NVR H series device user manual

Updated September 29, 2025



NVR H is a network video recorder with HDMI output for home and office video surveillance. You can connect **Ajax cameras** and third-party IP cameras to the device.

Users can view archived and live footage in Ajax apps or on a display connected via the HDMI output. NVR H records the received data with corresponding settings and a hard drive (not included). If the hard drive is not installed, the video recorder is used only for integrating third-party IP cameras into the Ajax system. NVR H provides users with video alarm verification.

To set up NVR H, an internet connection is required. The video recorder connects to the Ajax Cloud service via Ethernet using the corresponding connector.

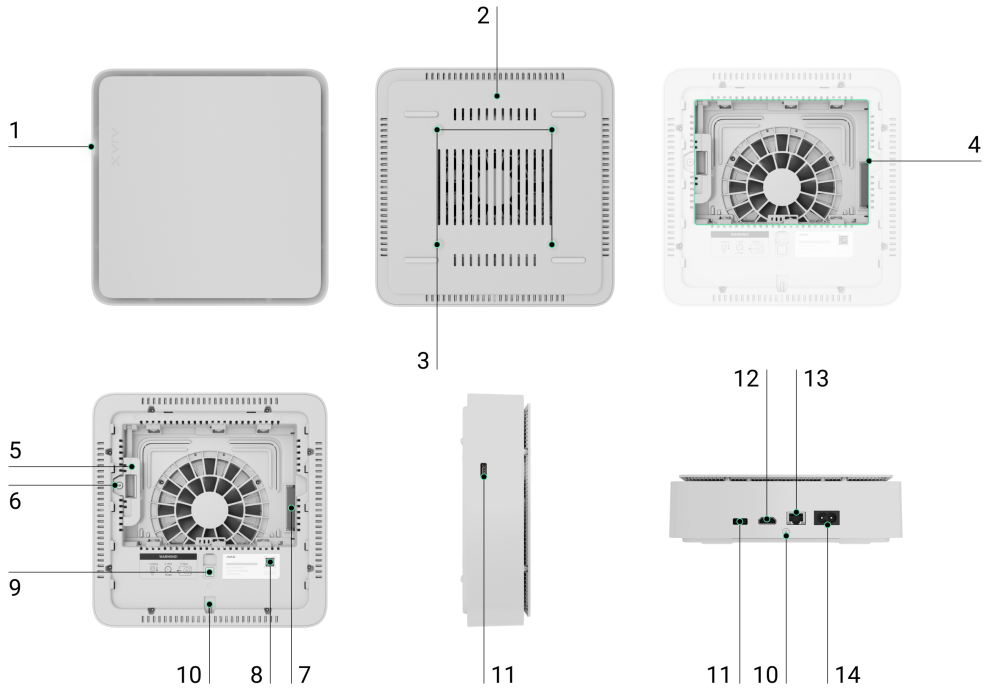
The device is available in several versions:

- NVR HAC (8-ch);

- NVR HAC (16-ch).

Buy a network video recorder of NVR H series

Functional elements



1. LED indicator.

2. SmartBracket mounting panel.

3. Holes for attaching the SmartBracket mounting panel to the surface.

4. Place to install a hard drive.

5. Hard drive latch.

6. A screw for attaching a hard drive latch.

7. Connector for the hard drive.

8. QR code with the device ID. Used to add NVR H to an Ajax system.

9. Button to reset parameters.

10. Holding screw. It is used to fix the device on the SmartBracket mounting panel.

11. USB connector.

12. HDMI connector.

13. Ethernet connector.

14. Power supply connector.

Operating principle

NVR H is a video recorder for connecting third-party IP cameras that have ONVIF and RTSP protocols and **Ajax cameras**. Allows you to install a storage device with a memory capacity of up to 16 TB (not included in the NVR H series package). Also, NVR H can work without a hard drive.

How to choose a hard drive

NVR H series features an HDMI output that allows video from connected cameras to be viewed on a display, even when the video recorder is not connected to the internet.

NVR H has two USB 2.0 (Type-A) ports for connecting a keyboard, mouse, or USB flash drive. The maximum output current is **500 mA** per port. If the connected device requires more power to operate, provide an external power supply for that device.

Using the **video storage calculator**, you can calculate the NVR H required storage capacity and estimated recording time based on the settings.

NVR H enables users to:

1. Add and configure IP cameras (camera resolution, brightness, contrast, etc.).
2. Watch video from added cameras in real-time with the ability to zoom.
3. Watch and export videos from the archive, navigating by the recording chronology and calendar (if the hard drive is connected to the video recorder).

4. Choose how to detect motion in the frame — on the camera or on the NVR H.
5. Configure motion detection on NVR H (detection zones, sensitivity level).
6. View the **Video wall** that combines images from all connected cameras.
7. **Create video scenarios** that send a short video from the selected camera to the Ajax app when the detector is triggered.
8. Configure connection via ONVIF to integrate the device with video management systems (VMS) such as Milestone, Genetec, Axxon, and Digifort.
9. Watch video on a display connected directly to NVR H via the HDMI output.

> The video recording segments downloaded from NVR H have the **Ajax digital signature** that verifies the integrity of the exported video. To verify the authenticity of the downloaded video recordings, use the **Ajax Media Player** software.
>
> **Learn more about Ajax Media Player**

How to download videos from the archive in Ajax apps

How to configure temporary camera video access

An admin or PRO with rights to configure the system can set up a connection via ONVIF in **Ajax PRO Desktop** and **Ajax Desktop** apps.

How to configure ONVIF authorization

NVR H is designed for indoor installation. We recommend installing the video recorder on a flat horizontal or vertical surface for better heat exchange of the hard drive. Do not cover it with other items.

Selecting the device location





It is advisable to choose an installation site where NVR H is hidden from prying eyes, for example, in the pantry. It will help to reduce the likelihood of sabotage. Note that the device is intended for indoor installation only.

The device is housed in a compact casing with active cooling. If NVR H is installed in insufficiently ventilated rooms, the operating temperature of the memory drive may be exceeded. Choose a hard, flat horizontal or vertical surface for mounting the casing, and do not cover it with other items.

Follow placement recommendations when designing the Ajax system for an object. The security system should be designed and installed by professionals. The list of authorized Ajax partners is **available here**.

Where not to install NVR H

1. Outdoors. This may cause the breakdown of the video recorder.
2. Inside premises with temperature and humidity values that do not correspond to the operating parameters.

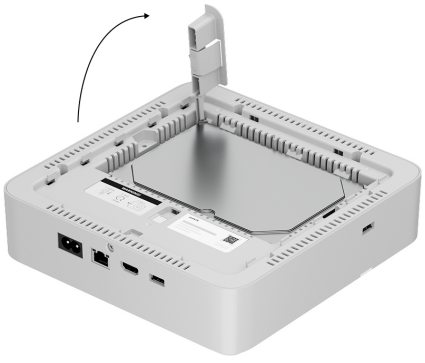
Installation



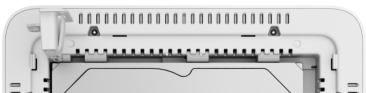


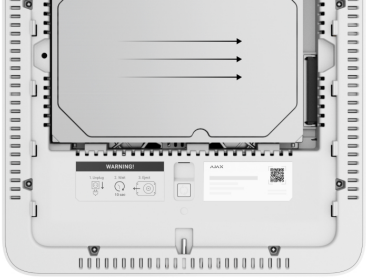
1. Remove SmartBracket from the video recorder by pulling down the back panel.
2. Secure SmartBracket to a hard, flat surface with the bundled screws. Use all fixation points.
3. Lift the hard drive latch.

> When replacing the hard drive, wait 10 seconds after disconnecting the device from the power source. The hard drive contains rapidly rotating platters. Sudden movements or impacts can disable the mechanism, leading to physical damage and data loss.Do not move or flip NVR H until the hard drive has stopped spinning.

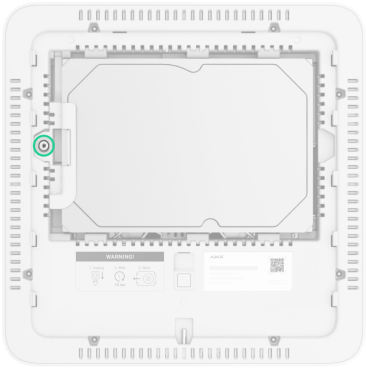


4. Install the hard drive in the NVR H enclosure so that the connectors match.





5. Lower the hard drive latch.
6. Secure the hard drive in the NVR H enclosure with the bundled screw, using the location for fixation.



7. Connect external power supply and Ethernet connection. Turn on the power supply.
8. **Add the device to the system**.
9. Insert the video recorder into SmartBracket.

The LED indicator lights up yellow and turns white after the connection to the Internet. If the connection to Ajax Cloud server fails, the LED indicator lights up red.

Adding to the system

Before adding a device

1. Install an **Ajax app**.

2. Log in to your **account** or create a new one.
3. Select a **space** or create a new one.
4. Add at least one **virtual room**.
5. Ensure the space is disarmed.

> Only a PRO or a space admin with the rights to configure the system can add the device to the space.

Types of accounts and their rights

Adding to the space

1. Open the **Ajax app**. Select the **space** to which you want to add NVR H.
2. Go to the **Devices** tab and tap **Add device**.
3. Scan the QR code or enter it manually. Find the QR code on the back of the enclosure under the SmartBracket mounting panel and on the packaging.
4. Assign a name to the device.
5. Select a virtual room.
6. Tap **Add**.
7. Make sure that the video recorder is powered on and has access to the Internet. The LED indicator should light white.
8. Tap **Add**.

The connected device will appear in the list of devices in the Ajax app.

NVR H only works with one space. To connect the video recorder to the new space, remove NVR H from the device list of the old one. This must be done manually in the Ajax app.

Adding an IP camera to NVR H

You can calculate the number of cameras and NVRs that can be added to the space using the **video device calculator**.

To add an IP camera automatically: **To add a third-party IP camera manually:**

1. Open the **Ajax app**. Select the **space** with NVR H added.
2. Go to the **Devices** tab.
3. Find **NVR H** in the list, and tap **Cameras**.
4. Tap **Add camera**.
5. Wait until the network scan is completed and the available IP cameras connected to the local network appear.
6. Select the camera.
7. Enter the username and password (specified in the camera documentation) if the camera is third-party and tap **Add**.
8. If the login and password are entered correctly, the video preview from the added camera will appear. In case of an error, check the correctness of the entered data and try again.
9. Make sure the video matches the added camera. Tap **Next**.

The IP camera connected to the video recorder will appear in the list of NVR H cameras in the Ajax app.

Managing NVR H via HDMI connection

Logging in

To start using NVR H with a display connected via the HDMI output, you must log in to your Ajax account. There are two login options: as a local user or with a cloud

account.

> Logging in with a cloud account requires an internet connection. If NVR H is not connected to the internet, you can only log in as a local user.

To log in as a local user:

1. Select the login option **As local user**.
2. Enter the local **Username** and **Password** in the corresponding fields.
3. (Optional) Enable **Automatically log in to this account on restart**.
4. Tap **Log in**.

To log in with a cloud account:
There are two ways to log in with a cloud account: using account credentials or scanning a QR code.

Using account credentials:

1. Ensure NVR H is connected to the internet.
2. Select the login option **With cloud account**.
3. Select an account type.
4. Enter your **Email** and **Password** in the corresponding fields.
5. (Optional) Enable **Automatically log in to this account on restart**.
6. Tap **Log in**.

Using a QR code:

1. Ensure NVR H is connected to the internet.
2. Select the login option **With cloud account**.
3. Open an Ajax app on your mobile device and go to:

- **Menu** → **App settings** → **Sessions**

4. Scan the QR code on the display.

Video wall and slideshow

The **Video wall** feature allows you to create custom layouts, manage cameras, watch live video streams, access archived footage, and more — all in a single interface.

What features are available in the video wall

NVR H features keyboard shortcuts to quickly and simply navigate the video wall. These shortcuts give you instant access to key features and help you work within the video wall.

> A keyboard should be connected to the NVR H to use keyboard shortcuts.

Keyboard shortcuts to manage the archive

Keyboard shortcut	Description
1	0.5x playback speed
2	1x playback speed (by default)
3	1.5x playback speed
4	2x playback speed
5	4x playback speed
6	8x playback speed
Space	Play/pause
<, >	Previous/next frame
F	Maximize window

Esc	Minimize window
Tab	Archive entry/exit

Keyboard shortcuts to control PTZ cameras

Keyboard shortcut	Description
Left/right arrow	Pan left/right
Up/down arrow	Tilt up/down
+ (plus key)	Zoom in
– (minus key)	Zoom out
Shift + left arrow	Focus near
Shift + right arrow	Focus far
1–9	Go to PTZ presets from 1 to 9
H	Go to PTZ default settings

Device info

To open the **Device info** tab, select it from the top toolbar. This tab is only available for users with admin rights.

The **Device info** tab includes the following sections:

- **Overview** — displays the NVR H **states** and allows the admin to format the hard drive or reboot the video recorder if any issue occurs.
- **Connection** — contains network settings.
- **Archive** — provides information about the video recorder's storage and related settings. The **Format hard drive** option is also available in this section.

App settings

The **App settings** menu allows you to configure general interface settings for the

display connected via HDMI.

To access App settings:

- Click the profile icon or user image in the upper-right corner of the interface.
- Select **App settings** from the dropdown menu.

Parameter	Description
Language	Selects the language of the interface.
Measurement system	Sets the system for displaying measurements in the app: • **Metric** — measurements are displayed in °C and meters. • **Imperial/US customary** — measurements are displayed in °F and feet.

Logging out

To log out of your account:

1. Click the profile icon or user image in the upper-right corner of the interface.
2. Select **Sign out**.

After logging out, you will see the login screen.

Resetting to the default settings

To reset NVR H to the default settings:

1. Turn it off by disconnecting the power supply.
2. Press and hold the reset button.
3. Power NVR H while the reset button is pressed, and wait until the LED indicator

lights up violet. This will take about 50 s.

> The NVR H LED indicator lights up yellow for 20 s after powering the video recorder with a pressed reset button. Then it turns off for 30 s and lights up violet. This means that NVR H has been restored to the default settings.

4. Release the reset button.

Icons

The icons show some device statuses. You can view them in Ajax apps:

1. Select a **space** in the Ajax app.
2. Go to the **Devices** tab.
3. Find **NVR H** in the list.

Icon	Meaning
	The hard drive is connected.
	The hard drive is not connected.
	The hard drive is being formatted or has periodic malfunctions. If formatting does not start, replace the hard drive.
	The hard drive malfunctions have been detected. Rebooting NVR H or formatting the hard drive is recommended.

	A firmware update is available. Go to the device states or settings to find the description and launch an update.
Updating	Firmware update in progress: downloading/installing the latest version.
	New firmware installation has failed.
	The device connection via ONVIF is enabled. **Learn more**
Offline	The device has lost connection with the Ajax Cloud server.

States

The **States** section displays information about the device and its operating parameters. You can view the video recorder's states in Ajax apps or on a display connected via HDMI.

To view states in Ajax apps:

1. Open an **Ajax app** and select a **space**.
2. Go to the **Devices** tab.
3. Select **NVR H** from the list of devices.

Parameter	Meaning
Firmware update	The field is displayed when the firmware update is available: • **New firmware version available** — the new firmware is available for download and installation. • **Downloading...** — firmware downloading is in progress. It is displayed as a percentage. • **Installing...** — the firmware is being installed.

	• **Failed to update firmware** — the new firmware could not be installed. Tapping on ⓘ opens more information about the device's firmware update.
Ethernet	NVR H connection status to the Internet via Ethernet: • **Connected** — NVR H is connected to the network. Normal state. • **Not connected** — NVR H is not connected to the network. Check your wired internet connection. Tapping the icon ⓘ displays the network parameters.
CPU usage	Displayed from 0 to 100%.
RAM usage	Displayed from 0 to 100%.
Hard drive	Hard drive connection status to NVR H: • **OK** — the hard drive is communicating with NVR H. Normal state. • **Preset** — manual speed control. Available speed values are: • **Formatting required** — hard drive formatting is recommended. If the drive contains data, it will be permanently deleted. • **Formatting…** — the hard drive is being formatted. • **Not installed** — the hard drive is not installed in the NVR H.
	Built-in fan speed status: • **OK** — the fan is operating normally.

Built-in fan speed	• **Error** — the fan speed issue is detected, which may lead to overheating or device malfunction. Check if nothing is blocking the blade movement. Contact Ajax Technical Support if the issue persists.
Hard drive temperature	The temperature of the hard drive.
Cameras (online / connected)	The number of cameras connected to the video recorder.
Current archive depth	The depth of hard drive recording. Shows how many days from the first record.
ONVIF integration	Shows the current status of the device's ONVIF integration. This state is displayed only when ONVIF integration is enabled.
Uptime	NVR H operating time since the last reboot.
Firmware	Firmware version of the NVR H.
Device ID	NVR H ID/Serial Number. Also available on the back part of the casing under the SmartBracket mounting panel and the packaging.

Settings

To change video recorder settings in an Ajax app:

1. Go to the **Devices** tab.
2. Select **NVR H** from the list.
3. Go to **Settings** by tapping on the gear icon.
4. Set the required parameters.
5. Tap **Back** to save the new settings.

Additionally, the **Connection** and **Archive** settings can be configured via HDMI connection.

Settings	Meaning
Name	Video recorder name. Appears in the list of devices, SMS text and notifications in the events feed. To change the video recorder name, tap on the text field. The name can contain up to 12 Cyrillic characters or up to 24 Latin characters.
Room	Selection of the NVR H virtual room. The room name is displayed in the text of SMS and notifications in the events feed.
Firmware update	NVR H firmware version.
Ethernet	The setting of the connection type of NVR H to Ajax Cloud service via Ethernet. Available connection types: • **DHCP;** • **Static.**
Archive	Selection of the maximum archive depth. It can be set in the range of 1 to 360 days or can be unlimited. Allows to format the hard drive.
Local users	Opens the menu for managing local user accounts on the device. Local users can access the device even without an internet connection. ## Learn more

Service	Opens a menu with **Service** settings. **Learn more**
Monitoring	The setting is available in **Ajax Pro apps**. Allows a PRO with rights to configure the system to set up **Zone number for CMS events** — unique identifier of the device in events it reports to CMS. For cameras connected to NVR H, the **Send events on detections to CMS** option can be set up additionally. This option defines whether the camera will send notifications on motion or object detection to CMS. To do this, open the settings of the connected camera and click the **Monitoring** menu.
Report a problem	Allows to describe a problem and send a report.
User guide	Opens the NVR H user manual.
Delete device	Unpairs NVR H from the space.

Service settings

Settings	Meaning
Time zone	Time zone selection. Set by the user and is displayed when viewing video from IP cameras.
	The speed of the built-in fan in NVR H. Setting the

Built-in fan speed	fan's speed helps regulate the device's internal temperature.
	
	Available operating modes are:
	
	• **Automatic** — the fan speed adjusts automatically based on the device's operating conditions to prevent overheating.
	
	• **Preset** — manual speed control. Available speed values are:
	
	  ○ Low;
	
	  ○ Medium;
	
	  ○ High.

LED brightness	The brightness level of the LED indicator of the device is adjusted with a scrollbar.
Connection via ONVIF	Configuring the device's connection via ONVIF to third-party VMSs. Learn more
Server connection	
Delay of cloud connection loss alarm, sec	The delay is required to reduce the risk of a false event about the lost connection with the server. The delay can be set in the range of 30 to 600 seconds.
Cloud polling interval, sec	The frequency of polling the Ajax Cloud server is set in the range of 30 to 300 seconds. The shorter the interval, the quicker the cloud connection loss will be detected.
Get notified of server connection loss without alarm	If enabled, the app uses a standard notification sound instead of a siren alert.

Managing local users

Local users are accounts saved directly on the video recorder that can be used to access NVR H even without an internet connection. Up to 50 local users can be created on a single NVR H. Each user has a username, password, and a role — either **Administrator** or **Operator**. The assigned role determines the local user's access rights to cameras, the archive, and device settings.

Local user accounts can be created, managed, and deleted only via **Ajax apps**, and only when NVR H is connected to the internet.

Creating a local user

To create a local user in Ajax apps:

1. Select a space.
2. Go to the **Local users** menu in the NVR H settings:
   - **Devices** → **NVR H** → **Settings** → **Local users**
3. Tap **Add**.
4. Fill in the required fields:
   1. Enter a **Username**. Each username must be unique.
   2. Enter a **Password** and confirm it in the **Password confirmation** field. The password must be at least six characters long and include uppercase and lowercase letters, digits, and special characters.
5. Select the local user role. Note that the **Administrator** role has full access to the cameras and settings.
6. If the **Operator** role is selected, set the required access rights.
7. Tap **Save** to finish creating a local user.

Editing parameters and permissions

To edit a local user's name, role, permissions, or password in Ajax apps:

1. Select a space.
2. Go to the **Local users** menu in the NVR H settings:
   - **Devices** → **NVR H** → **Settings** → **Local users**
3. Select the required local user.
4. Edit the following parameters as necessary:
   1. **Username**.
   2. **Role**.
   3. **Access rights** (only for the **Operator** role).
   4. **Password**.
5. Tap **Save** to apply the changes.

Deleting a local user

To delete a local user in Ajax apps:

1. Select a space.
2. Go to the **Local users** menu in the NVR H settings:
   - **Devices** → **NVR H** → **Settings** → **Local users**
3. Select the required local user.
4. Tap **Delete account**.
5. Tap **Delete** to confirm the action.

Note that once a local user is deleted, they will no longer be able to log in with their credentials, and all active sessions will be terminated.

Indication

Event	Indication	Note
NVR H boots after connecting to power.	Lights up yellow.	If NVR H is connected to Ajax Cloud, the color indication changes to white.
NVR H has power and is connected to the Internet.	Lights up white.	
NVR H is not connected to the Internet or there is no communication with the Ajax Cloud server.	Lights up red.	
• NVR H does not have a hard drive installed. • The hard drive is installed but does not work correctly. For example, when formatting, if it has errors, or when it needs to be formatted.	Flashes white or red every second, depending on the status of the connection with the Ajax Cloud server.	The indicator flashes until one of the following conditions is met: • The hard drive is formatted/ installed. • All cameras added to NVR H are configured not to record video to the NVR's hard drive.

Maintenance

The device does not require maintenance.

Technical specifications

Technical specifications of NVR HAC (8-ch)

Technical specifications of NVR HAC (16-ch)

Compliance with standards

Warranty

Warranty for products of Limited Liability Company “Ajax Systems Manufacturing” is valid for 2 years after purchase.

If the device does not function correctly, please contact Ajax Technical Support first. In most cases, technical issues can be resolved remotely.

Warranty obligations

User Agreement

Contact Technical Support:

- email
- Telegram

Manufactured by “AS Manufacturing” LLC