.e. press 'SHIFT', the STATUS light will turn green, then press '1' for channel 1, press '2' for channel 2).
3. Recordings will begin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

Playback from 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.

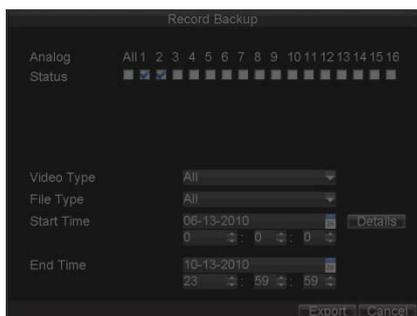


Backup

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. Enter the **Export Video** menu by clicking Menu > Video Export.
2. Select desired parameters to search for files to export.
3. Press the *Export* button. This will take you to the **Video Search** 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.