

Models: NVR4POEH, NVR8POEH & NVR16POEH



# **Quick Start Guide**

# **TABLE OF CONTENTS**

Chapter I Panels Description	6
1.1 Front Panel	6
1.2 Rear Panel	6
Chapter 2 Installation and Connections	8
2.1 NVR Installation	8
2.2 Connections	8
2.2.1 Alarm Input Wiring	8
2.2.2 Alarm Output Wiring	9
2.2.3 Using Alarm Connectors	9
2.2.4 Controller Connection.	10
2.3 HDD Storage Calculation Chart	11
Chapter 3 Menu Operation	12
3.1 Menu Structure	12
3.2 Startup and Shutdown	12
3.3 Activating Your Device	13
3.4 Using the Unlock Pattern for Login	14
3.5 Login and Logout	15
3.5.1 User Login	15
3.5.2 User Logout	16
3.6 Using the Setup Wizard	16
3.7 Network Settings	17
3.7.1 Configuring General Settings	17
3.8 Adding IP Cameras	18
3.9 Live View	18
3.10 Recording Settings	19
3.11 Playback	20
3.12 Configuring Guarding Vision	21
Chanter 4 Accessing by Web Browser	23

#### **Quick Start Guide**

#### **About this Manual**

This Manual is applicable to the NVR4POEH, NVR8POEH & NVR16POEH

The Manual includes instructions for using and managing the product. Pictures, charts, images and all other information hereinafter are for description and explanation only. The information contained in the Manual is subject to change, without notice, due to firmware updates or other reasons. Please find the latest version in the company website.

Please use this user manual under the guidance of professionals.

#### **Legal Disclaimer**

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IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATER PREVAILS

#### **Regulatory Information**

#### **FCC Information**

Please take attention that changes or modification not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC compliance: This equipment has been tested and found to comply with the limits for a Class A 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.

#### **FCC Conditions**

This device 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.

#### **EU Conformity Statement**

This product and - if applicable - the supplied accessories too are marked with "CE" and comply therefore with the applicable harmonized European standards listed under the EMC Directive 2014/30/EU, the LVD Directive 2014/35/EU, the RoHS Directive 2011/65/EU.



2012/19/EU (WEEE directive): Products marked with this symbol cannot be disposed of as unsorted municipal waste in the European Union. For proper recycling, return this product to your local supplier upon the purchase of equivalent new equipment, or dispose of it at designated collection points. For more information see: www.recyclethis.info



2006/66/EC (battery directive): This product contains a battery that cannot be disposed of as unsorted municipal waste in the European Union. See the product documentation for specific battery information. The battery is marked with this symbol, which may include lettering to indicate cadmium (Cd), lead (Pb), or mercury (Hg). For proper recycling, return the battery to your supplier or to a designated collection point. For more information see: www.recyclethis.info

#### **Industry Canada ICES-003 Compliance**

This device meets the CAN ICES-3 (A)/NMB-3(A) standards requirements.

### Applicable Models

This manual is applicable to the models listed in the following table.

Series	Model
NVRHPOE Series	NVR4POEH
	NVR8POEH
	NVR16POEH

### **Symbol Conventions**

The symbols that may be found in this document are defined as follows.

Symbol	Description	
NOTE	Provides additional information to emphasize or supplement important points of the main text.	
<b>A</b> WARNING	Indicates a potentially hazardous situation, which if not avoided, could result in equipment damage, data loss, performance degradation, or unexpected results.	
DANGER	Indicates a hazard with a high level of risk, which if not avoided, will result in death or serious injury.	

### Safety Instructions

- Proper configuration of all passwords and other security settings is the responsibility of the installer and/or end-user.
- In the use of the product, you must be in strict compliance with the electrical safety regulations of the nation and region. Please refer to technical specifications for detailed information.
- Input voltage should meet both the SELV (Safety Extra Low Voltage) and the Limited Power Source with 100~240 VAC or 12 VDC according to the IEC60950-1 standard. Please refer to technical specifications for detailed information.
- Do not connect several devices to one power adapter as adapter overload may cause over-heating or a fire hazard.
- Please make sure that the plug is firmly connected to the power socket.
- If smoke, odor or noise rise from the device, turn off the power at once and unplug the power cable, and then please contact the service center.

### Preventive and Cautionary Tips

Before connecting and operating your device, please be advised of the following tips:

- Ensure unit is installed in a well-ventilated, dust-free environment.
- Unit is designed for indoor use only.
- Keep all liquids away from the device.
- Ensure environmental conditions meet factory specifications.
- Ensure unit is properly secured to a rack or shelf. Major shocks or jolts to the unit as a result of dropping it may cause damage to the sensitive electronics within the unit.
- Use the device in conjunction with an UPS if possible.
- Power down the unit before connecting and disconnecting accessories and peripherals.
- A factory recommended HDD should be used for this device.
- Improper use or replacement of the battery may result in hazard of explosion. Replace with the same or equivalent type only. Dispose of used batteries according to the instructions provided by the battery manufacturer.

# Chapter1 Panels Description

# 1.1 Front Panel

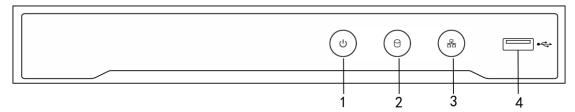


Table 1-1 Panel Description

No.	Name	Connections
1	POWER	Turns green when NVR is powered up.
2	HDD	Flickers red when data is being read from or written to HDD.
3	Tx/Rx	Flickers blue when network connection is functioning properly.
4	USB Interface	Universal Serial Bus (USB) port for additional devices such as USB mouse and USB Hard Disk Drive (HDD).

### 1.2 Rear Panel

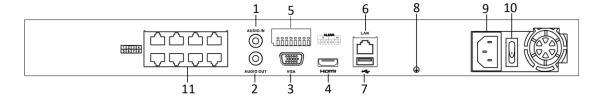


Table 1-2 Panel Description

No.	Name	Description
1	Audio In	RCA connector for audio input.
2	Audio Out	RCA connector for audio output.
3	VGA Interface	DB9 connector for VGA output. Display local video output and menu.

4	HDMI Interface	HDMI video output connector.	
5	ALARM IN	Connector for alarm input.	
	ALARM OUT	Connector for alarm output.	
6	LAN Network Interface	1 10/100/1000 Mbps self-adaptive Ethernet interface	
7	USB Interface	Universal Serial Bus (USB 3.0) ports for additional devices such as USB mouse and USB Hard Disk Drive (HDD).	
8	Ground	Ground (needs to be connected when NVR starts up).	
9	Power Supply	External power supply for NVR4POEH models, Internal Power Supply for NVR8POEH/NVR16POEH models.	
10	Power Switch	Switch for turning on/off the device.	
11	Network Interfaces with PoE function	Network interfaces for the cameras and to provide power over Ethernet.	

# Chapter 2 Installation and Connections

### 2.1 NVR Installation

During installation of the NVR:

- Use brackets for rack mounting.
- Ensure ample room for audio and video cables.
- When routing cables, ensure that the bend radius of the cables are no less than five times than
  its diameter.
- Connect the alarm cable.
- Allow at least 2cm (≈0.75-inch) of space between racks mounted devices.
- Ensure the NVR is grounded.
- Environmental temperature should be within the range of -10 to +55° C, +14 to +131° F.
- Environmental humidity should be within the range of 10% to 90%.

### 2.2 Connections

### 2.2.1 Alarm Input Wiring

The alarm input is an open/closed relay. To connect the alarm input to the device, use the following diagram.



If the alarm input is not an open/close relay, please connect an external relay between the alarm input and the device.

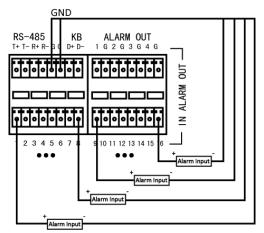
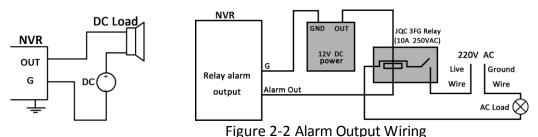


Figure 2-1 Alarm Input Wiring

### 2.2.2 Alarm Output Wiring

To connect to an alarm output (AC or DC load), use the following diagram:



For DC load, the jumpers can be used within the limit of 12V/1A safely.

To connect an AC load, jumpers should be left open (you must remove the jumper on the motherboard in the NVR). Use an external relay for safety (as shown in the figure above).

There are 4 jumpers (JP6, JP9, JP10, and JP11) on the motherboard, each corresponding with one alarm output. By default, jumpers are connected. To connect an AC load, jumpers should be removed.

#### Example:

If you connect an AC load to the alarm output 3 of the NVR, then you must remove the JP 3 jumper.

### 2.2.3 Using Alarm Connectors

To connect alarm devices to the NVR:

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

### 2.2.4 Controller Connection

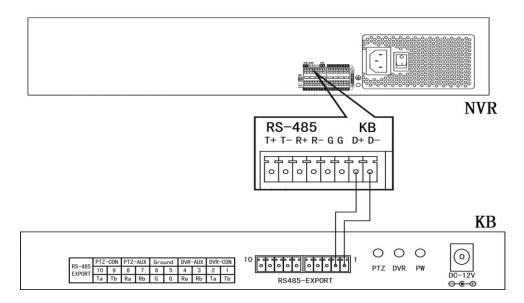


Figure 2-3 Controller Connection

To connect a controller to the NVR:

- Step 1 Disconnect pluggable block from the KB terminal block.
- Step 2 Unfasten stop screws from the KB D+, D- *pluggable block*, insert signal cables into slots and fasten stop screws. Ensure signal cables are in tight.
- Step 3 Connect Ta on controller to D+ on terminal block and Tb on controller to D- on terminal block. Fasten stop screws.
- Step 4 Connect *pluggable block* back into terminal block.



Make sure both the controller and NVR are grounded.

# 2.3 HDD Storage Calculation Chart

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

Bit Rate	Storage Used
96K	42M
128K	56M
160K	70M
192K	84M
224K	98M
256K	112M
320K	140M
384K	168M
448K	196M
512K	225M
640K	281M
768K	337M
896K	393M
1024K	450M
1280K	562M
1536K	675M
1792K	787M
2048K	900M
4096K	1.8G
8192K	3.6G
16384K	7.2G



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.

# Chapter 3 Menu Operation

### 3.1 Menu Structure

Refer to the following figure for the menu structure:

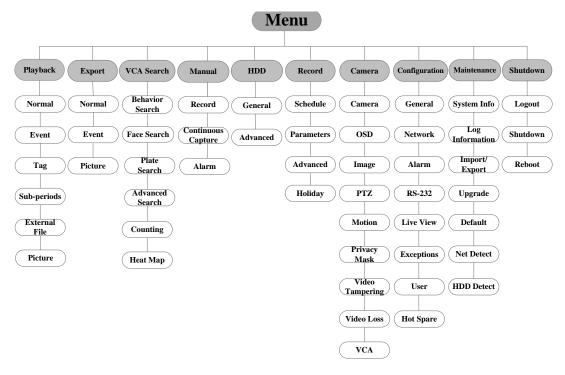


Figure 3-1 Menu Structure



The menu structure may vary according to different models.

## 3.2 Startup and Shutdown

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

To start your NVR:

Step 1 Check the power supply is plugged into an electrical outlet. It is HIGHLY recommended that an Uninterruptible Power Supply (UPS) be used in conjunction with the device. The Power button) on the front panel should be red, indicating the device is receiving the power.

Step 2 Press the POWER button on the front panel. The Power LED should turn blue. The unit will begin to start.

After the device starts up, the wizard will guide you through the initial settings, including modifying password, date and time settings, network settings, HDD initializing, and recording.

To shut down the NVR:

Step 3 Enter the Shutdown menu.

Menu > Shutdown



Figure 3-2 Shutdown

Step 4 Select the **Shutdown** button.

Step 5 Click the Yes button.

### 3.3 Activating Your Device

#### Purpose:

For the first-time access, you need to activate the device by setting an admin password. No operation is allowed before activation. You can also activate the device via Web Browser, SADP or client software.

Step 1 Input the same password in the text field of **Create New Password** and **Confirm New Password**.



Figure 3-3 Set Admin Password

Step 2 In the **IP Camera Activation** text field, enter the password to activate the IP camera (s) connected to the device.

Step 3 Click OK to save the password and activate the device



#### WARNING

**STRONG PASSWORD RECOMMENDED**—We highly recommend you create a strong password of your own choosing (Using a minimum of 8 characters, including at least three of the following categories: upper case letters, lower case letters, numbers, and special characters.) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product. Click **OK** to save the password and activate the device.



Clear-text password is supported. Click and you can see the clear text of the password. Click the icon again and the content of the password restores invisible (the same below).

### 3.4 Using the Unlock Pattern for Login

For the Admin user, you can configure the unlock pattern for device login.

After the device is activated, you can enter the following interface to configure the device unlock pattern.

Step 1 Use the mouse to draw a pattern among the 9 dots on the screen. Release the mouse when the pattern is done.



Figure 3-4 Draw the Pattern

# NOTE

- Connect at least 4 dots to draw the pattern.
- Each dot can be connected for once only.
- Step 2 Draw the same pattern again to confirm it. When the two patterns match, the pattern is configured successfully.

Step 3 You can use the configured unlock pattern for future login.



Figure 3-5 Draw the Unlock Pattern

# 3.5 Login and Logout

## 3.5.1 User Login

#### Purpose:

If NVR has logged out, you must login the device before operating the menu and other functions.

Step 1 Select the User Name in the dropdown list.



Figure 3-6 Login

Step 2 Input Password.

Step 3 Click OK to log in.



In the Login dialog box, if you enter the wrong password 7 times, the current user account will be locked for 60 seconds.

### 3.5.2 User Logout

#### Purpose:

After logging out, the monitor turns to the live view mode and if you want to perform any operations, you need to enter user name and password log in again.

Step 1 Enter the Shutdown menu.

Menu > Shutdown



Figure 3-7 Logout

Step 2 Click Logout.



After you have logged out the system, menu operation on the screen is invalid. It is required to input a user name and password to unlock the system.

### 3.6 Using the Setup Wizard

The Setup Wizard can walk you through some important settings of the device. By default, the Setup Wizard starts once the device has loaded.

Check the checkbox to enable Setup Wizard when device starts. Click **Next** to continue the setup wizard. Follow the guide of the Setup Wizard to configure the system resolution, system date/time, network settings, HDD management, record settings, etc.



Figure 3-8 Wizard

### 3.7 Network Settings

### 3.7.1 Configuring General Settings

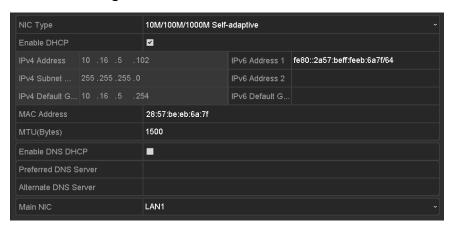
#### Purpose:

Network settings must be properly configured before you operate DVR over network.

Step 1 Go to Menu > Configuration > Network > General.

Figure 3-9 Network Settings

- Step 2 Configure the general parameters of network.
- Step 3 Click **Apply** to save the settings.



### 3.8 Adding IP Cameras

#### Purpose:

Before you can get live video or record the video files, you should add the network cameras to the connection list of the device.

#### Before you start:

Ensure the network connection is valid and correct, and the IP camera to add has already been activated. Please refer to the *User Manual* for activating the inactive IP camera.

You can select one of the following three options to add the IP camera.

#### OPTION 1:

Step 1 Click to select an idle window in the live view mode.

Step 2 Click the icon in the center of the window to pop up the Add IP Camera interface.

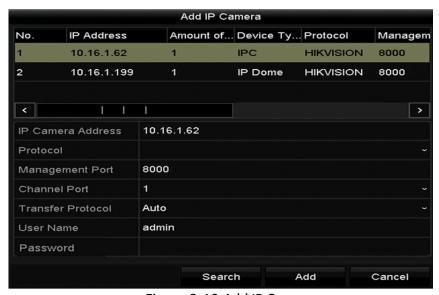


Figure 3-10 Add IP Camera

Step 3 Select the detected IP camera and click the **Add** button to add it directly, and you can click the **Search** button to refresh the online IP camera manually.

Or you can choose to custom add the IP camera by editing the parameters in the corresponding text field and then click the Add button to add it.

### 3.9 Live View

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

#### **Live View Icons**

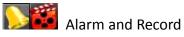
In the live view mode, there are icons at the upper-right corner of the screen for each channel, showing the status of the record and alarm in the channel for quick reference.



Alarm (video loss, tampering, motion detection, VCA or sensor alarm)



Record (manual record, continuous record, motion detection, VCA or alarm triggered record)



Event/Exception (event and exception information, appears at the lower-left corner of the screen.)

# 3.10 Recording Settings

#### Before you start:

Make sure that the disk has already been installed. If not, please install a disk and initialize it. You may refer to the user manual for detailed information.

#### Purpose:

Two kinds of record types are introduced in the following section, including Instant Record and All-day Record. And for other record types, you may refer to the user manual for detailed information.



After rebooting all the manual records enabled are canceled.

Step 1 On the live view window, right lick the window and move the cursor to the Start Recording option, and select **Continuous Record** or **Motion Detection Record** on your demand.

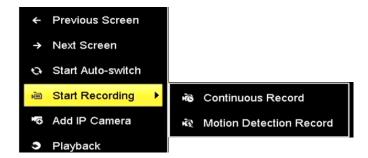


Figure 3-11 Start Recording from Right-click Menu

Step 2 Click the Yes button in the pop-up Attention message box to confirm the settings. All the channels will start to record in the selected mode.

# 3.11 Playback

The recorded video files on the hard disk can be played back in the following modes: instant playback, all-day playback for the specified channel, and playback by normal/event/smart/tag/sub-periods/external file search.

Step 1 Enter playback interface.

Click Menu>Playback or from the right-click menu.

Step 2 Check the checkbox of channel(s) in the channel list and then double-click to select a date on the calendar.

Step 3 You can use the toolbar in the bottom part of Playback interface to control playing progress.



Figure 3-12 Playback Interface

Step 4 Select the channel(s) to or execute simultaneous playback of multiple channels.

# 3.12 Configuring Guarding Vision

#### **Purpose**

Guarding Vision provides the mobile phone application and the service platform page (www.guardingvision.com) to access and manage your connected DVR, which enables you to get a convenient remote access to the surveillance system.



The Guarding Vision can be enabled via operation on SADP software, GUI and Web browser. We introduce the operation steps on GUI in this section.

Step 1 Go to Menu > Configuration > Network > Platform Access.



Step 2 Check the **Enable** checkbox to activate the function.



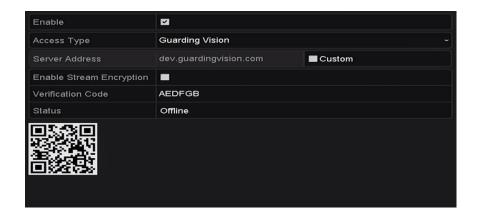
Then the **Service Terms** interface pops up.

- 1) Create the verification code and enter the code in the **Verification Code** text field.
- 2) Check the checkbox of The Guarding Vision service will require internet access. Please read Service Terms and Privacy Statement before enabling the service.
- 3) Scan the QR code on the interface to read the Service Terms and the Privacy Statement.
- 4) Click **OK** to save the settings and return to the Guarding Vision interface.
- NOTE
- Guarding Vision is disabled by default.

- The verification code is empty when the device leaves factory.
- The verification code must contain 6 to 12 letters or numbers and is case sensitive.
- Every time you enable Guarding Vision, the Service Terms interface pops up and you should check the checkbox before enabling it.

Step 3 (Optional) Check Custom and enter the Server Address.

Step 4 (Optional) Check Enable Stream Encryption.



After this feature is enabled, the verification code is required for remote access and live view.



You can use the scanning tool of your phone to quickly get the code of the device by scanning the QR code.

Step 5 Click **Apply** to save the settings.

Step 6 After configuration, you can access and manage the DVR by your mobile phone or by the website (www.guarding vision.com).

 For the iOS users, please scan the QR code below to download the Guarding Vision application for the subsequent operations.



For the Android users, please scan the QR code below to download the Guarding Vision
application for the subsequent operations. You must install googleplay on your Android mobile
phone to skip to the address successfully.



# Chapter 4 Accessing by Web Browser



You shall acknowledge that the use of the product with Internet access might be under network security risks. For avoidance of any network attacks and information leakage, please strengthen your own protection. If the product does not work properly, please contact with your dealer or the nearest service center.

#### Purpose:

You can get access to the device via web browser. You may use one of the following listed web browsers: Internet Explorer & Apple Safari. The supported resolutions include 1024\*768 and above.

Step 1 Open web browser, input the IP address of the device and then press Enter.

Step 2 Login to the device.

• If the device has not been activated, you need to activate the device first before login.

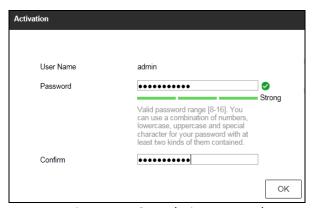


Figure 4-1 Set Admin Password

- 5) Set the password for the admin user account.
- 6) Click **OK** to login to the device.



**STRONG PASSWORD RECOMMENDED**— We highly recommend you create a strong password of your own choosing (using a minimum of 8 characters, including upper case letters, lower case letters, numbers, and special characters) in order to increase the security of your product. And we recommend you reset your password regularly, especially in the high security system, resetting the password monthly or weekly can better protect your product.

• If the device is already activated, enter the user name and password in the login interface, and click the **Login** button.



Figure 4-2 Login

Step 3 Install the plug-in before viewing the live video and managing the camera. Please follow the installation prompts to install the plug-in.



You may have to close the web browser to finish the installation of the plug-in.

After login, you can perform the operation and configuration of the device, including the live view, playback, log search, configuration, etc.

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