NVR300 Series
Network Video Recorders
Quick Guide

Manual Version: P102-20140526

Notice

The information in this manual is subject to change without notice. Every effort has been made in the preparation of this manual to ensure accuracy of the contents, but all statements, information, and recommendations in this manual do not constitute the warranty of any kind, express or implied.

Environmental Protection

This product has been designed to comply with the requirements on environmental protection. For the proper storage, use and disposal of this product, national laws and regulations must be observed.

Preface

Audience

This manual is intended for:

- Surveillance system planners
- Field technical support and servicing engineers
- Software installation, configuration, and servicing administrators
- Product users

Precautions

- If this equipment is used in a domestic environment, radio disturbance may arise. When such trouble occurs, you might be required to take corrective actions.
- Do not remove the dismantlement-preventive seal from the chassis cover of the device without permission. If you want to open the

chassis, contact the local agent of our company for help. Otherwise, we shall not be held liable for any consequence caused thereby.

- Make sure the device is sturdy and well grounded and meets heat dissipation and lightning protection requirements. Avoid vibration when using the device.
- Provide a stable and compliant power supply before powering on the device.
- Before performing the verification (refer to section “Check Before Power-On”), make sure that the power is disconnected, for fear of bodily injury or equipment damage caused by incorrect cable connection.
- Power interruption may cause hard disk damage or abnormal functions. To shut down the device, strictly follow the instructions. If power interruption often occurs, configure an uninterrupted power supply (UPS).

Safety and Compliance Information

Conventions Used Symbol

The symbols in this chapter are shown in the following table. They are used to remind the reader of the safety precautions during equipment installation and maintenance.

Safety Symbol	Description
	Generic alarm symbol: To suggest a general safety concern.
	ESD protection symbol: To suggest electrostatic-sensitive equipment.
	Electric shock symbol: To suggest a danger of high voltage.

Safety Information

WARNING!

Installation and removal of the unit and its accessories must be carried out by qualified personnel. You must read all of the Safety Instructions supplied with your equipment before installation and operation.

Warnings:

- If the product does not work properly, please contact your dealer or the nearest service center. (We shall not assume any responsibility for problems caused by unauthorized repair or maintenance.)
- To reduce the risk of fire or electrical shock, do not expose this product to rain or moisture.
- This installation should be made by a qualified service person and should conform to all the local codes.
- Please install blackouts equipment into the power supply circuit for convenient supply interruption.
- The separate earthing terminal must be permanently connected to earth.
- For AC supplied model: The plug-socket combination must be accessible at all times as it serves as the main disconnecting device.
- Before the power cable is installed or removed, the power must be turned off.
- To avoid heat accumulation, good ventilation is required for a proper operating environment.
- Improper use or replacement of the battery may result in hazard of explosion. Please use the manufacturer recommended battery type.

Caution: Fiber optic ports – optical safety.

Never look at the transmit laser while the power is on. Never look directly at the fiber ports and the fiber cable ends when they are powered on.

Caution: Use of controls or adjustments to the performance or procedures other than those specified herein may result in hazardous laser emissions.

Regulatory Compliance

FCC Part 15

This equipment has been tested and found to comply with the limits for digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

This product complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

LVD/EMC Directive

This product complies with the European Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC.

WEEE Directive–2002/96/EC

The product this manual refers to is covered by the Waste Electrical & Electronic Equipment (WEEE) Directive and must be disposed of in a responsible manner.

Contents

1 Overview

As our new-generation network video recorders, the NVR300 series incorporates a wide range of features such as audio and video decoding, data transmission, and storage, and provides a rich set of input and output interfaces to meet various business needs.

The NVR300 can connect to coding devices such as IP cameras (IPCs) to form a separate network or to a central server platform for central networking to support a diverse range of video surveillance applications.

2 Mounting

Installation Check

Open the packing box and check the equipment model, accessory types and quantities to ensure all the components are available. For equipment model, accessory types and quantities, please refer to the packing list.

Installing Hard Disks

For supported hard disk types, consult our authorized sales or technical support staff. The following examples illustrate how to install hard disks on a workbench. The installation process may varies according to conditions.

The following tools are required for installation: flat-head and Phillips screwdrivers.

NVR308-48/24/32/16-IN

The hard drive interface is located inside the device. You need to remove the front panel to install the hard disk. The hard disks are hot-swappable and support mixed insertion. The disks can be powered

on in order to minimize the impulse current produced during the power-on process.

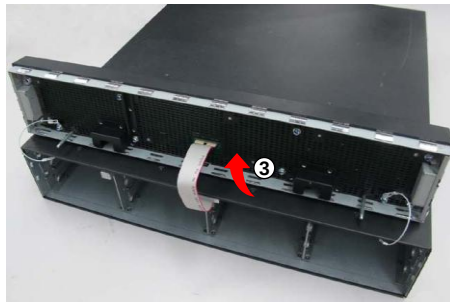
WARNING!

- The hard disk can be hot-plugged only when no data is read or written. The indicator of hard disk is not blinking when no data is processed.
- Wear anti-static gloves when installing a hard disk.
- Insert hard disks into the slots of a running device at an interval of at least six seconds.

Install a hard disk into the NVR308-48/24-IN as follows:

1. Fix the hard disk with screws to the handle bar on the correct side.

2. Press the buckles on both sides of the front panel and remove the panel. Note that the front panel is connected to the device body through an adapter cable and safety rope. Turn over the removed front panel and place it on the chassis.



3. Align the hard disk with the slot and push it in the hard disk gently and steadily.

4. Push the hard disk in position with your thumb until the buckles click. Repeat the above steps to install all the hard disks.

5. Hold the buckles on both sides of the front panel and push in the front panel as the direction indicated by the arrow.

Install the NVR308-32/16-IN as follows:

1. Fix the hard disk to with screws to the handle bar on the correct side.

2. Press the buckles on both sides of the front panel and remove the panel.

3. Align the hard disk with the slot and push in the hard disk gently and steadily.

4. Push the hard disk in position with your thumb until the buckles click.Repeat the above steps to install all the hard disks.

5. Hold the buckles on both sides of the front panel and push in the front panel into position.

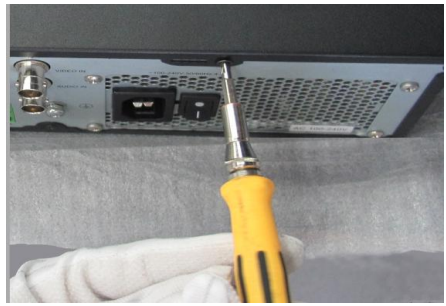
NVR308-32L/16L/09L-IN

WARNING!

Make sure the equipment is disconnected from the power supply before installation. Please wear anti-static gloves when installing the device.

Install a hard disk as follows:

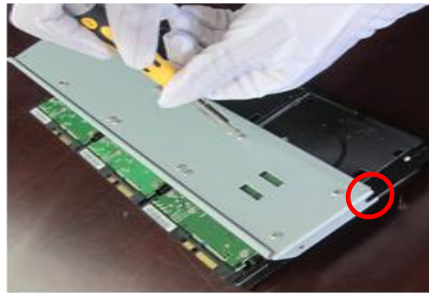
1. Use a Phillips screwdriver to loosen the two fixing screws on the upper side of the rear panel.(when rear panel is placed facing you)



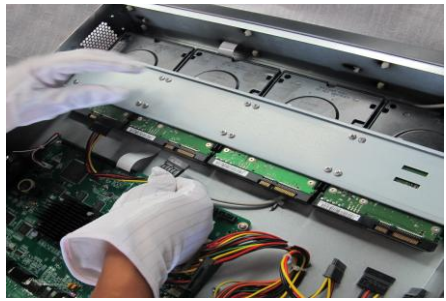
2. Gently push the cover backward to open it.

3. Unscrew the four screws on both sides used to secure hard disk mounting plates, and remove the upper and lower mounting plates.

4. Fix the eight hard disks in turn to the two hard disk mounting plates with the hard disk interface placed opposite to the U-shaped notch, and each disk with four screws.

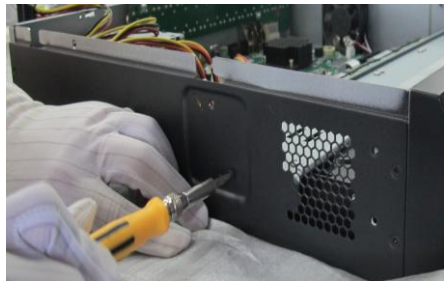


5. Put the lower hard disk mounting plate into the equipment, and connect four data cables to the hard disks and units on the lower layer.



6. Connect four power cables to the hard disks and units on the lower layer.

7. Tighten the two screws on both sides to fix the lower-layer hard disks. Follow steps 6 to 9 to install the upper hard disk mounting plate.



8. Arrange cables between two hard disks or between a board and a hard disk. Avoid placing cables on a hard disk so that the hard disk is not pressed when the chassis is covered.

9. Put on the chassis cover, and tighten the two rear panel screws.

NOTE!

- It is recommended that you restore the hard disk array to factory settings by choosing **Configuration > Service > Storage > Array** after installing the eight hard disks for the first time.
- When replacing a hard disk, perform the above procedure in the opposite sequence to remove the disk and follow the procedure to install a new hard disk.

Installing the Equipment

The equipment provides front, side and back ventilation channels. Leave room of at least 30cm to the front and back and 10cm to the left and right sides of the equipment for ventilation.

Mounting to the Workbench

1. Get the stickers from the foot pads delivered with the equipment, and attach the pads to the bottom of the equipment where appropriate.
2. Place the equipment on a clean workbench. Now the installation process is complete.

Mounting into a Cabinet

WARNING!

Ensure that the cabinet is equipped with a tray or slide rail before installing the equipment in a cabinet. The equipment must be supported on a tray or slide rail instead of a suspension loop.

1. As shown in the following figure, place the suspension loop with a screw hole close to the chassis. Align the suspension loop with the screw hole, and use two M4*8 screws to fasten the suspension loop to the chassis.
2. Perform the same procedure to mount the suspension loop on the other side of the chassis.

1: Screws (4)
2: Slotted hole
3: Suspension loop

3. Place the equipment on the cabinet support, and slid it into the cabinet. Fix the suspension loop to the floating nut to the front mounting bar of the cabinet with screws led through the slotted hole.

3 Appearance

The photos herein are for illustration only and may vary according to actual conditions.

Front View

NVR308- 32/16-IN

NVR308-48/24-IN

NVR308-32L/16L/09L-IN

Indicators

As shown in the front view, the following table describes the indicators on the front panel. The LED color may vary with the equipment model (blue or green).

Table 3-1 Status Indicators

Indicators	Color	Status	Description
(Power indicator)	Red	Constantly on	Device powered on.
NET (Network indicator)	Blue/ Green	Constantly on	Network properly connected.
		Off	No network connection.
PWR (Power indicator)	Blue/ Green	Constantly on	Power connected.
		Off	No power.
IR (Remote control indicator)	Blue/ Green	Constantly on	Device is selected and can be remotely controlled.
		Blinking	Device is being verified.
		Off	Device is not selected and cannot be remotely controlled.
SHIFT (Reuse button indicator)	Blue	Constantly on	The reuse button becomes a function key.
		Briefly on	A button is pressed and released.
		Off	The reuse button works in number or letter input mode.
		Briefly off	A button is pressed and released.
RUN (Running indicator)	Blue/ Green	Constantly on	Running normally.
		Blinking	Starting.
		Off	Shut down.
CODEC	Blue/ Green	Constantly on	Signal input without coding or decoding.

Indicators	Color	Status	Description
(Codec indicator)		Blinking	Encoding or decoding.
		Off	No signal input or system shutdown.
DEC (Decoding indicator)	Green	Blinking	Decoding.
HD (Dard disk indicator)	Blue/ Green	Constantly on	Running properly without data access.
		Blinking	Running properly with data access.
		Off	Hard disk is not installed or the system shuts down, or the indicator turns red.
HD ERR (Hard disk fault)	Red	Constantly on	Hard disk at fault.
		Blinking	Array rebuilt.
		Off	Hard disk is not installed or the system shuts down, or all disks are working properly.
ALM (Alarm indicator)	Red	Constantly on	Equipment alarms
		Off	The system runs normally without alarms.

Panel buttons

The panel buttons may vary with the equipment model.

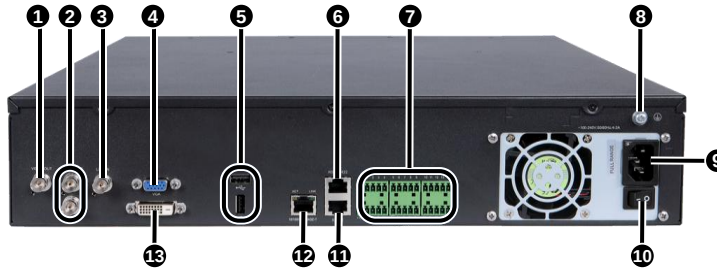
Item		Function and Description
JOG SHUTTLE Control		Turning the jog button clockwise is equivalent to pressing the down key; turning the button counterclockwise is equivalent to pressing the up key.
DIRECTION		•  : Move between different menu items; shift the focus; in PTZ mode, move the PTZ up, down, left, or right after the PTZ tool bar is hidden. •  : In playback mode, rewind or forward 30 seconds when the playback tool bar is hidden. •  : In playback mode, rewind or forward at speed when the playback tool bar is hidden.
OK		• Confirm the operation; • In playback mode, play or pause when the playback tool bar is hidden.
USB interface		USB2.0 (limited to 1A) used for connection with an external USB mouse or storage device ***Note:*** *Use another device to partition and format a USB storage device into FAT32 file system before use*.
POWER ON/OFF		• In Soft OFF mode, press the ON/OFF button to start the device. • In normal operation mode, press the ON/OFF button to turn off the device. Hold the ON/OFF button for at least 3 seconds to switch off the device.
Function Buttons	Alphanumeric Buttons	• Used to enter a password, number, or English characters. • The number key 0 can be used to select or clear check boxes in the list box.
	SPACE	Used to enter a space.

Item		Function and Description
	DEL	Used to delete characters on the left of the cursor.
	F1	Used to switch between focus areas on an interface.
	F2	● Used to switch between menu sub-tabs. ● Used to capture images in the focus pane on the preview and playback interface (with playback toolbar hidden).
	EDIT	Used to switch between numbers, and English (upper/lower-case) characters
	LOGIN/OUT	Log in or out the device.
	MENU	Used to access the main menu.
	RIGHTCLICK	Used to access the right-click context menu.
	TOOLBAR	Used to show or hide the PTZ or playback toolbar.
	SCREENS	In preview and playback mode, used to switch between different screens. Screens 3, 5 and 7 show videos in the corridor.
	MAIN/AUX.	Used to switch between man-machine screens in preview mode or on the first startup wizard interface. ***Note:*** *In PTZ control mode, the button is used to switch between screens when the PTZ toolbar is shown.*
	SEQUENCE	Used to start/stop sequence display in preview mode
	BACKUP	Used to enter the video backup interface in preview mode.
	PLAYBACK	Used to enter the video playback interface and display the playback toolbar in preview mode.

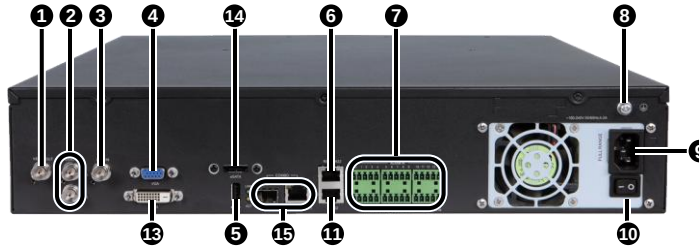
Item		Function and Description
	PTZ	Used to enter the PTZ control interface and display the PTZ toolbar in preview mode.
	REC	Used to manually start or stop storing images on a hard disk in preview mode.
	PRESET	Used to set the PTZ into the preset position in PTZ control mode when the PTZ toolbar is hidden.
	MUTE	Used to turn on/off the mute function.
	IRIS+/IRIS-	Used to adjust the PTZ camera aperture in PTZ control mode when the PTZ toolbar is hidden.
	FOCUS+/ FOCUS-	Used to adjust the PTZ camera focus in PTZ control mode when the PTZ toolbar is hidden.
	ZOOM+/ ZOOM-	Used to adjust the PTZ camera zoom in PTZ control mode when the PTZ toolbar is hidden.
	ESC	Used to quit the current interface.
	SHIFT	Used to switch between reuse functions.

Rear View

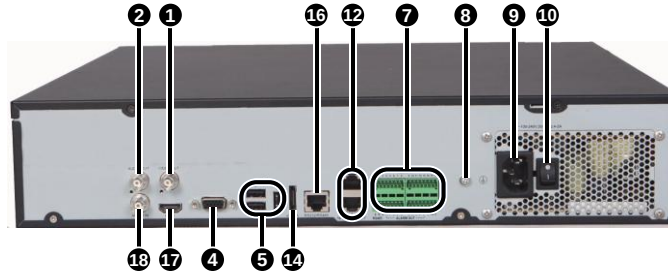
NVR308-32/16-IN



NVR308-48/24-IN



NVR308-32L/16L/09L-IN



Interfaces

As shown in the rear view, the following table describes interfaces on the rear panel.

Table 3-2 Interfaces

No	Item	Description	Function and Instructions
❶	VIDEO OUT	Composite video output (PAL/NTSC), BNC connectors, 1V (P-P), 75 Ω	Connecting to a CVBS analog display device
❷	AUDIO OUT	Analog audio output, BNC interface, Mono, 1.4V (P-P), and 300 Ω	Connecting to an audio output device
❸	LINE IN	Two-way voice input, BNC interface, 2V (P-P), 10 KΩ	Connecting to a two-way audio input device

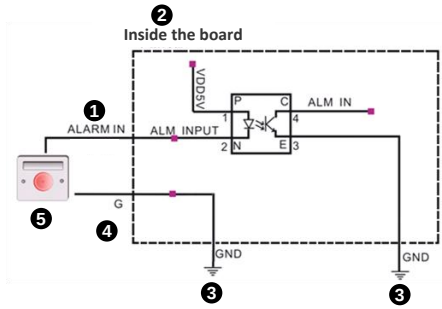
No	Item	Description	Function and Instructions
❹	VGA	Analog video output, VGA interface	Connecting to a VGA analog display device
❺	USB interface	USB2.0 interface, limited to 1A	Connecting to an external USB mouse or storage device
❻	RS-485/422 Interface	Compatible with RS485 and RS422 serial ports and RJ45 connectors	Connecting to RS485 or RS422 devices
❼	RS-485 Interface	RS485 serial port, Phoenix connector	Connecting to RS485 devices
	ALARM IN	Boolean input, Phoenix connector	Connecting to alarm input device
	ALARM OUT	Relay output, Phoenix connector	Connecting to alarm output device
	Power Supply	12V power for external devices, Phoenix connector	Connecting to external powered device
❽	GROUND	Equipment grounding	Ground cable
❾	AC 100V - 240V	AC power, 100V-240V AC	Connecting to the power supply
❿	POWER	Power switch	Turn on/off device when connected to power ***Note:*** *To protect hard disks, please soft-shut down your equipment before turning off the power*
⓫	RS-232 Interface	Compatible with RS232 serial ports and RJ45 connectors	Connecting to devices for commissioning and maintenance
⓬	LAN interface	10/100/1000BASE-T adaptive Ethernet electrical port, RJ45 connector	Connecting to Ethernet

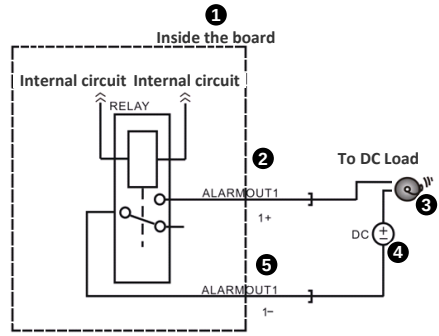
No	Item	Description	Function and Instructions
⓭	DVI	High-definition digital video output, DVI-D interface	Connecting to DVI signal display device
⓮	eSATA (Optional)	Interface with external storage device	Connecting to eSATA hard disk
⓯	COMBO Interfaces	10/10/1000BASE-T adaptive Ethernet electrical port on the right side, RJ45 connector 100/1000Base-X SFP port on the left	Connecting to Ethernet ***Note:*** *The COMBO port comprises one optical and one electric interface. Only one interface can be used at the same time. The two interfaces are mutually redundant*
⓰	RS-232/485 Interface	Compatible with RS232 and RS485 serial ports and RJ45 connectors	Connecting to RS232 or RS485 devices
⓱	HDMI	High-definition digital audio and video output, HDMI interface	Connecting to HDMI display device
⓲	AUDIO IN	Two-way voice input, BNC interface, 2V (P-P), 10 KΩ	Connecting to a two-way audio input device

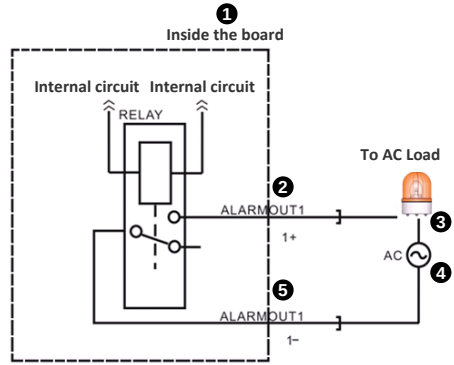
4 Connecting Cables

Connecting to Alarm Input/Output Device

Twisted pair is recommended. 22-28AWG insulating core wire, preferably 24AWG or 26AWGcan be used.

	1: Any terminal on the ALARM IN interface 2: Any terminal on the ALARM IN interface 3: Ground 4: Terminal G on ALARM IN interface 5: Normal open/closed Boolean alarm input device

	1: Alarm output circuit inside the device 2: Any positive terminal on ALARM OUT interface 3: Boolean alarm output device 4: DC power 5: Any negative terminal on ALARM OUT interface, corresponding to 2

	1: Alarm output circuit inside the device 2: Any positive terminal on ALARM OUT interface 3: Boolean alarm output device 4: AC power 5: Any negative terminal on ALARM OUT interface, corresponding to 2

Connecting to a Third-Party Device

The device supports two types of RS485 interface: RJ45 and Phoenix connector for connection with third-party devices.

RS485 Serial Cables

Twisted pair is recommended. 22-28AWG insulating core wire, preferably 24AWG or 26AWG can be used.

Refer to the table below for the maximum length of RS485 serial cables with different baud rates.

Table 4-1 Maximum length of RS485 serial cables at different baud rates

Baud rate (bps)	Maximum length (m)
1200,2400,4800,9600,19200	900
38400	850
57600	550
115200	250

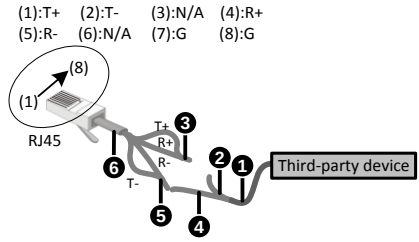
Connecting to a third-party device via RS485 interface

Use an RS485（422 compatible）connector under the RJ45 category to connect to a third-party device.

A third-party device control cable must be an RS485 cable that meets the following requirements:

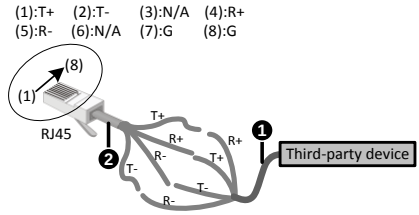
- The RJ45 connector's T+ and R+ terminals are shorted and then connected to the third-party device's RS485+ connector; the RJ45 connector's T- and R- terminals are shorted and then connected to the RS485 connector of the third-party device, as shown in the following figure.

- If the third-party device is grounded, the third-party device control cable's Terminal G is connected to the RJ45 connector's Terminal G (No.7 or 8).

	1: Third-party device RS485 control cable
	2: RS485+
	3: RJ45 connector's T+ and R+ terminals are shorted
	4: RS485-
	5: RJ45 connector's T- and R- terminals are shorted
	6: Twisted pair

When using an RS422 cable as a third-party device control cable, connect the cable as follows:

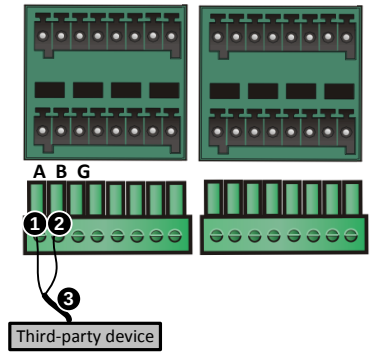
- Connect RJ45's T+ to the third-party device's R+; RJ45's T- to the third-party device's R-; RJ45's R+ to the third-party device's T+; RJ45's R- to the third-party device's T-, as shown in the following figure.
- If the third-party device is grounded, the third-party device control cable's Terminal G is connected to the RJ45 connector's Terminal G (No.7 or 8).

	1: Third-party device RS422 control cable
	2: Twisted pair

Connect a third-party device using a Phoenix connector's RS485 terminal.

Do as follows:

- Connect the Phoenix connector's Terminal A to the RS485 terminal of the third-party device; Terminal B to the RS485- terminal of the third party device as shown below (take NVR308-32L/16L/09L-IN as an example).
- If the third-party device is grounded, the third-party device control cable's Terminal G is connected to Terminal G of the Phoenix connector.

	1: RS485+ 2: RS485- 3: Third-party device control cable

CAUTION!

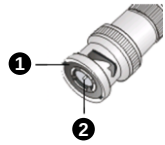
Connect to a special-purpose keyboard using the phoenix connector's RS485 terminal similarly to connecting a third-party device.

Connecting using an audio/video cable

- Common video cables: composite video cable, VGA cable, HDMI cable, DVI-D video cable.
- Common audio cables: RCA universal audio cable and ordinary coaxial cable.

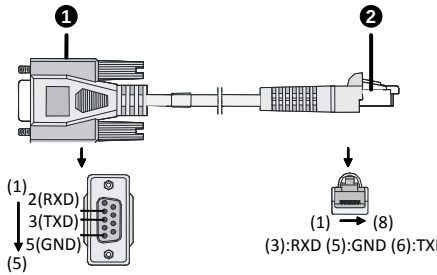
To facilitate the plugging and unplugging of audio and video cables, please insert audio/video cables from center to the two ends without interval and remove the cables in the opposite sequence.

Connect audio/video cable referring to Audio/video parameter shown in Table 3-2 and the diagram below.

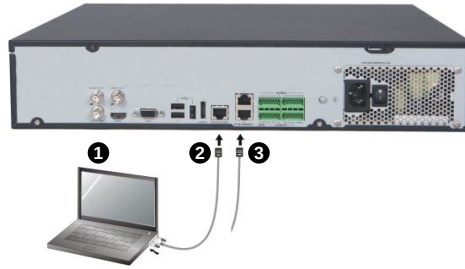
	1: Connect the common ground for audio and video devices.
	2: Connect the signal cables for audio and video devices.

Connecting RS232 Serial And Network Cables

Through an RS232 serial port, connect the equipment to a serial device such as a PC. For maintenance, use the following serial cables (take PCX-based DB9 as an example).

	1: DB9 interface
	2: RJ45 interface

As shown in the following figure (NVR308-32L/16L/09L-IN as an example), please connect the RS232 and network cables as required. The following figure provides an example of connection through an electrical interface. Connect the other end of a network cable according to the actual conditions. The connection is not discussed here.

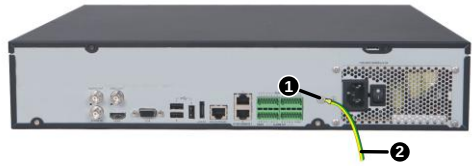
	1: PC
	2: Serial cable
	3: Network cable

Connecting a GroundCable

To ensure personal and equipment safety (lightning protection and resistance against interference), ground the device properly.

The ground cable must not exceed 30m and provides a grounding resistance of less than 5 Ω. For specific requirements, refer to the standards for the IEC61024 series.

As shown in the following figure (NVR308-32L/16L/09L-IN, for example), connect one end of the ground cable to the ground terminal of the device and the other end to a reliable grounding point.

	1: Ground terminal
	2: Ground cable

Connecting a Power Cable

Before connecting a power cable, ensure that the device's power switch is turned off, so as to avoid causing bodily injury or damaging components during the connection.

It is recommended that you use a single-phase three-wire power outlet with a neutral point or a multi-functional microcomputer power outlet. The neutral point must be reliably grounded in the building.

5 Switching On/Off the Device

Check Before Power-On

To avoid bodily injury or damage to components, check the following items before turning off the power.

- The device is firmly and securely installed without any screw left unscrewed.
- Do not place anything on the device.
- All the installed cables are connected correctly.
- Use a power supply approved for the device.

Turning on the Device

Plug in the device and turn on the power switch. The device is started when the power indicator on the front panel lights up.

In Soft OFF mode, press the **POWER ON/OFF** button on the front panel to start the device.

Soft Off

Soft off means a device is turned off to terminate the running processes, so that the device enters power saving mode. It is recommended that you disconnect the device from the power supply when the device is left idle for a long time.

Soft Off Using the POWER ON/OFF Button

Press the **POWER ON/OFF** button on the front panel and confirm on the man-machine interface to perform soft off. Hold the **POWER ON/OFF** button for at least 3 seconds to switch off the device.

Soft Off Through Man-Machine Interface

Choose **Menu > Maintenance > Shutdown**. Click Shutdown to perform soft shutdown after confirmation.

Soft Off Through Web Interface

Choose **Maintenance > Device Maintenance > Shutdown**. Click Shutdown to perform soft shutdown after confirmation.

WARNING!

In the course of normal operation of the equipment or device is closed, do not disconnect the power while the equipment is running properly or shutting off, so as not to damage the equipment.

6 Common Configurations

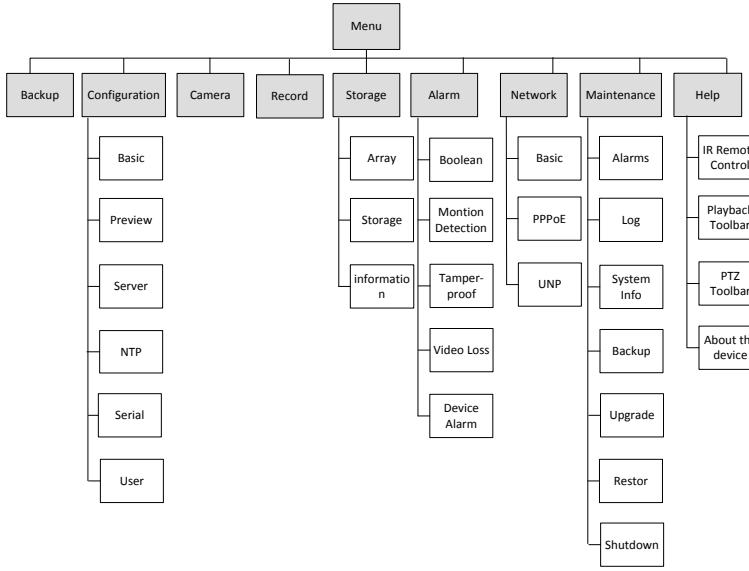
The NVR300 can be operated through man-machine and Web interfaces.

Man-Machine Interface

About the Interface

Startup of the device takes a littlt time, the man-machine interface appear after a progress bar. You can use the mouse or buttons on the front panel to do the configuration and monitoring service on the man-machine interface.

Menu Structure

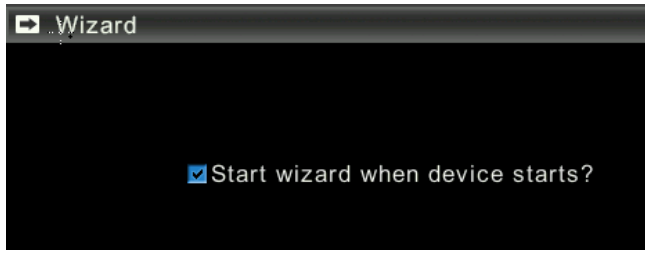


Initial Configuration

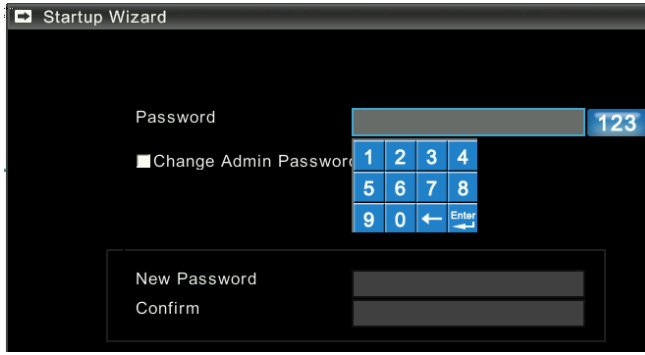
You can simply configure the device to work properly as instructed by the startup wizard. If you do not want the startup wizard to guide you

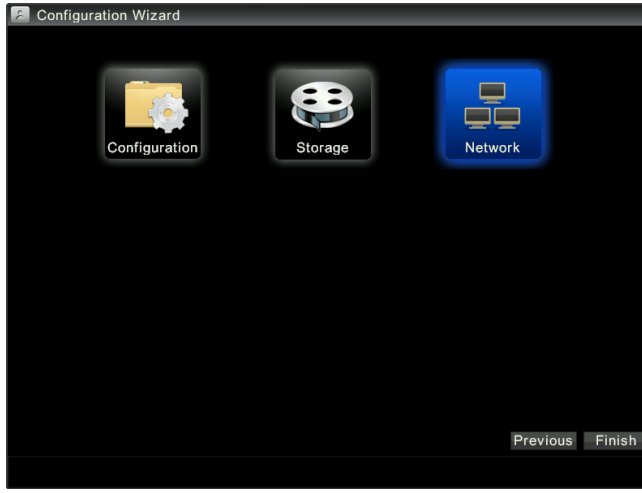
through fast configuration, just skip the wizard and log in as admin. Follow steps 3 to 5 for fast configuration.

1. Determine whether to start wizard when device starts and click Next.



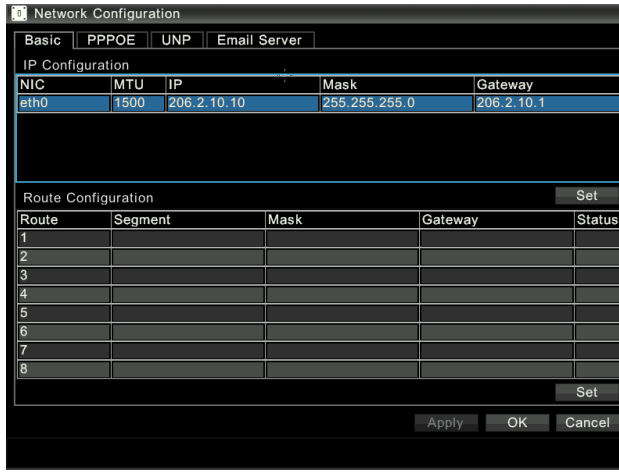
2. Enter the admin user's password (admin by default). Click **Next** and the Configuration Wizardinterface appears.





3. Configure the network parameters.

a. Click **Network Configuration** to enter the Network Configuration interface.



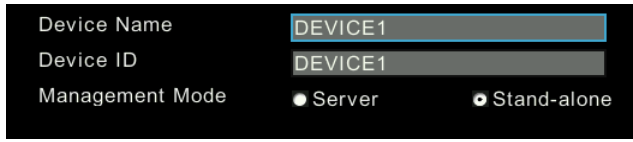
b. On the Basic tab, configure the IP address, subnet mask, and default gateway. Normally, set other network parameters to defaults.

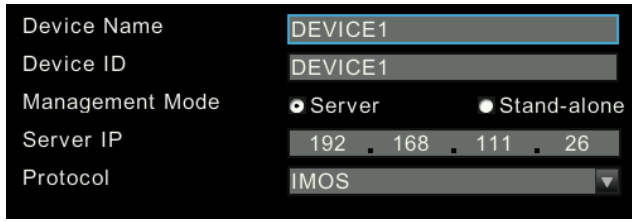
c. After configuration, click **OK**. Configuring eth0 card causes the system to restart service and then return to the Configuration Wizard interface.

4. Configure system parameters.

a. Click **System Configuration**. The System Configuration interface appears.

b. In the Server Configtab, select the management mode based on the actual networking conditions. Normally, set other system parameters to defaults.





c. After configuration, click **OK**.Changing the management mode will restart the device.

5. Configure storage parameters.

a. Click **Storage Configuration**. The Storage Configuration interface appears.

b. Building an array

i. In the Build Array box under the Array tab, enter the array name, select the array type, and idle slots;

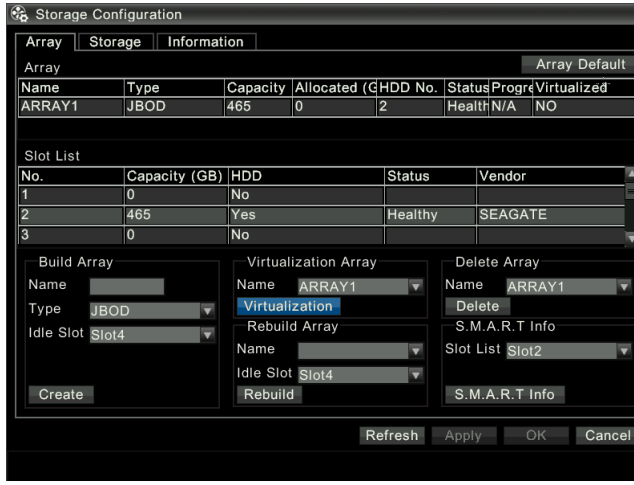
ii. Click **Create**. The newly created array is shown on the array list.

c. Virtualizing anarray

Be sure to virtualize an array before using it. To do so, select the array in the Virtualization Array box and click **Virtualization**.

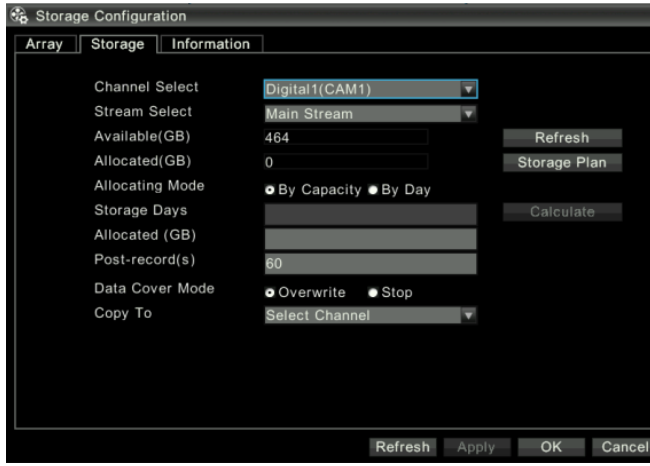
NOTE!

Virtualization takes time. After virtualization is complete, "virtualized" in the array list is displayed as "Yes".



d. Configuring storage resources

On the Storagetab, configure storage resource parameters. The following table lists the important parameters.



e. Configuring storage plans

i. On the Storage tab, click **Storage Plan** to configure a general or exceptional storage plan.

ii. After configuration, click **OK**. The system returns to the Storage Configuration tab.

iii. Click **OK**. The system returns to Configuration Wizard interface.

NOTE!

- On the day of exception plan, only storage plans outside of the exception period are implemented. Conventional plans are implemented in other days.
- The periods under a storage plan cannot overlap each other.

6. After all configurations, click **Finish** to save the settings and then you can perform various operations.

Quickly Adding IPC

Only an admin user can add IPC. Before adding the IPC, confirm that:

- The IPC is functional, and the network is connected;
- The IPC resolution must not exceed 1920 in width and 1088 in height.

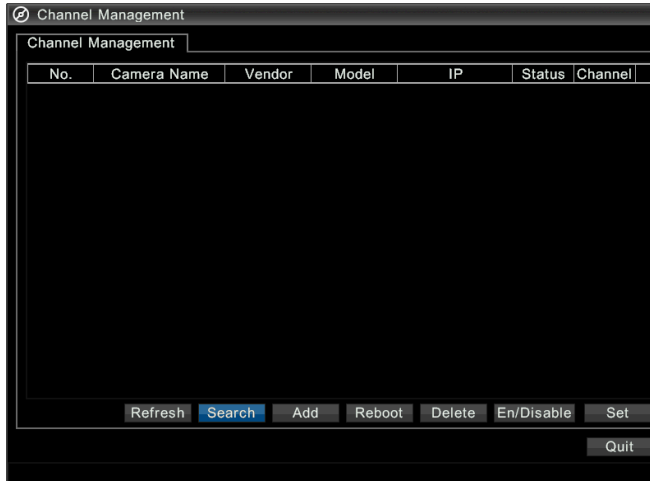
The procedure is as follows:

1. Enter the video channel configuration interface.

To do so, choose **Menu>Channel Management>Video Channel**.

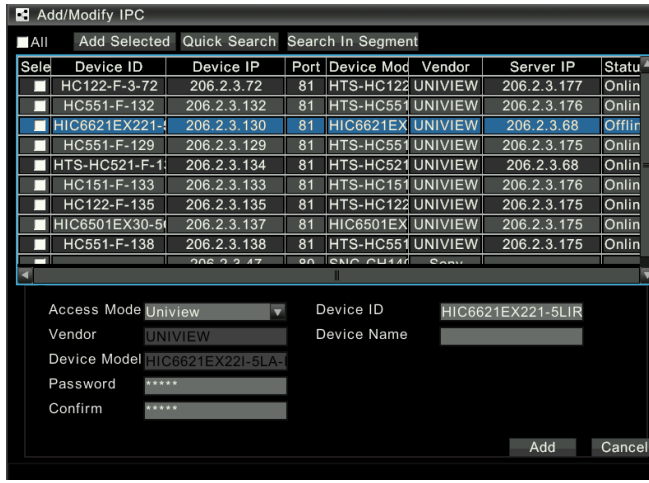
2. Quickly search for the IPC.

Click **Search** to enter the IPC Search interface. By default, a quick search is performed automaticlly after entering this interface.



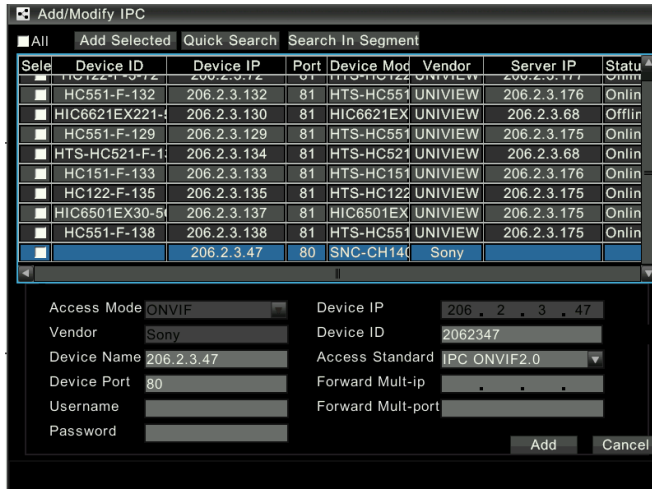
3. Add our company's IPC.

- Add single IPC: Select one of our IPCs you want to add. The IPC parameters are displayed below the list.(You can modify related parameters. Important parameters are described in the following table.) Click **Add** to add the IPC.
- Add IPCs in batches: Select a number of our IPCs you want to add. Click **Batch Add** and the system will add IPCs in batches according to default parameters.



4. Adding third-party IPCs

- Add single third-party IPC: Select a third-party IPC you want to add. The IPC parameters are displayed below the list. (You can modify related parameters. Important parameters are described in the following table.) Click **Add** to add the IPC.
- Add IPCs in batches: Select a number of third-party IPCs you want to add. Click **Batch Add** and the system will add IPCs in batches according to default parameters.



Preview

Pane Toolbar on the Preview Interface

In preview mode, click a pane. Pane toolbar appears below the pane.

Table 6-1 Button Description in Pane Toolbar

Icon	Name	Description
	Stop live	Stops playing the live video in the current pane
	PTZ control	Click this button to enter the PTZ control interface in preview mode.
	Manual record	Records the live video in the current pane to a local destination. Click the button again to stop manual recording.
	Instant playback	Plays back the videos recorded within 5 minutes before the current time point.
	Digital zoom	Zoom in on the live or recorded video in the current pane on a certain scale.
	Capture image	Saves images in the current pane to a designated folder. ***Note:***

		• *Images captured are stored by date in the root directory of your USB drive (a folder is automatically created and named "snap_ date").For example, images captured on March 24, 2013 are stored in a folder named "snap_2013-03-24".* • *Before capturing images, ensure that you have inserted a USB drive into the device.* • *Images captured in preview mode are named as follows: user name (camera name) current time.jpg.*
	Exit the tool bar	Exit the toolbar for the current pane.

Preview Status

On the preview screen, video and alarm status of each channel can be identified by the identifier on the corresponding preview screen.

Table 6-2 Preview Icons

Icon	Name	Description
	Video playback	This icon is shown in video playback mode (the playback toolbar).
	Motion detection alarm	This icon is shown when a motion detection alarm occurs.
	Temperature alarm	This icon is shown when a low or high temperature alarm occurs.
	Disassembly alarm	This icon is shown when the front panel is removed.
	Fan alarm	This icon is shown when a fan alarm occurs.

Icon	Name	Description
	Boolean input alarm	This icon is shown when a Boolean input channel alarm occurs.
	Alarm triggering	This icon is shown when alarm triggering preview screen occurs.
	Video tampering alarm	This icon is shown when a shield alarm occurs.
	Mute	This icon is shown in mute mode.
	Manual record	This icon is shown in manual record mode.

Right-click Context Menu

In the preview screen, the right-click context menu is shown in the following figure. Menu functions are described in the following table.

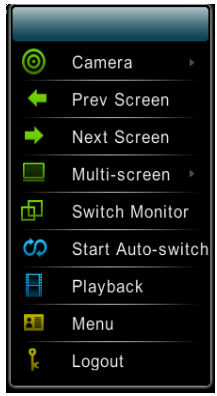


Table 6-3 Preview Operations

Menu Item	Description
Camera	When the selected pane switches to a digital channel screen, you can start or stop previewing digital channels such as IPC.

Menu Item	Description
	Note: *When the camera connected on the channel gets offline, the corresponding digital channel will become unavailable. You can perform preview only when the camera comes online.*
Prev Screen/ Next Screen	Displays the images available for preview on the previous or next screen based on current split screen mode and screen number during polling switching.
Multi-Screen	Switches the split-screen mode. ***Note:*** ● *Screens 3, 5 and 7 show videos in the corridor.* ● *In split-screen mode, services in panes other than the current screen will be disabled automatically.*
Switch Monitor	Switches between screens on a man-machine interface
Start Auto-Switch	In the preview screen, poll-switch between videos on various channels.
Video playback	Enters the channel video playback interface. ***Note:*** *You can display this interface only when you preview images after logging into the device.*
Main Menu	Used to access the main menu ***Note:*** *You must log into the device.*
Logout	Logs out and returns to the preview mode before login. ***Note:*** *You can display this interface only when you preview images after logging into the device.*

Recording

This article describes how to manually record audio and video data on different channels and store the data to a hard disk.

1. On the preview screen, select a pane for video recording. Click **Manual Record** to start recording.

2. An icon will appear above the pane.
3. To stop manual recording, click **Stop Recording** on the toolbar.

Playback

The device can play back the videos recorded within 5 minutes before the current time point to facilitate instant playback in case of exceptions.

Before instant playback, ensure that videos are recorded within 5 minutes before the current time point.

Do as follows:

On the preview screen, select the pane for video recording. Click the **Instant Playback** icon to start playing.

Backup

On the man-machine interface, search a hard disk for video records and save the video records in the USB storage device as files.

Prerequisites

- The USB storage device is FAT32-partitioned and formatted, and properly connected to the device.
- You are permitted to play back videos.
- Ensure that video records are stored on the device's hard disks.

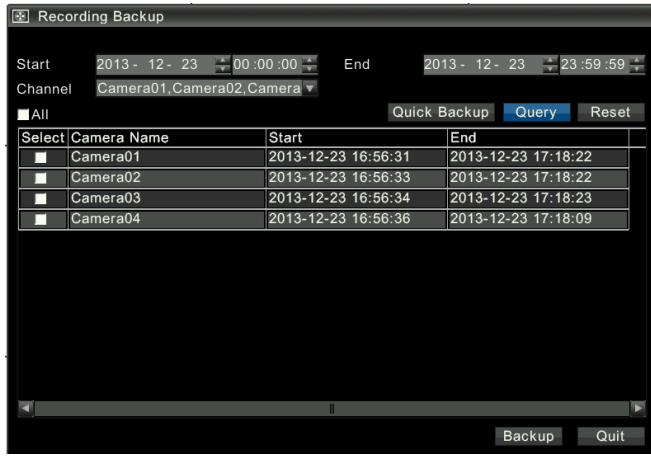
Procedure

1. Access the interface for record backup interface.

To do so, choose **Menu>Recording Backup**.

2. Query videos.

After selecting one or more channels on which you want to query video records. Enter the start/end time. Click **Query** to display search results.



3. Select video records you want to back up.

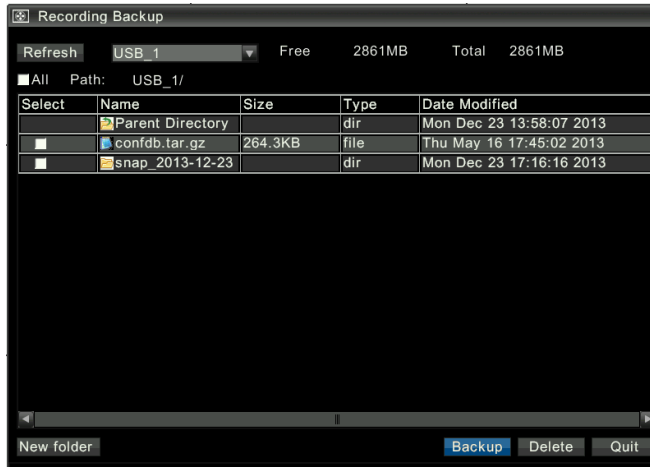
Select one or more video records you want to back up. Click **Backup** to enter the backup interface.

CAUTION!

After selecting the channel and entering the start/end time, click Quick Backup. On the interface for record backup, all the video records within the specified time periods on the selected channel will be backed up by default.

4. Select the backup path.

Select a partition of a USB storage device from the USB drive drop-down list.Select a folder, or double-click to enter the directory and then select a folder.

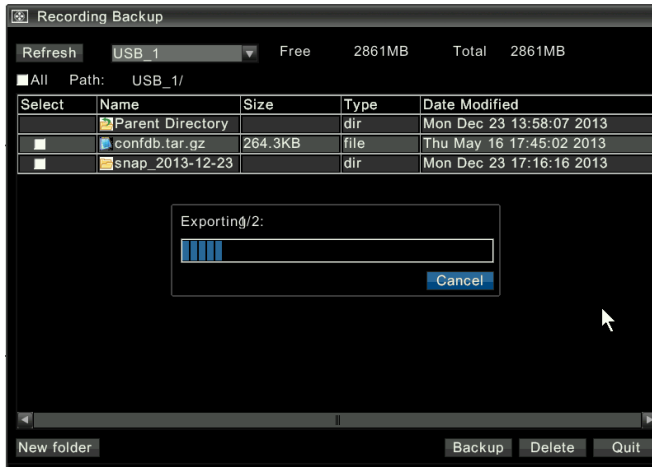


5. Backing up a video

Click **Backup** to start video backup.

CAUTION!

During the backup process, the progress bar will show "backing up X/Y:" x indicates the video records currently being backed up; y represents the total number of video records you want to back up.During the backup process, click Cancel on the progress bar to stop video backup.



NOTE!

- If the duration of a video record for backup is less than half an hour, the record will be saved as a separate file; if the record exceeds half an hour, the record will be automatically split into half-hour units and saved as separate video files.
- A backup video file is named as follows: camera name-video start time-end time-random value.file format.For example: camera 01-20121222000000-20121223103000-719885386.ts.
- Click Refresh to show the free and full capacities of the current partition on the USB storage device.

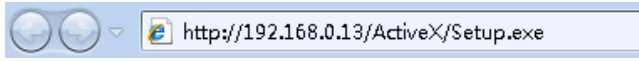
Web Interface

1. Start a Web browser on the client computer. Enter the IP address of the device in the address box (192.168.0.13 for NVR308-16L/09L-IN by default; 192.168.0.30 for network port 1 of NVR308-32L-IN; 192.168.1.30 for network port 2). Press Enter. For first login, load all latest controls as prompted by the system.You should preferably install controls in the default directory.

2. Enter the user name and password in the login dialog box (admin by default), and click Log In to access the web interface.

CAUTION!

If you change to another OS user on the client and log in to the web page again after controls are successfully installed, you need to load the controls manually. Otherwise, you cannot log in.To load controls manually, enter /ActiveX/Setup.exe in the address bar after the device's IP address, and press **Enter**.



After successfully logging in to the web interface, perform related configuration operations.

7 Specifications

For more information about technical specifications of the device, refer to the datasheets.

NVR308-32L/16L/09L-IN

Item	Description
Power Supply	AC power supply, 90V-230VAC, with power switch
Consumption	20W(without hard disk) 80W (fully equipped with hard disks)
Working temperature	-10℃ to 55℃
Working humidity	10% to 90% (noncondensing)
Weight	Bare device <5.5kg Fully equipped with hard disks < 11kg
Dimensions (W × D × H)	2U high 86.1mm×536.0mm×442.0mm (with front panel)

NVR308-48/32/24/16-IN

Item	Description
Dimensions (W × D × H)	2U high NVR308-24/48-IN: 86.1mm×536.0mm×442.0mm (with front panel) NVR308-16/32-IN: 86.1mm×536.0mm×442.0mm (with front panel)
Weight	Bare device <10kg Fully equipped with hard disks <16kg
Power Supply	90V-230V AC; 50Hz/60Hz
Consumption	20W(without hard disk) 80W (fully equipped with hard disks)
Working temperature	-10℃ to +55℃
Working humidity	10% to 90% (noncondensing)

8 HDD Storage Calculation Chart

The following chart shows an estimation of storage space used based on recording at one channel for 24 hours at a fixed bit rate.

Table 8-1 Storage Calculation

Bit Rate (Kbps)	Storage Used (GB)
256	2.900
512	5.801
768	8.701
1024	11.602
1536	17.402
2048	23.203
3072	34.805
4096	46.406

NOTE!

Please note that supplied values for storage space used is just for reference. The storage values in the chart are estimated by formulas and may have some deviation from actual value.

BOM: 3101C037