Installation Guide

DS-7208 & 7216HVI-S 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-7208&7216 Series DVRs are 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 it's' 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 ℃ ~ 55 ℃, 14 ℉ ~ 131 ℉.
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 manufacturer recommended HDD should be used for this installation.

Tools Required: Phillips screwdriver.

To install a HDD on your DVR:

1. Remove the lid of the DVR by unfastening the screws on the back.

2. Install the HDD on the chassis

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

4. Connect the power cable to the HDD.

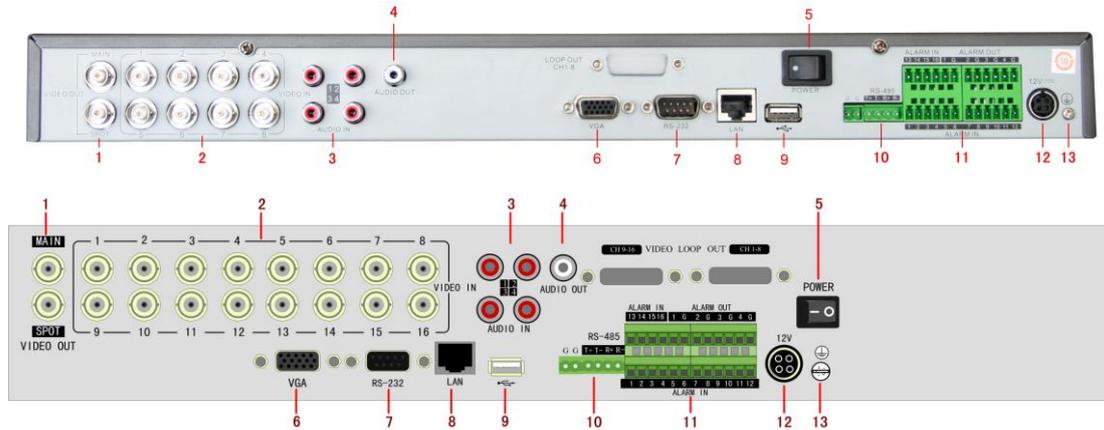5. Re-install the lid of the DVR and fasten screws.

Rear Panel Diagram

Figure 1. Rear Panel Diagram

| No.	Item	Description
1	VIDEO OUT	BNC connector for video output. If VGA is connected, it won't function. If VGA is not connected, the interface will show main GUI.
	VIDEO SPOT OUT	BNC connector for monitor. Single window view.
2	VIDEO IN	BNC connectors for analog video input.
3	AUDIO IN	RCA connectors for analog audio input.
4	AUDIO OUT	RCA connector for audio output. This connector is synchronized with VIDEO OUT.
5	Power	Power on/off DVR
6	VGA	VGA output. Display local video output and menu.
7	RS232	DB9 connector for RS232
8	LAN Interface	Connector for LAN (Local Area Network).
9	USB Interface	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 (up to 16 channels).
	ALARM OUT	Connector for alarm output (4 channels).
12	POWER	DC 12V
13	GROUND	Ground(needs to be connected when DVR startup)

Peripheral Connections
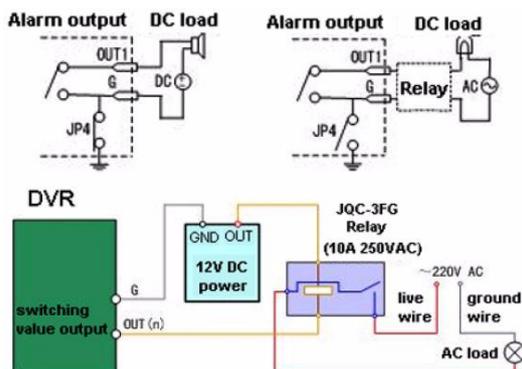
Connecting to Alarm Input / Output Device

The alarm input/output interface of the DVR is shown below:
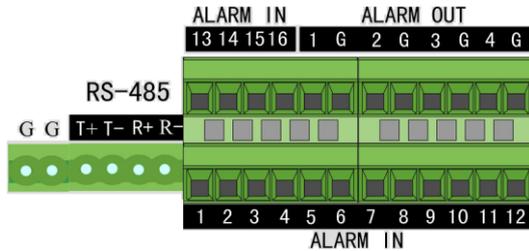
The alarm input is an open/close relay. If the input is not an open/closed relay, follow the connection diagram below:
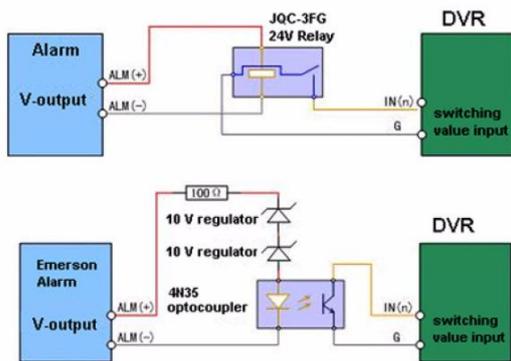
To connect to an AC/DC load, use the following diagram:

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 ALAM 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
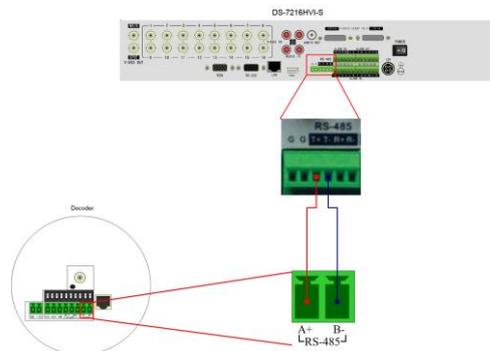
To connect RS-485 devices to the DVR:

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: The RS-485 PTZ control should be connected with the T+ and T- pin on the RS-485 terminal block.

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	83M
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.